APPENDIX A

RAGS Part D Tables

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TABLE 1: SELECTION OF EXPOSURE PATHWAYS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Human Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Surface Water [1]	Surface Water [1]	OU4 Bound Brook Study Area	Recreationist / Sportsman / Angler [4]	Adult	Incidental Ingestion	None	Surface water could be contacted while wading in water bodies, fishing, or otherwise recreating in the OU4 Bound Brook Study Area. Incidental ingestion of chemicals of potential concern (COPC) in surface water during such activites is not likely or negligible; however, dermal contact exposure may occur.
						Dermal contact	Quantitative	
					Adolescent (7-18 years)	Incidental Ingestion	None	
						Dermal contact	Quantitative	
				Outdoor Worker [5]	Adult	Incidental Ingestion	None	Surface water could be contacted while maintaining, repairing, and/or cleaning culverts, spillways, bridges, and other structures in the OU4 Bound Brook Study Area. Incidental ingestion of COPCs in surface water during such activities is not likely or negligible; however, dermal contact exposure may occur.
						Dermal contact	Quantitative	
		Outdoor Air	OU4 Bound Brook Study Area	Recreationist / Sportsman / Angler [4]	Adult	Inhalation	Qualitative	Volatile organic compounds (VOC) may be present in surface water samples from the OU4 Bound Brook Study Area; however, inhalation of VOCs that may volatilize from surface water to outdoor air is not likely. VOCs would mix with outdoor ambient air, and the resultant VOC concentrations in outdoor air would be negligible.
					Adolescent (7-18 years)	Inhalation	Qualitative	
				Outdoor Worker [5]	Adult	Inhalation	Qualitative	
	Sediment [2]	Surface Sediment	OU4 Bound Brook Study Area	Recreationist / Sportsman / Angler [4]	Adult	Incidental Ingestion	Quantitative	Sediment could be contacted while wading in water bodies, fishing, or otherwise recreating in the OU4 Bound Brook Study Area.
						Dermal contact	Quantitative	
					Adolescent (7-18 years)	Incidental Ingestion	Quantitative	
						Dermal contact	Quantitative	
		All Sediment		Outdoor Worker [5]	Adult	Incidental Ingestion	Quantitative	Sediment could be contacted while maintaining, repairing, and/or cleaning culverts, spillways, bridges, and other structures in the OU4 Bound Brook Study Area.
						Dermal contact	Quantitative	
	Floodplain Soil [3]	Surface Soil	OU4 Bound Brook Study Area	Recreationist / Sportsman / Angler [4]	Adult	Incidental Ingestion	Quantitative	Floodplain soil could be contacted while recreating or fishing in the OU4 Bound Brook Study Area.
						Dermal contact	Quantitative	
					Adolescent (7-18 years)	Incidental Ingestion	Quantitative	
						Dermal contact	Quantitative	
		All Soil		Outdoor Worker	Adult	Incidental Ingestion	Quantitative	Floodplain soil could be contacted while maintaining, repairing, and/or cleaning culverts, spillways, bridges, and other structures in the OU4 Bound Brook Study Area.
						Dermal contact	Quantitative	
				Resident	Adult	Incidental Ingestion	Quantitative	Floodplain soil could be contacted by residents, as residences are located within the 100-year floodplain of the OU4 Bound Brook Study Area. However, the potential for exposure to soil in residential yards near the former CDE facility is being addressed by USEPA risk assessors as part of the OU1 Remedial Investigation (RI). The residential scenario included herein is not an evaluation of current/future residential exposures per se, but instead represents the Reasonable Maximum Exposure (RME) that any receptor population accessing the OU4 floodplain areas may have (*i.e.,* it is unlikely anyone using the floodplain areas would have a greater exposure than that associated with residential use). The residential exposure scenario is a conservative assessment and is thereby protective of most other receptor populations as well.
						Dermal contact	Quantitative	
					Child (0-6 years old)	Incidental Ingestion	Quantitative	
						Dermal contact	Quantitative	
		Surface Soil		Commercial / Industrial Worker	Adult	Incidental Ingestion	Quantitative	Floodplain soil could be contacted by commercial/industrial workers who primarily work outdoors on commercial/industrial properties located within the 100-year floodplain of the OU4 Bound Brook Study Area. While floodplain soils from these properties were not sampled as part of the RI for OU4, an outdoor site worker exposure scenario was included, assuming the floodplain soil data available for this RI represent soil from the entire floodplain area.
						Dermal contact	Quantitative	
		All Soil		Construction / Utility Worker	Adult	Incidental Ingestion	Quantitative	Utilities may be present within the 100-year floodplain of the OU4 Bound Brook Study Area. Floodplain soil could be contacted by construction/utility workers who perform construction or maintenance work on underground utilities.
						Dermal contact	Quantitative	

TABLE 1: SELECTION OF EXPOSURE PATHWAYS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Human Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Floodplain Soil [3]	Outdoor Air	OU4 Bound Brook Study Area	Recreationist / Sportsman / Angler [4]	Adult	Inhalation	Quantitative	VOCs, if present in floodplain soil, and/or particulates generated from floodplain soil may be inhaled while recreating or fishing in the OU4 Bound Brook Study Area.
					Adolescent (7-18 years)	Inhalation	Quantitative	
				Outdoor Worker	Adult	Inhalation	Quantitative	VOCs, if present in floodplain soil, and/or particulates generated from floodplain soil may be inhaled while maintaining, repairing, and/or cleaning culverts, spillways, bridges, and other structures in the OU4 Bound Brook Study Area.
				Resident	Adult	Inhalation	Quantitative	VOCs, if present in floodplain soil, and/or particulates generated from floodplain soil may be inhaled by residents in floodplain areas within the OU4 Bound Brook Study Area. As described for ingestion and dermal contact exposures of residents, the residential scenario included herein is not an evaluation of current/future residential exposures per se, but instead represents the RME that any receptor population accessing the OU4 floodplain areas may have. The residential exposure scenario is a conservative assessment and is thereby protective of most other receptor populations as well.
					Child (0-6 years old)	Inhalation	Quantitative	
				Commercial / Industrial Worker	Adult	Inhalation	Quantitative	VOCs, if present in floodplain soil, and/or particulates generated from floodplain soil may be inhaled while working outdoors on commercial/industrial properties within the OU4 Bound Brook Study Area.
				Construction / Utility Worker	Adult	Inhalation	Quantitative	VOCs, if present in floodplain soil, and/or particulates generated from floodplain soil may be inhaled while performing construction/utility work in floodplain areas within the OU4 Bound Brook Study Area.
	Biota	Fish Fillet	OU4 Bound Brook Study Area	Angler [4]	Adult	Ingestion	Quantitative	Locally-caught fish could be consumed.
					Adolescent (7-18 years)	Ingestion	Quantitative	
					Child (0-6 years old)	Ingestion	Quantitative	
		Other biota	OU4 Bound Brook Study Area	Angler [4]	Adult	Ingestion	Quantitative	Other locally-caught biota (e.g., Asiatic clams, crayfish) may also be consumed.
					Adolescent (7-18 years)	Ingestion	Quantitative	
					Child (0-6 years old)	Ingestion	Quantitative	

Notes

[1] While periodic flooding does occur and residents or commercial/industrial workers may be exposed to COPCs in surface water while wading through flood waters, residents and commercial/industrial workers were not identified as potential human receptors for surface water in this risk assessment. Potential exposure during flooding is not a long-term exposure scenario, and it is assumed that evaluation of potential recreationist, outdoor worker, and angler/sportsman exposures (which have greater exposure frequencies and exposure durations) are protective of short-term exposures of residents and commercial/industrial workers during periodic flooding.

[2] Sediment data were separated into two data sets: "surface sediment" (0-15 cm below the sediment-water interface) and "all sediment" (all sediment samples regardless of depth). The surface sediment data set was used to evaluate the potential for exposure and associated health risks under the current/future scenario for receptors engaged in non-intrusive activities (*i.e.* , recreationist, angler/sportsman). The all sediment data set was used to evaluate the potential for exposure and associated health risks under the current/future scenario for receptors potentially engaged in intrusive activities (*i.e.* , outdoor workers) and, depending on the results of the sediment transport modeling, under a hypothetical future scenario in which receptors engaged in non-intrusive activites (*i.e.* , recreationists, anglers/sportsmen) are exposed to subsurface sediments brought to the surface by channel scouring.

[3] Floodplain soil data were separated into two data sets: "surface soil" (0-30 cm below ground surface) and "all soil" (all soil samples, regardless of depth). The surface soil data set was used to evaluate the potential for exposure and associated health risks under the current/future scenario for receptors engaged in non-intrusive activities (*i.e.* , recreationist, angler/sportsman, commercial/industrial worker). The all soil data set was used to evaluate the potential for exposure and associated health risks under the current/future scenario for receptors potentially engaged in intrusive activities (*i.e.* , outdoor worker, resident, construction/utility worker).

[4] For the purposes of this risk assessment, a distinction was made between an angler and sportsman. Anglers might consume their catch, while sportsmen fish for sport and release their catch.

[5] Outdoor workers may also be construction/utility workers who perform construction or maintenance work on underground utilities crossing the brook. The potential for this exposure scenario will be considered on an exposure unit by exposure unit basis and will be quantitatively evaluated, as applicable.

TABLE 2.1: SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SURFACE WATER
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit:	Bound Brook Study Area
Exposure Medium:	Surface Water

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
OU4 Bound Brook Study Area	108-90-7	Chlorobenzene	--		1.1	(J)	µg/L	CDEOU4-20110921-SWF-BB-RM0.4	1 / 11	5	1.1	N/A	7.2	n	N	2
	156-59-2	cis-1,2-Dichloroethene	4.4	(J)	8.8		µg/L	CDEOU4-20110921-SWW-BB-RM6.0; CDEOU4-20110921-SWW-BB-RM6.25	3 / 11	5	8.8	N/A	2.8	n	Y	1
	78-93-3	Methyl ethyl ketone	9.4	(J)	23		µg/L	CDEOU4-20110921-SWW-BB-RM7.68	2 / 11	10	23	N/A	490	n	N	2
	79-01-6	Trichloroethene	2.5	(J)	3.7	(J)	µg/L	CDEOU4-20110921-SWW-BB-RM6.0	3 / 11	5	3.7	N/A	0.26	n	Y	1
	--	Total PCB Congeners	0.0048		0.26		µg/L	SW-14	19 / 19	N/A	0.26	0.0011	0.031	n	Y	1
	--	TCDD TEQ (PCBs)	1.6E-08		4.9E-07		µg/L	SW-13	19 / 19	N/A	4.9E-07	1.2E-08	5.2E-07	c	N	2
	7429-90-5	Aluminum	141	(J)	208	(J)	µg/L	CDEOU4-20110921-SWW-BB-RM7.68	11 / 11	N/A	208	185 J	1,600	n	N	2
	7440-38-2	Arsenic	1.9	(J)	4.7	(J)	µg/L	CDEOU4-20110921-SWF-BB-RM7.68	11 / 11	N/A	4.7	3.7 J	0.045	c	Y	1
	7440-39-3	Barium	89		161		µg/L	CDEOU4-20110921-SWF-BB-RM7.68	11 / 11	N/A	161	172	290	n	N	2
	7440-70-2	Calcium	44,400		63,000		µg/L	CDEOU4-20110921-SWW-BB-RM6.25	11 / 11	N/A	63,000	57,400	NA		N	3,5
	7440-50-8	Copper	1.5	(J)	2.4		µg/L	CDEOU4-20110921-SWW-BB-RM0.4	11 / 11	N/A	2.4	1.5 J	62	n	N	2
	57-12-5	Cyanide	6	(J)	12	(J)	µg/L	CDEOU4-20110921-SWF-BB-RM7.68	11 / 11	N/A	12.1	7.1 J	0.93 [a]	n	Y	1
	7439-89-6	Iron	239		647		µg/L	CDEOU4-20110921-SWW-BB-RM6.8	8 / 11	200	647	207	1,100	n	N	2
	7439-95-4	Magnesium	11,000		14,700		µg/L	CDEOU4-20110921-SWF-BB-RM7.35	11 / 11	N/A	14,700	14,800	NA		N	3,5
	7439-96-5	Manganese	86	(J)	277	(J)	µg/L	CDEOU4-20110921-SWF-BB-RM6.8	11 / 11	N/A	277	198 J	32	n	Y	1
	7440-02-0	Nickel	2.1	(J)	4.1	(J)	µg/L	CDEOU4-20110921-SWW-BB-RM7.68	11 / 11	N/A	4.1	4.7 J	30	n	N	2
	7440-09-7	Potassium	2,290		2,970		µg/L	CDEOU4-20110921-SPW-BB-RM2.8	11 / 11	N/A	2,970	2,750 J	NA		N	3,5
	7440-23-5	Sodium	37,300		45,500		µg/L	CDEOU4-20110921-SWF-BB-RM6.25	11 / 11	N/A	45,500	41,700	NA		N	3,5
	7440-66-6	Zinc	2.4		8.7		µg/L	CDEOU4-20110921-SWF-BB-RM6.0	11 / 11	N/A	8.7	7.8	470	n	N	2

Notes

Surface water data are from unfiltered samples.

[1] Detection limits are equivalent to sample reporting limits.

[2] Background concentrations are surface water data from CDEOU4-20110921-SWW-BB-RM8.3 and, for Total PCB Congeners, from porewater sampling location SW-01 at RM8.29.

[3] Unless otherwise noted, screening toxicity values are the USEPA Regional Screening Levels (RSL) for tapwater from May 2012 (USEPA, 2012c), which are based on either a cancer risk (c) of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for free cyanide (CN-)

b = Screening toxicity value is the drinking water action level (al) of 15 µg/L.

N/A = Not Applicable

Qualifier codes:
J = Estimated concentration.
D = Sample dilution was performed.

Rationale Codes:
1 = Maximum detected concentration exceeds screening toxicity value.
2 = Maximum detected concentration is less than screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value is available.

TABLE 2.2: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU GB
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Green Brook (GB)	120-12-7	Anthracene	--		0.15	J	mg/kg	GB-SHEP-B	1 / 7	0.014 - 0.016	0.15	N/A	1,700	n	N	2
	56-55-3	Benzo(a)anthracene	0.18	J	0.74		mg/kg	GB-SHEP-B	3 / 7	0.011 - 0.013	0.74	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.18	J	0.77		mg/kg	GB-SHEP-B	3 / 7	0.013 - 0.014	0.77	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.28	J	1.2		mg/kg	GB-SHEP-B	3 / 7	0.016 - 0.018	1.2	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	--		0.37		mg/kg	GB-SHEP-B	1 / 7	0.015 - 0.018	0.37	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	--		0.41		mg/kg	GB-SHEP-B	1 / 7	0.015 - 0.018	0.41	N/A	1.5	c	N	2
	117-81-7	bis(2-Ethylhexyl) phthalate	0.14	J	2.6		mg/kg	GB-SHEP-B	2 / 7	0.033 - 0.040	2.6	N/A	35	c	N	2
	218-01-9	Chrysene	0.20	J	0.83		mg/kg	GB-SHEP-B	3 / 7	0.014 - 0.016	0.83	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	--		0.13	J	mg/kg	GB-SHEP-B	1 / 7	0.014 - 0.016	0.13	N/A	0.015	c	Y	1
	84-74-2	di-n-Butyl phthalate	--		0.13	J	mg/kg	GB-BEECH-B	1 / 7	0.015 - 0.017	0.13	N/A	610	n	N	2
	206-44-0	Fluoranthene	0.11	J	1.4		mg/kg	GB-SHEP-B	4 / 7	0.011 - 0.013	1.4	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.12	J	0.44		mg/kg	GB-SHEP-B	3 / 7	0.014 - 0.016	0.44	N/A	0.15	c	Y	1
	85-01-8	Phenanthrene	0.17	J	0.72		mg/kg	GB-SHEP-B	3 / 7	0.014 - 0.016	0.72	N/A	NA		Y	5
	129-00-0	Pyrene	0.34	J	1.6		mg/kg	GB-SHEP-B	3 / 7	0.013 - 0.014	1.6	N/A	170	n	N	2
	--	Total PCB Aroclors [4]	0.016		0.089		mg/kg	GB-SHEP-B	3 / 7	0.010 - 0.011	0.089	N/A	0.11	n	N	2
	7429-90-5	Aluminum	5,610		11,400		mg/kg	GB-SHEP-B	7 / 7	N/A	11,400	5,030 - 8,310	7,700	n	Y	1
	7440-38-2	Arsenic	1.1	J	2.6	J	mg/kg	GB-BEECH-B	7 / 7	N/A	2.6	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	28	J	69	J	mg/kg	GB-BEECH-B	7 / 7	N/A	69	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	--		0.67	D	mg/kg	GB-BEECH-B	1 / 7	0.025	0.67	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	0.58	D	0.81	D	mg/kg	GB-SHEP-B	2 / 7	0.031	0.81	1.1	7.0	n	N	2
	7440-70-2	Calcium	606		1,710		mg/kg	GB-GREEN-A	7 / 7	N/A	1,710	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	10	J	29	J	mg/kg	GB-BEECH-B	7 / 7	N/A	29	19.7 E - 32.4 E	12,000 [a]	n	N	2
	7440-48-4	Cobalt	5.0	D	9.2	D	mg/kg	GB-BEECH-B	7 / 7	N/A	9.2	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	6.3	J	25	J	mg/kg	GB-SHEP-B	7 / 7	N/A	25	10 E - 53.5 J	310	n	N	2
	7439-89-6	Iron	11,900		25,000	D	mg/kg	GB-SHEP-A	7 / 7	N/A	25,000	23,600 E - 32,100 ED	5,500	n	Y	1
	7439-92-1	Lead	12	J	70	J	mg/kg	GB-SHEP-B	7 / 7	N/A	70	27.2 E - 71.4 J	400	L	N	2
	7439-95-4	Magnesium	2,420		3,510		mg/kg	GB-BEECH-B	7 / 7	N/A	3,510	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	73	J	299	J	mg/kg	GB-SHEP-A	7 / 7	N/A	299	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	--		0.18		mg/kg	GB-SHEP-B	1 / 7	0.0022	0.18	--	2.3 [b]	n	N	2
	7440-02-0	Nickel	8.7	D	19	D	mg/kg	GB-BEECH-B	7 / 7	N/A	19	23.5 - 39.9 D	150 [c]	n	N	2
	7440-09-7	Potassium	864		1,440		mg/kg	GB-BEECH-B	7 / 7	N/A	1,440	832 - 1,060	NA		N	3,5
	7440-62-2	Vanadium	12	J	54	J	mg/kg	GB-BEECH-B	7 / 7	N/A	54	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	29	D	81	D	mg/kg	GB-SHEP-B	7 / 7	N/A	81	100 E - 411 J	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based

a = Screening toxicity value is for Chromium III.

b = Screening toxicity value is for mercuric chloride.

c = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
D = Sample dilution was performed.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.3: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU GB
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Sediment, Dry Weight
Exposure Medium: All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Green Brook (GB)	83-32-9	Acenaphthene	0.20	J	0.28		mg/kg	GB-SHEP-B	2 / 24	0.010	0.28	N/A	340	n	N	2
	120-12-7	Anthracene	0.13	J	0.75		mg/kg	GB-SHEP-B	5 / 24	0.014 - 0.020	0.75	N/A	1,700	n	N	2
	56-55-3	Benzo(a)anthracene	0.13	J	1.7		mg/kg	GB-SHEP-B	9 / 24	0.011 - 0.014	1.7	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.11	J	1.5		mg/kg	GB-SHEP-B	9 / 24	0.012 - 0.016	1.5	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.16	J	2.1		mg/kg	GB-SHEP-B	9 / 24	0.016 - 0.020	2.1	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.26	J	0.68		mg/kg	GB-SHEP-B	5 / 24	0.015 - 0.018	0.68	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.25	J	0.92		mg/kg	GB-SHEP-B	5 / 24	0.015 - 0.018	0.92	N/A	1.5	c	N	2
	117-81-7	bis(2-Ethylhexyl) phthalate	0.14	J	2.6		mg/kg	GB-SHEP-B	6 / 24	0.033 - 0.041	2.6	N/A	35	c	N	2
	86-74-8	Carbazole	--		0.23	J	mg/kg	GB-SHEP-B	1 / 24	0.012 - 0.017	0.23	N/A	NA		N	4,5
	218-01-9	Chrysene	0.12	J	1.7		mg/kg	GB-SHEP-B	9 / 24	0.014 - 0.017	1.7	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.12	J	0.26		mg/kg	GB-SHEP-B	4 / 24	0.014 - 0.017	0.26	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	0.13	J	0.15	J	mg/kg	GB-SHEP-B	2 / 24	0.010 - 0.014	0.15	N/A	7.8	n	N	2
	84-74-2	di-n-Butyl phthalate	--		0.13	J	mg/kg	GB-BEECH-B	1 / 24	0.015 - 0.020	0.13	N/A	610	n	N	2,4
	206-44-0	Fluoranthene	0.11	J	3.9		mg/kg	GB-SHEP-B	10 / 24	0.011 - 0.014	3.9	N/A	230	n	N	2
	86-73-7	Fluorene	0.14	J	0.37		mg/kg	GB-SHEP-B	3 / 24	0.010 - 0.013	0.37	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.11	J	0.87		mg/kg	GB-SHEP-B	8 / 24	0.014 - 0.017	0.87	N/A	0.15	c	Y	1
	85-01-8	Phenanthrene	0.17	J	3.0		mg/kg	GB-SHEP-B	9 / 24	0.014 - 0.017	3.0	N/A	NA		Y	5
	129-00-0	Pyrene	0.24		3.4		mg/kg	GB-SHEP-B	9 / 24	0.012 - 0.016	3.4	N/A	170	n	N	2
	--	Total PCB Aroclors [4]	0.016		0.16		mg/kg	GB-SHEP-B	7 / 24	0.009 - 0.012	0.16	N/A	0.11	n	Y	1
	7429-90-5	Aluminum	4,270		11,900		mg/kg	GB-SHEP-B	24 / 24	N/A	11,900	5,030 - 8,310	7,700	n	Y	1
	7440-38-2	Arsenic	0.53	J	4.1	D	mg/kg	GB-SHEP-B	23 / 24	0.11	4.1	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	20	J	94	D	mg/kg	GB-GREEN-A	24 / 24	N/A	94	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	--		0.67	D	mg/kg	GB-BEECH-B	1 / 24	0.025	0.67	0.79 - 1.2	16	n	N	2,4
	7440-43-9	Cadmium	0.58	D	1.6	D	mg/kg	GB-SHEP-B	4 / 24	0.031	1.6	1.1	7.0	n	N	2
	7440-70-2	Calcium	493		1,710		mg/kg	GB-GREEN-A	24 / 24	N/A	1,710	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	9.0	J	29	J	mg/kg	GB-BEECH-B	24 / 24	N/A	29	19.7 E - 32.4 E	12,000 [a]	n	N	2
	7440-48-4	Cobalt	3.7	D	9.2	D	mg/kg	GB-BEECH-B	24 / 24	N/A	9.2	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	3.2	J	53	J	mg/kg	GB-SHEP-B	24 / 24	N/A	53	10 E - 53.5 J	310	n	N	2
	57-12-5	Cyanide	0.066	J	0.10	J	mg/kg	GB-SHEP-B	2 / 24	0.062	0.10	0.77 J	4.7 [b]	n	N	2
	7439-89-6	Iron	7,890		27,000	D	mg/kg	GB-GREEN-B	24 / 24	N/A	27,000	23,600 E - 32,100 ED	5,500	n	Y	1
	7439-92-1	Lead	2.9	D	167	J	mg/kg	GB-SHEP-B	24 / 24	N/A	167	27.2 E - 71.4 J	400	L	N	2
	7439-95-4	Magnesium	1,750		4,460		mg/kg	GB-GREEN-B	24 / 24	N/A	4,460	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	48	J	299	J	mg/kg	GB-SHEP-A	24 / 24	N/A	299	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.14		0.44		mg/kg	GB-SHEP-B	4 / 24	0.0022	0.44	--	2.3 [c]	n	N	2
	7440-02-0	Nickel	6.8	D	19	D	mg/kg	GB-BEECH-B	24 / 24	N/A	19	23.5 - 39.9 D	150 [d]	n	N	2
	7440-09-7	Potassium	582		1,550		mg/kg	GB-GREEN-B	24 / 24	N/A	1,550	832 - 1,060	NA		N	3,5
	7440-22-4	Silver	--		0.84	D	mg/kg	GB-SHEP-B	1 / 24	0.015	0.84	0.22 J	39	n	N	2,4
	7440-62-2	Vanadium	9.4	J	54	J	mg/kg	GB-BEECH-B	24 / 24	N/A	54	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	23	J	138	D	mg/kg	GB-SHEP-B	24 / 24	N/A	138	100 E - 411 J	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chromium III.
b = Screening toxicity value is for free cyanide (CN-)
c = Screening toxicity value is for mercuric chloride.
d = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
D = Sample dilution was performed.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.4: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB1 [1]
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [2]	Concentration Used for Screening	Background Value [3]	Screening Toxicity Value [4]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU)	67-64-1	Acetone	0.010		0.44		mg/kg	A7-1	7 / 23	0.0026 - 0.0048	0.44	N/A	6,100	n	N	2
Bound Brook 1 (BB1)	75-15-0	Carbon disulfide	0.00061	J	0.0070	J	mg/kg	BB-T075A	5 / 23	0.00044 - 0.037	0.0070	N/A	82	n	N	2
	108-90-7	Chlorobenzene	--		0.072		mg/kg	BB-T029A	1 / 23	0.00041 - 0.037	0.072	N/A	29	n	N	2,4
	107-06-2	1,2-Dichloroethane	--		0.0020		mg/kg	A13-2	1 / 23	0.00038 - 0.037	0.0020	N/A	0.43	c	N	2,4
	78-93-3	Methyl ethyl ketone	0.0075	J	0.010		mg/kg	A11-2	3 / 23	0.0018 - 0.074	0.010	N/A	2,800	n	N	2
	1634-04-4	Methyl tert-butyl ether	--		0.0020		mg/kg	A11-1	1 / 23	0.00027 - 0.037	0.0020	N/A	43	c	N	2,4
	108-88-3	Toluene	--		0.020	J	mg/kg	A7-1	1 / 23	0.00046 - 0.0019	0.020	N/A	500	n	N	2,4
	83-32-9	Acenaphthene	0.0023	J	0.85	J	mg/kg	BB-RM2.48B	16 / 25	0.00071 - 3.1	0.85	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.00092	J	3.1		mg/kg	A11-2	18 / 25	0.00074 - 3.1	3.1	N/A	NA		Y	5
	98-86-2	Acetophenone	0.073	J	0.20	J	mg/kg	BB-RM2.48B	5 / 19	0.026 - 1.5	0.20	N/A	780	n	N	2
	120-12-7	Anthracene	0.0018	J	2.7		mg/kg	BB-T156A	19 / 25	0.038 - 3.1	2.7	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.062	J	0.50		mg/kg	BB-T075A	2 / 18	0.024 - 0.46	0.50	N/A	780	n	N	2
	92-87-5	Benzidine	--		15	J	mg/kg	A7-1	1 / 1	N/A	15	N/A	0.00050	c	Y	1
	56-55-3	Benzo(a)anthracene	0.011	J	8.3		mg/kg	A11-2	24 / 25	0.42	8.3	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.011	J	13		mg/kg	A11-2	24 / 25	0.42	13	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.025	J	11		mg/kg	A11-2	24 / 25	0.42	11	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.0080	J	9.0		mg/kg	A11-2	23 / 25	0.42 - 2.3	9.0	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.0092	J	9.1		mg/kg	A11-2	21 / 25	0.060 - 1.5	9.1	N/A	1.5	c	Y	1
	117-81-7	bis(2-Ethylhexyl) phthalate	0.092	J	1.4	J	mg/kg	A12-2	14 / 25	0.089 - 3.1	1.4	N/A	35	c	N	2
	85-68-7	Butyl benzyl phthalate	0.041	J	0.060	J	mg/kg	BB-T075B	2 / 23	0.026 - 3.1	0.060	N/A	260	c	N	2
	86-74-8	Carbazole	0.059	J	0.29	J	mg/kg	BB-RM3.03A	6 / 18	0.051 - 0.054	0.29	N/A	NA		Y	5
	218-01-9	Chrysene	0.015	J	9.4		mg/kg	A11-2	24 / 25	0.42	9.4	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.0027	J	2.4		mg/kg	A11-2	18 / 25	0.040 - 3.1	2.4	N/A	0.015	c	Y	1
	117-84-0	di-n-Octyl phthalate	--		0.20	J	mg/kg	A7-1	1 / 24	0.034 - 3.1	0.20	N/A	NA		N	4,5
	206-44-0	Fluoranthene	0.033	J	16		mg/kg	A11-2	24 / 25	0.42	16	N/A	230	n	N	2
	86-73-7	Fluorene	0.00081	J	2.3		mg/kg	BB-T156A	17 / 25	0.034 - 3.1	2.3	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.010	J	7.5		mg/kg	A11-2	23 / 25	0.42 - 2.3	7.5	N/A	0.15	c	Y	1
	99-87-6	p-Isopropyltouene	--		0.0010	J	mg/kg	A11-1	1 / 7	0.0013 - 0.037	0.0010	N/A	NA		Y	5
	91-57-6	2-Methylnaphthalene	0.0011	J	0.14		mg/kg	BB-T115B	14 / 25	0.0058 - 3.1	0.14	N/A	23	n	N	2
	106-44-5 / 15831-10-4 / 65794-96-9	3- & 4-Methylphenol	0.15	J	0.38	J	mg/kg	A7-1	2 / 25	0.022 - 3.1	0.38	N/A	610 [a]	n	N	2,4
	91-20-3	Naphthalene	0.0010	J	0.97		mg/kg	A11-2	15 / 25	0.0021 - 3.1	0.97	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.010	J	17		mg/kg	BB-T156A	24 / 25	0.42	17	N/A	NA		Y	5
	129-00-0	Pyrene	0.021	J	15		mg/kg	A11-2	23 / 25	0.20 - 0.42	15	N/A	170	n	N	2
	309-00-2	Aldrin	0.00058	J	0.00077	J	mg/kg	BB-T136A	4 / 23	0.00049 - 0.0073	0.00077	N/A	0.029	c	N	2
	319-84-6	alpha-BHC	0.00089	J	0.0046	J	mg/kg	BB-T115B	4 / 23	0.00041 - 0.0073	0.0046	N/A	0.077	c	N	2
	319-85-7	beta-BHC	--		0.011		mg/kg	BB-T029A	1 / 16	0.00067 - 0.0073	0.011	N/A	0.27	c	N	2
	319-86-8	delta-BHC	--		0.0020	J	mg/kg	BB-T115A	1 / 23	0.00045 - 0.0073	0.0020	N/A	NA		Y	5
	58-89-9	gamma-BHC	0.00070	J	0.0025	J	mg/kg	BB-T075A	4 / 22	0.00043 - 0.0073	0.0025	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.0022		0.092		mg/kg	BB-T156B	14 / 23	0.00048 - 0.073	0.092	N/A	1.6 [b]	c	N	2
	60-57-1	Dieldrin	0.0038	J	0.030	P	mg/kg	BB-T156A	4 / 20	0.00088 - 0.0063	0.030	N/A	0.030	c	N	2
	72-54-8	4,4'-DDD	0.0029	J	0.038		mg/kg	BB-T156B	9 / 23	0.00084 - 0.0063	0.038	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0018	J	0.027	J	mg/kg	BB-T115A	10 / 22	0.00086 - 0.015	0.027	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	--		0.0038	J	mg/kg	BB-T055B	1 / 17	0.0013 - 0.015	0.0038	N/A	1.7	c	N	2
	959-98-8	alpha-Endosulfan	0.00078	J	0.0023	J	mg/kg	BB-T075A	4 / 21	0.00043 - 0.0073	0.0023	N/A	37 [c]	n	N	2
	33213-65-9	beta-Endosulfan	--		0.0014	J	mg/kg	BB-T115B	1 / 22	0.00074 - 0.015	0.0014	N/A	37 [c]	n	N	2,4
	72-20-8	Endrin	0.0010	J	0.017	NJ	mg/kg	BB-T115B	3 / 22	0.00084 - 0.015	0.017	N/A	1.8	n	N	2
	7421-93-4	Endrin aldehyde	0.0026	J	0.0067	J	mg/kg	BB-T115A	3 / 23	0.0012 - 0.015	0.0067	N/A	NA		Y	5
	53494-70-5	Endrin ketone	0.0019	J	0.020	J	mg/kg	BB-T136B	4 / 23	0.00083 - 0.015	0.020	N/A	NA		Y	5
	76-44-8	Heptachlor	0.0013	J	0.0014	J	mg/kg	BB-T156A	2 / 23	0.00063 - 0.00073	0.0014	N/A	0.11	c	N	2
	1024-57-3	Heptachlor epoxide	0.0019	J	0.0069	J	mg/kg	BB-T180B	2 / 13	0.00048 - 0.00073	0.0069	N/A	0.053	c	N	2
	72-43-5	Methoxychlor	0.0040	J	0.057	NJ	mg/kg	BB-T136B	5 / 23	0.0036 - 0.073	0.057	N/A	31	n	N	2
	--	Total PCB Aroclors [5]	0.030		11		mg/kg	A13-1	25 / 29	0.0061 - 0.15	11	N/A	0.11	n	Y	1

TABLE 2.4: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB1[1]
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [2]	Concentration Used for Screening	Background Value [3]	Screening Toxicity Value [4]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB1	7429-90-5	Aluminum	3,090	J	72,500		mg/kg	BB-T180A	25 / 25	N/A	72,500	5,030 - 8,310	7,700	n	Y	1
	7440-36-0	Antimony	--		1.1		mg/kg	A7-1	1 / 25	0.0035 - 0.038	1.1	1.2 E	3.1	n	N	2,4
	7440-38-2	Arsenic	0.62	J	23		mg/kg	A13-1	24 / 25	0.0040	23	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	41		531		mg/kg	BB-T180A	25 / 25	N/A	531	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	0.28		1.4		mg/kg	A13-1	7 / 25	0.0040 - 0.36	1.4	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	0.66		5.2		mg/kg	BB-T180A	17 / 25	0.0020 - 0.38	5.2	1.1	7.0	n	N	2
	7440-70-2	Calcium	770		22,700		mg/kg	BB-T180A	25 / 25	N/A	22,700	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	8.1	J	95	J	mg/kg	BB-T180A	25 / 25	N/A	95	19.7 E - 32.4 E	12,000 [d]	n	N	2
	7440-48-4	Cobalt	3.8	J	46	J	mg/kg	BB-T180A	25 / 25	N/A	46	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	5.0	J	829	J	mg/kg	BB-RM2.48B	25 / 25	N/A	829	10 E - 53.5 J	310	n	Y	1
	57-12-5	Cyanide	0.14	J	4.3		mg/kg	BB-T136A	12 / 18	0.0040 - 0.062	4.3	0.77 J	4.7 [e]	n	N	2
	7439-89-6	Iron	7,740	J	281,000		mg/kg	BB-T180A	25 / 25	N/A	281,000	23,600 E - 32,100 ED	5,500	n	Y	1
	7439-92-1	Lead	8.8		389	J	mg/kg	BB-T180A	25 / 25	N/A	389	27.2 E - 71.4 J	400	L	N	2
	7439-95-4	Magnesium	1,300		45,700		mg/kg	BB-T180A	25 / 25	N/A	45,700	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	92	J	2,410	J	mg/kg	BB-T180A	25 / 25	N/A	2,410	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.040		0.54		mg/kg	A11-2	8 / 25	0.0010 - 0.040	0.54	--	2.3 [f]	n	N	2
	7440-02-0	Nickel	7.7	J	94		mg/kg	BB-T180A	23 / 23	N/A	94	23.5 - 39.9 D	150 [g]	n	N	2
	7440-09-7	Potassium	417	J	12,300	J	mg/kg	BB-T180A	23 / 25	3.5	12,300	832 - 1,060	NA		N	3,5
	7782-49-2	Selenium	0.67		1.1	J	mg/kg	BB-RM2.48B	4 / 25	0.034 - 0.45	1.1	0.11 J - 0.44 J	39	n	N	2
	7440-22-4	Silver	0.38		2.3	J	mg/kg	BB-RM2.48B	5 / 25	0.0010 - 0.44	2.3	0.22 J	39	n	N	2
	7440-23-5	Sodium	57	J	1,790	J	mg/kg	BB-T180A	23 / 25	7.7	1,790	207 J - 554	NA		N	3,5
	7440-62-2	Vanadium	8.3	J	77	J	mg/kg	BB-T180A	25 / 25	N/A	77	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	25	J	600		mg/kg	A13-1	25 / 25	N/A	600	100 E - 411 J	2,300	n	N	2

Notes

[1] The analytical results from the Phase II (June 1997) and Phase III (August 1997) sampling events conducted as part of the USEPA's 1997 Ecological Evaluation were manually entered into the project database from data tables for each sampling event that present only detected chemicals. In so doing, data for chemicals not detected in one sampling event but detected in the other sampling event were omitted from the database. As a result, the frequency of detection for some chemicals is less than otherwise indicated and the EPCs for those chemicals selected as COPCs for further evaluation may be overstated.

[2] Detection limits are equivalent to sample reporting limits.

[3] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[4] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for p-Cresol.
b = Screening toxicity value is for Chlordane.
c = Screening toxicity value is for Endosulfan.
d = Screening toxicity value is for Chromium III.
e = Screening toxicity value is for free cyanide (CN-)
f = Screening toxicity value is for mercuric chloride.
g = Screening toxicity value is for nickel, soluble salts.

[5] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.
P = Observed >25% difference between the two GC columns.
W = Sample was weathered; value is estimated.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.5: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB1 [1]
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [2]	Concentration Used for Screening	Background Value [3]	Screening Toxicity Value [4]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 1 (BB1)	67-64-1	Acetone	0.010		0.44		mg/kg	A7-1	15 / 47	0.0026 - 0.0062	0.44	N/A	6,100	n	N	2
	75-15-0	Carbon disulfide	0.00061	J	0.0070	J	mg/kg	BB-T075A	19 / 47	0.00041 - 0.037	0.0070	N/A	82	n	N	2
	108-90-7	Chlorobenzene	0.0021	J	0.072		mg/kg	BB-T029A	2 / 47	0.00038 - 0.037	0.072	N/A	29	n	N	2,4
	107-06-2	1,2-Dichloroethane	--		0.0020		mg/kg	A13-2	1 / 47	0.00036 - 0.037	0.0020	N/A	0.43	c	N	2,4
	78-93-3	Methyl ethyl ketone	0.0030	J	0.015	J	mg/kg	BB-T115B	5 / 47	0.0017 - 0.074	0.015	N/A	2,800	n	N	2
	1634-04-4	Methyl tert-butyl ether	--		0.0020		mg/kg	A11-1	1 / 47	0.00025 - 0.037	0.0020	N/A	43	c	N	2,4
	108-88-3	Toluene	--		0.020	J	mg/kg	A7-1	1 / 47	0.00043 - 0.0019	0.020	N/A	500	n	N	2,4
	83-32-9	Acenaphthene	0.0023	J	0.85		mg/kg	BB-RM2.48B	32 / 51	0.00066 - 3.1	0.85	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.00081	J	3.1		mg/kg	A11-2	34 / 51	0.00069 - 3.1	3.1	N/A	NA		Y	5
	98-86-2	Acetophenone	0.067	J	0.61		mg/kg	BB-RM2.48B	12 / 45	0.015 - 1.5	0.61	N/A	780	n	N	2
	120-12-7	Anthracene	0.00073	J	2.7		mg/kg	BB-T156A	38 / 51	0.00048 - 3.1	2.7	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.062	J	0.50		mg/kg	BB-T075A	2 / 44	0.015 - 0.46	0.50	N/A	780	n	N	2,4
	92-87-5	Benzidine	--		15	J	mg/kg	A7-1	1 / 1	N/A	15	N/A	0.00050	c	Y	1
	56-55-3	Benzo(a)anthracene	0.0061		8.3		mg/kg	A11-2	42 / 51	0.00056 - 0.42	8.3	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.0054	J	13		mg/kg	A11-2	42 / 51	0.00055 - 0.42	13	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.012	J	11		mg/kg	A11-2	42 / 51	0.00090 - 0.42	11	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.0011	J	9.0		mg/kg	A11-2	42 / 51	0.00079 - 2.3	9.0	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.0042	J	9.1		mg/kg	A11-2	39 / 51	0.0010 - 1.5	9.1	N/A	1.5	c	Y	1
	117-81-7	bis(2-Ethylhexyl) phthalate	0.092	J	15	E	mg/kg	BB-T180A	23 / 51	0.035 - 3.1	15	N/A	35	c	N	2
	85-68-7	Butyl benzyl phthalate	0.041	J	0.56	J	mg/kg	BB-T075B	3 / 48	0.016 - 3.1	0.56	N/A	260	c	N	2
	86-74-8	Carbazole	0.059	J	0.34	J	mg/kg	BB-T115B	11 / 44	0.013 - 0.54	0.34	N/A	NA		Y	5
	218-01-9	Chrysene	0.00073	J	9.4		mg/kg	A11-2	43 / 51	0.00050 - 0.42	9.4	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.0027	J	2.4		mg/kg	A11-2	33 / 51	0.00079 - 3.1	2.4	N/A	0.015	c	Y	1
	117-84-0	di-n-Octyl phthalate	--		0.20	J	mg/kg	A7-1	1 / 50	0.021 - 3.1	0.20	N/A	NA		N	4,5
	206-44-0	Fluoranthene	0.0011	J	16		mg/kg	A11-2	43 / 51	0.00071 - 0.42	16	N/A	230	n	N	2
	86-73-7	Fluorene	0.00077	J	2.3		mg/kg	BB-T156A	35 / 51	0.00053 - 3.1	2.3	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.0053	J	7.5		mg/kg	A11-2	41 / 51	0.00081 - 2.3	7.5	N/A	0.15	c	Y	1
	99-87-6	p-Isopropyltouene	--		0.0010	J	mg/kg	A11-1	1 / 7	0.0013 - 0.037	0.0010	N/A	NA		Y	5
	91-57-6	2-Methylnaphthalene	0.0011	J	0.16		mg/kg	BB-T115B	31 / 51	0.00052 - 3.1	0.16	N/A	23	n	N	2
	106-44-5 / 15831-10-4 / 65794-96-9	3- & 4-Methylphenol	0.15	J	0.38	J	mg/kg	A7-1	2 / 51	0.013 - 3.1	0.38	N/A	610 [a]	n	N	2,4
	91-20-3	Naphthalene	0.00058	J	0.97		mg/kg	A11-2	30 / 51	0.00041 - 3.1	0.97	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.0045		17		mg/kg	BB-T156A	42 / 51	0.0010 - 0.42	17	N/A	NA		Y	5
	129-00-0	Pyrene	0.015	J	15		mg/kg	A11-2	41 / 51	0.0006 -0.42	15	N/A	170	n	N	2
	309-00-2	Aldrin	0.00058	J	0.0012	J	mg/kg	BB-T115A	7 / 47	0.00049 - 0.0073	0.0012	N/A	0.029	c	N	2
	319-84-6	alpha-BHC	0.00048	J	0.039	J	mg/kg	BB-T115B	8 / 47	0.00041 - 0.0073	0.039	N/A	0.077	c	N	2
	319-85-7	beta-BHC	0.0039	NJ	0.011		mg/kg	BB-T029A	4 / 31	0.00067 - 0.0073	0.011	N/A	0.27	c	N	2
	319-86-8	delta-BHC	--		0.0020	J	mg/kg	BB-T115A	1 / 47	0.00044 - 0.0073	0.0020	N/A	NA		N	4,5
	58-89-9	gamma-BHC	0.00070	J	0.0025	J	mg/kg	BB-T075A	5 / 46	0.00040 - 0.0073	0.0025	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.0022		0.092			BB-T156B	28 / 46	0.00048 - 0.073	0.092	N/A	1.6 [b]	c	N	2
	60-57-1	Dieldrin	0.0011	J	0.030	P	mg/kg	BB-T156A	6 / 40	0.0042 - 0.073	0.030	N/A	0.030	c	N	2
	72-54-8	4,4'-DDD	0.0018	J	0.038		mg/kg	BB-T156B	22 / 47	0.0009 - 0.0063	0.038	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0018	J	0.027	J	mg/kg	BB-T115A	21 / 45	0.00085 - 0.015	0.027	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.015	J	0.021	NJ	mg/kg	BB-T075A	2 / 35	0.0013 - 0.015	0.021	N/A	1.7	c	N	2
	959-98-8	alpha-Endosulfan	0.00078	J	0.0023	J	mg/kg	BB-T075A	5 / 44	0.00040 - 0.0070	0.0023	N/A	37 [c]	n	N	2
	33213-65-9	beta-Endosulfan	0.0014	J	0.0037	J	mg/kg	BB-T075A	2 / 46	0.00073 - 0.015	0.0037	N/A	37 [c]	n	N	2,4
	1031-07-8	Endosulfan sulfate	0.0012	J	0.0068	NJ	mg/kg	BB-T156A	2 / 45	0.00092 - 0.015	0.0068	N/A	NA		N	4,5
	72-20-8	Endrin	0.0010	J	0.017	NJ	mg/kg	BB-T115B	5 / 45	0.00083 - 0.015	0.017	N/A	1.8	n	N	2
	7421-93-4	Endrin aldehyde	0.0024	J	0.0068	J	mg/kg	BB-T136A	6 / 47	0.0012 - 0.015	0.0068	N/A	NA		Y	5
	53494-70-5	Endrin ketone	0.0019	J	0.020	J	mg/kg	BB-T136B	7 / 45	0.00082 - 0.015	0.020	N/A	NA		Y	5
	76-44-8	Heptachlor	0.0013	J	0.0014	J	mg/kg	BB-T156A	2 / 47	0.00062 - 0.007	0.0014	N/A	0.11	c	N	2,4
	1024-57-3	Heptachlor epoxide	0.00064	J	0.013	J	mg/kg	BB-T136A	8 / 31	0.00048 - 0.007	0.013	N/A	0.053	c	N	2
	72-43-5	Methoxychlor	0.0040	J	0.057	NJ	mg/kg	BB-T136B	8 / 47	0.0036 - 0.073	0.057	N/A	31	n	N	2
	--	Total PCB Aroclors [5]	0.0066		11		mg/kg	A13-1	44 / 59	0.010 - 0.15	11	N/A	0.11	n	Y	1

TABLE 2.5: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB1 [1]
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [2]	Concentration Used for Screening	Background Value [3]	Screening Toxicity Value [4]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB1	7429-90-5	Aluminum	3,090	J	72,500		mg/kg	BB-T180A	51 / 51	N/A	72,500	5,030 - 8,310	7,700	n	Y	1
	7440-36-0	Antimony	--		1.1		mg/kg	A7-1	1 / 50	0.0035 - 0.038	1.1	1.2 E	3.1	n	N	2,4
	7440-38-2	Arsenic	0.60		23		mg/kg	A13-1	47 / 51	0.0040	23	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	22		780	D	mg/kg	BB-RM2.48B	51 / 51	N/A	780	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	0.28		1.4		mg/kg	A13-1	9 / 51	0.0040 - 0.36	1.4	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	0.66		25		mg/kg	BB-T180A	27 / 51	0.0020 - 0.38	25	1.1	7.0	n	Y	1
	7440-70-2	Calcium	523	J	22,700		mg/kg	BB-T180A	51 / 51	N/A	22,700	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	7.1	J	95	J	mg/kg	BB-T180A	51 / 51	N/A	95	19.7 E - 32.4 E	12,000 [d]	n	N	2
	7440-48-4	Cobalt	3.4	J	230	D	mg/kg	BB-RM2.48B	51 / 51	N/A	230	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	2.4	J	6,550	D	mg/kg	BB-RM2.48B	51 / 51	N/A	6,550	10 E - 53.5 J	310	n	Y	1
	57-12-5	Cyanide	0.089	J	5.1		mg/kg	BB-T180B	25 / 44	0.0040 - 0.0062	5.1	0.77 J	4.7 [e]	n	N	2
	7439-89-6	Iron	7,740	J	281,000		mg/kg	BB-T180A	51 / 51	N/A	281,000	23,600 E - 32,100 ED	5,500	n	Y	1
	7439-92-1	Lead	4.1		389	J	mg/kg	BB-T115A	51 / 51	N/A	389	27.2 E - 71.4 J	400	L	N	2
	7439-95-4	Magnesium	1,300		45,700		mg/kg	BB-T180A	51 / 51	N/A	45,700	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	47	J	2,410	J	mg/kg	BB-T180A	51 / 51	N/A	2,410	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.040		0.54		mg/kg	A11-2	11 / 51	0.0010 - 0.040	0.54	--	2.3 [f]	n	N	2
	7440-02-0	Nickel	6.2	J	1,840	D	mg/kg	BB-RM2.48B	49 / 49	N/A	1,840	23.5 - 39.9 D	150 [g]	n	N	2
	7440-09-7	Potassium	417	J	12,300	J	mg/kg	BB-T180A	48 / 51	3.5	12,300	832 - 1,060	NA		N	3,5
	7782-49-2	Selenium	0.67		7.2	D	mg/kg	BB-RM2.48B	5 / 51	0.034 - 0.45	7.2	0.11 J - 0.44 J	39	n	N	2
	7440-22-4	Silver	0.38		3.4		mg/kg	BB-T180A	7 / 51	0.0010 - 0.44	3.4	0.22 J	39	n	N	2
	7440-23-5	Sodium	40	J	35,600		mg/kg	BB-RM2.48B	48 / 51	7.7	35,600	207 J - 554	NA		N	3,5
	7440-62-2	Vanadium	6.7	J	77	J	mg/kg	BB-T180A	51 / 51	N/A	77	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	19	J	600		mg/kg	A13-1	51 / 51	N/A	600	100 E - 411 J	2,300	n	N	2

Notes

[1] The analytical results from the Phase II (June 1997) and Phase III (August 1997) sampling events conducted as part of the USEPA's 1997 Ecological Evaluation were manually entered into the project database from data tables for each sampling event that present only detected chemicals. In so doing, data for chemicals not detected in one sampling event but detected in the other sampling event were omitted from the database. As a result, the frequency of detection for some chemicals is less than otherwise indicated and the EPCs for those chemicals selected as COPCs for further evaluation may be overstated.

[2] Detection limits are equivalent to sample reporting limits.

[3] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[4] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for p-Cresol.
b = Screening toxicity value is for Chlordane.
c = Screening toxicity value is for Endosulfan.
d = Screening toxicity value is for Chromium III.
e = Screening toxicity value is for free cyanide (CN-)
f = Screening toxicity value is for mercuric chloride.
g = Screening toxicity value is for nickel, soluble salts.

[5] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.
P = Observed >25% difference between the two GC columns.
W = Sample was weathered; value is estimated.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.6: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB2
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 2 (BB2)	67-64-1	Acetone	2.3	J	3.0	J	mg/kg	A6-2	2 / 11	0.0040 - 0.020	3.0	N/A	6,100	n	N	2
	75-15-0	Carbon disulfide	0.0033	J	0.0040	J	mg/kg	NMP-T003C	2 / 11	0.00054 - 0.13	0.0040	N/A	82	n	N	2
	78-93-3	Methyl ethyl ketone	0.0068	J	0.092	J	mg/kg	NMP-T003C	7 / 11	0.0022 - 0.25	0.092	N/A	2,800	n	N	2
	75-09-2	Methylene chloride	--		0.030	J	mg/kg	A6-1	1 / 11	0.00080 - 0.13	0.030	N/A	36	n	N	2
	83-32-9	Acenaphthene	0.014	JD	0.13	D	mg/kg	NMP-T014C	7 / 11	0.0020 - 5.0	0.13	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0026	J	0.024	J	mg/kg	NMP-T002A	7 / 11	0.0075 - 5.0	0.024	N/A	NA		Y	5
	120-12-7	Anthracene	0.0030	J	0.30	J	mg/kg	NMP-T002A	9 / 11	4.0 - 5.0	0.30	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.075	J	0.22	J	mg/kg	NMP-T002A	5 / 9	0.047 - 0.21	0.22	N/A	780	n	N	2
	92-87-5	Benzidine	17		19		mg/kg	A6-1	2 / 2	N/A	19	N/A	0.00050	c	Y	1
	56-55-3	Benzo(a)anthracene	0.16	D	3.4	J	mg/kg	NMP-T002A	10 / 11	0.0017	3.4	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.18	J	3.5	J	mg/kg	NMP-T002A	10 / 11	0.0017	3.5	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.39	J	5.7	J	mg/kg	NMP-T003C	10 / 11	0.0027	5.7	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.20	J	2.4	J	mg/kg	NMP-T002A	9 / 11	0.0024 - 0.11	2.4	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.14	J	4.5	J	mg/kg	NMP-T002A	10 / 11	0.0029	4.5	N/A	1.5	c	Y	1
	117-81-7	bis(2-Ethylhexyl) phthalate	0.15	J	47	J	mg/kg	NMP-T002A	11 / 11	N/A	47	N/A	35	c	Y	1
	85-68-7	Butyl benzyl phthalate	0.050	J	0.93	J	mg/kg	A6-1	9 / 11	0.033 - 5.0	0.93	N/A	260	c	N	2
	86-74-8	Carbazole	0.078	J	0.18	J	mg/kg	NMP-T014C	2 / 9	0.056 - 0.25	0.18	N/A	NA		Y	5
	218-01-9	Chrysene	0.25	D	4.0	J	mg/kg	NMP-T002A	10 / 11	0.0015	4.0	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.048	J	1.0		mg/kg	NMP-T014C	8 / 11	0.0024 - 5.0	1.0	N/A	0.015	c	Y	1
	117-84-0	di-n-Octyl phthalate	0.19	J	25		mg/kg	A6-2	8 / 9	0.044	25	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.35		6.5		mg/kg	NMP-T014C	10 / 11	0.0022	6.5	N/A	230	n	N	2
	86-73-7	Fluorene	0.014	JD	0.21	J	mg/kg	NMP-T002A	8 / 11	0.0016 - 5.0	0.21	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.26	J	3.1	J	mg/kg	NMP-T002A	9 / 11	0.0025 - 5.0	3.1	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.010	JD	0.065	J	mg/kg	NMP-T002A	8 / 11	0.0016 - 5.0	0.065	N/A	23	n	N	2
	65794-96-9	3- & 4-Methylphenol	--		0.98	J	mg/kg	A6-2	1 / 11	0.12 - 4.0	0.98	N/A	610 [a]	n	N	2
	91-20-3	Naphthalene	0.0071	JDB	0.42	J	mg/kg	A6-1	9 / 11	0.0013 - 5.0	0.42	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.18	D	2.0		mg/kg	NMP-T014C	10 / 11	0.0029	2.0	N/A	NA		Y	5
	129-00-0	Pyrene	0.36	J	6.6	J	mg/kg	NMP-T002A	10 / 11	0.0018	6.6	N/A	170	n	N	2
	319-84-6	alpha-BHC	0.0046	J	0.0073	NJ	mg/kg	NMP-T002A	4 / 11	0.00045 - 0.024	0.0073	N/A	0.077	c	N	2
	319-85-7	beta-BHC	0.0077	NJ	0.023	J	mg/kg	NMP-T002A	6 / 10	0.00073 - 0.024	0.023	N/A	0.27	c	N	2
	57-74-9	Chlordane, total	0.0057		0.065		mg/kg	NMP-T014C	9 / 11	0.20 - 0.24	0.065	N/A	1.6 [b]	c	N	2
	72-54-8	4,4'-DDD	--		0.0067	NJ	mg/kg	NMP-T017B	1 / 8	0.040 - 0.048	0.0067	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0046	NJ	0.11	J	mg/kg	NMP-T002A	9 / 11	0.040 - 0.048	0.11	N/A	1.4	c	N	2
	959-98-8	alpha-Endosulfan	--	J	0.0011	J	mg/kg	NMP-T022A	1 / 9	0.00045 - 0.024	0.0011	N/A	37 [c]	n	N	2
	72-20-8	Endrin	0.0094	NJ	0.039	NJ	mg/kg	NMP-T002A	6 / 10	0.00091 - 0.048	0.039	N/A	1.8	n	N	2
	53494-70-5	Endrin ketone	--		0.0059	J	mg/kg	NMP-T010C	1 / 11	0.00090 - 0.048	0.0059	N/A	NA		Y	5
	72-43-5	Methoxychlor	0.079	J	0.12	J	mg/kg	NMP-T002A	2 / 8	0.0040 - 0.24	0.12	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.27		4.7		mg/kg	A6-2	11 / 11	N/A	4.7	N/A	0.11	n	Y	1

TABLE 2.6: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB2
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB2	7429-90-5	Aluminum	5,450		22,300	J	mg/kg	NMP-T010C	11 / 11	N/A	22,300	5,030 - 8,310	7,700	n	Y	1
	7440-36-0	Antimony	2.6		2.7		mg/kg	A6-1	2 / 11	0.010	2.7	1.2 E	3.1	n	N	2
	7440-38-2	Arsenic	0.69	J	13		mg/kg	A6-1	11 / 11	N/A	13	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	49		1,320		mg/kg	NMP-T004B	10 / 10	N/A	1,320	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	0.78		1.1		mg/kg	A6-1	2 / 11	0.0040	1.1	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	1.4	J	68		mg/kg	NMP-T004B	11 / 11	N/A	68	1.1	7.0	n	Y	1
	7440-70-2	Calcium	1,010		8,860	J	mg/kg	NMP-T010C	11 / 11	N/A	8,860	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	9.6	J	78		mg/kg	A6-2	11 / 11	N/A	78	19.7 E - 32.4 E	12,000 [d]	n	N	2
	7440-48-4	Cobalt	3.2	J	21		mg/kg	A6-2	11 / 11	N/A	21	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	5.3	J	220		mg/kg	A6-1	11 / 11	N/A	220	10 E - 53.5 J	310	n	N	2
	57-12-5	Cyanide	0.85	J	2.7	J	mg/kg	NMP-T002A	5 / 9	0.0040	2.7	0.77 J	4.7 [e]	n	N	2
	7439-89-6	Iron	11,900		36,100	J	mg/kg	NMP-T010C	11 / 11	N/A	36,100	23,600 E - 32,100 ED	5,500	n	Y	1
	7439-92-1	Lead	16	J	290		mg/kg	A6-1	11 / 11	N/A	290	27.2 E - 71.4 J	400	L	N	2
	7439-95-4	Magnesium	2,060		6,830	J	mg/kg	NMP-T010C	11 / 11	N/A	6,830	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	84	J	642	J	mg/kg	NMP-T010C	11 / 11	N/A	642	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.032	J	0.91		mg/kg	A6-1	11 / 11	N/A	0.91	--	2.3 [f]	n	N	2
	7440-02-0	Nickel	5.6	J	51		mg/kg	A6-1	11 / 11	N/A	51	23.5 - 39.9 D	150 [g]	n	N	2
	7440-09-7	Potassium	489	J	2,110	J	mg/kg	NMP-T002A	11 / 11	N/A	2,110	832 - 1,060	NA		N	3,5
	7782-49-2	Selenium	3.7		3.8		mg/kg	A6-1	2 / 11	0.034	3.8	0.11 J - 0.44 J	39	n	N	2
	7440-22-4	Silver	1.5	J	35		mg/kg	NMP-T004B	9 / 11	0.0010	35	0.22 J	39	n	N	2
	7440-23-5	Sodium	146	J	1,050	J	mg/kg	NMP-T010C	11 / 11	N/A	1,050	207 J - 554	NA		N	3,5
	7440-62-2	Vanadium	5.1	J	51		mg/kg	A6-1	11 / 11	N/A	51	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	43	J	670		mg/kg	A6-1	11 / 11	N/A	670	100 E - 411 J	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for p-Cresol.
b = Screening toxicity value is for Chlordane.
c = Screening toxicity value is for Endosulfan.
d = Screening toxicity value is for Chromium III.
e = Screening toxicity value is for free cyanide (CN-)
f = Screening toxicity value is for mercuric chloride.
g = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.7: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB2
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 2 (BB2)	67-64-1	Acetone	2.3	J	3.0	J	mg/kg	A6-2	2 / 34	0.0032 - 0.020	3.0	N/A	6,100	n	N	2
	75-15-0	Carbon disulfide	0.00053	J	0.0066	J	mg/kg	NMP-T022A	7 / 34	0.00042 - 0.13	0.0066	N/A	82	n	N	2
	156-59-2	cis-1,2-Dichloroethene	--		0.00079	J	mg/kg	NMP-T014C	1 / 34	0.00053 - 0.13	0.00079	N/A	16	n	N	2,4
	78-93-3	Methyl ethyl ketone	0.0068	J	0.092	J	mg/kg	NMP-T003C	14 / 34	0.0017 - 0.25	0.092	N/A	2,800	n	N	2
	75-09-2	Methylene chloride	--		0.030	J	mg/kg	A6-1	1 / 34	0.00067 - 0.13	0.030	N/A	36	n	N	2,4
	83-32-9	Acenaphthene	0.0010	J	0.13	D	mg/kg	NMP-T014C	13 / 34	0.00069 - 5.0	0.13	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0010	J	0.024	J	mg/kg	NMP-T002A	12 / 34	0.00071 - 5.0	0.024	N/A	NA		Y	5
	120-12-7	Anthracene	0.00066	J	0.30	J	mg/kg	NMP-T002A	26 / 34	0.00049 - 5.0	0.30	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.075	J	0.22	J	mg/kg	NMP-T002A	6 / 32	0.044 - 0.21	0.22	N/A	780	n	N	2
	92-87-5	Benzidine	17		19		mg/kg	A6-1	2 / 2	N/A	19	N/A	0.00050	c	Y	1
	56-55-3	Benzo(a)anthracene	0.00089	J	3.4	J	mg/kg	NMP-T002A	26 / 34	0.00058 - 0.078	3.4	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.0034	J	4.8		mg/kg	NMP-T014C	22 / 33	0.00057 - 0.10	4.8	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.0023	J	5.7	J	mg/kg	NMP-T003C	26 / 34	0.00093 - 0.12	5.7	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.0028	J	2.4	J	mg/kg	NMP-T002A	22 / 34	0.00081 - 0.16	2.4	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.0025	J	4.5	J	mg/kg	NMP-T002A	24 / 34	0.0010 - 0.15	4.5	N/A	1.5	c	Y	1
	117-81-7	bis(2-Ethylhexyl) phthalate	0.13	J	130	E	mg/kg	NMP-T014C	20 / 34	0.086 - 0.23	130	N/A	35	c	Y	1
	85-68-7	Butyl benzyl phthalate	0.043	J	0.93	J	mg/kg	A6-1	13 / 34	0.031 - 5.0	0.93	N/A	260	c	N	2
	86-74-8	Carbazole	0.078	J	0.18	J	mg/kg	NMP-T014C	2 / 32	0.052 - 0.25	0.18	N/A	NA		Y	5
	218-01-9	Chrysene	0.00079	J	4.3		mg/kg	NMP-T014C	29 / 34	0.00058 - 0.075	4.3	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.0012	J	1.0		mg/kg	NMP-T014C	15 / 34	0.00081 - 5.0	1.0	N/A	0.015	c	Y	1
	117-84-0	di-n-Octyl phthalate	0.19	J	25		mg/kg	A6-2	11 / 31	0.041 - 0.11	25	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.0015	J	6.5		mg/kg	NMP-T014C	31 / 34	0.00089 - 0.0022	6.5	N/A	230	n	N	2
	86-73-7	Fluorene	0.00073	J	0.21	J	mg/kg	NMP-T002A	19 / 34	0.00055 - 5.0	0.21	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.0011	J	3.1	J	mg/kg	NMP-T002A	25 / 34	0.00084 - 5.0	3.1	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.00073	J	0.065	J	mg/kg	NMP-T002A	16 / 34	0.00054 - 5.0	0.065	N/A	23	n	N	2
	65794-96-9	3- & 4-Methylphenol	--		0.98	J	mg/kg	A6-2	1 / 34	0.11 - 4.0	0.98	N/A	610 [a]	n	N	2,4
	91-20-3	Naphthalene	0.0071	JDB	0.42	J	mg/kg	A6-1	13 / 34	0.00042 - 5.0	0.42	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.0017	J	2.0		mg/kg	NMP-T014C	30 / 34	0.00099 - 0.0029	2.0	N/A	NA		Y	5
	129-00-0	Pyrene	0.0011	J	6.6	J	mg/kg	NMP-T002A	29 / 34	0.00069 - 0.50	6.6	N/A	170	n	N	2
	319-84-6	alpha-BHC	0.0035	J	0.0073	NJ	mg/kg	NMP-T002A	7 / 33	0.00042 - 0.024	0.0073	N/A	0.077	c	N	2
	319-85-7	beta-BHC	0.00086	J	0.023	J	mg/kg	NMP-T002A	10 / 32	0.00069 - 0.024	0.023	N/A	0.27	c	N	2
	57-74-9	Chlordane, total	0.00077		0.13		mg/kg	NMP-T014C	16 / 34	0.00049 - 0.24	0.13	N/A	1.6 [b]	c	N	2
	60-57-1	Dieldrin	0.017	NJ	0.085	NJ	mg/kg	NMP-T014C	2 / 22	0.00090 - 0.048	0.085	N/A	0.030	c	Y	1
	72-54-8	4,4'-DDD	--		0.0067	NJ	mg/kg	NMP-T017B	1 / 28	0.00086 - 0.048	0.0067	N/A	2.0	c	N	2,4
	72-55-9	4,4'-DDE	0.0012	J	0.12		mg/kg	NMP-T002A	15 / 34	0.00088 - 0.048	0.12	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.0016	J	0.33	J	mg/kg	NMP-T014C	4 / 23	0.0013 - 0.048	0.33	N/A	1.7	c	N	2
	959-98-8	alpha-Endosulfan	--		0.0011	J	mg/kg	NMP-T022A	1 / 32	0.00041 - 0.024	0.0011	N/A	37 [c]	n	N	2,4
	72-20-8	Endrin	0.0094	NJ	0.039	NJ	mg/kg	NMP-T002A	9 / 32	0.00086 - 0.048	0.039	N/A	1.8	n	N	2
	53494-70-5	Endrin ketone	--		0.0059	J	mg/kg	NMP-T010C	1 / 34	0.00085 - 0.048	0.0059	N/A	NA		N	4,5
	1024-57-3	Heptachlor epoxide	--		0.044	NJ	mg/kg	NMP-T014C	1 / 21	0.00049 - 0.024	0.044	N/A	0.053	c	N	2,4
	72-43-5	Methoxychlor	0.079	J	0.12	J	mg/kg	NMP-T002A	2 / 28	0.0037 - 0.24	0.12	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.0049		4.7		mg/kg	A6-2	23 / 34	0.012 - 0.031	4.7	N/A	0.11	n	Y	1

TABLE 2.7: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB2
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB2	7429-90-5	Aluminum	2,810		23,800	J	mg/kg	NMP-T014C	34 / 34	N/A	23,800	5,030 - 8,310	7,700	n	Y	1
	7440-36-0	Antimony	1.2	J	2.7		mg/kg	A6-1	3 / 34	0.010	2.7	1.2 E	3.1	n	N	2
	7440-38-2	Arsenic	0.59	J	13		mg/kg	A6-1	21 / 34	0.0040	13	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	19		1,320		mg/kg	NMP-T004B	27 / 27	N/A	1,320	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	0.78		1.6	J	mg/kg	NMP-T022A	3 / 34	0.0040	1.6	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	0.57	J	68		mg/kg	NMP-T004B	26 / 34	0.0020	68	1.1	7.0	n	Y	1
	7440-70-2	Calcium	440	J	8,860	J	mg/kg	NMP-T010C	34 / 34	N/A	8,860	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	5.9	J	105	J	mg/kg	NMP-T002A	34 / 34	N/A	105	19.7 E - 32.4 E	12,000 [d]	n	N	2
	7440-48-4	Cobalt	1.3		21		mg/kg	A6-2	34 / 34	N/A	21	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	0.90	J	220		mg/kg	A6-1	34 / 34	N/A	220	10 E - 53.5 J	310	n	N	2
	57-12-5	Cyanide	0.85	J	3.9	J	mg/kg	NMP-T022A	10 / 32	0.0040	3.9	0.77 J	4.7 [e]	n	N	2
	7439-89-6	Iron	3,100		36,100	J	mg/kg	NMP-T010C	34 / 34	N/A	36,100	23,600 E - 32,100 ED	5,500	n	Y	1
	7439-92-1	Lead	1.8	J	368	J	mg/kg	NMP-T010C	34 / 34	N/A	368	27.2 E - 71.4 J	400	L	N	2
	7439-95-4	Magnesium	742		6,830	J	mg/kg	NMP-T010C	34 / 34	N/A	6,830	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	15	J	791	J	mg/kg	NMP-T010C	34 / 34	N/A	791	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.0040	J	0.91		mg/kg	A6-1	31 / 34	0.001	0.91	--	2.3 [f]	n	N	2
	7440-02-0	Nickel	2.6	J	51		mg/kg	A6-1	34 / 34	N/A	51	23.5 - 39.9 D	150 [g]	n	N	2
	7440-09-7	Potassium	171	J	2,140	J	mg/kg	NMP-T014C	34 / 34	N/A	2,140	832 - 1,060	NA		N	3,5
	7782-49-2	Selenium	3.7		3.8		mg/kg	A6-1	2 / 34	0.034	3.8	0.11 J - 0.44 J	39	n	N	2
	7440-22-4	Silver	1.5	J	35		mg/kg	NMP-T004B	13 / 34	0.0010	35	0.22 J	39	n	N	2
	7440-23-5	Sodium	86	J	1,060	J	mg/kg	NMP-T010C	34 / 34	N/A	1,060	207 J - 554	NA		N	3,5
	7440-62-2	Vanadium	5.1	J	51		mg/kg	A6-1	34 / 34	N/A	51	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	6.1	J	670		mg/kg	A6-1	34 / 34	N/A	670	100 E - 411 J	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for p-Cresol.
b = Screening toxicity value is for Chlordane.
c = Screening toxicity value is for Endosulfan.
d = Screening toxicity value is for Chromium III.
e = Screening toxicity value is for free cyanide (CN-)
f = Screening toxicity value is for mercuric chloride.
g = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.8: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 3 (BB3)	67-64-1	Acetone	0.086		7.7	J	mg/kg	A3-1	8 / 16	0.0035 - 0.022	7.7	N/A	6,100	n	N	2
	75-15-0	Carbon disulfide	0.00085	J	0.030	J	mg/kg	A3-1	9 / 16	0.0050 - 0.087	0.030	N/A	82	n	N	2
	75-00-3	Chloroethane	--		0.030	J	mg/kg	A4-1	1 / 16	0.0010 - 0.21	0.030	N/A	1,500	n	N	2
	74-87-3	Chloromethane	0.070	J	0.13		mg/kg	A4-1	2 / 16	0.00088 - 0.18	0.13	N/A	12	n	N	2
	156-59-2	cis-1,2-Dichloroethene	--		0.0019	J	mg/kg	BB-T217A	1 / 16	0.00060 -0.13	0.0019	N/A	16	n	N	2
	591-78-6	2-Hexanone	--		0.050	J	mg/kg	A4-1	1 / 16	0.0013 - 0.21	0.050	N/A	21	n	N	2
	78-93-3	Methyl ethyl ketone	0.032		0.056		mg/kg	BB-T217A	3 / 16	0.0019 - 0.25	0.056	N/A	2,800	n	N	2
	75-09-2	Methylene chloride	0.010	J	0.080	JB	mg/kg	A3-1	6 / 16	0.00074 - 0.0046	0.080	N/A	36	n	N	2
	108-88-3	Toluene	0.020	J	0.070	J	mg/kg	A3-2	2 / 16	0.00049 - 0.059	0.070	N/A	500	n	N	2
	71-55-6	1,1,1-Trichloroethane	--		0.020		mg/kg	A4-1	1 / 16	0.00046 - 0.11	0.020	N/A	870	n	N	2
	83-32-9	Acenaphthene	0.028		0.31	J	mg/kg	BB-T217B	9 / 16	0.0016 - 4.1	0.31	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0023	J	0.60	J	mg/kg	A5-1	9 / 16	0.0016 - 4.1	0.60	N/A	NA		Y	5
	98-86-2	Acetophenone	0.10	J	0.24	J	mg/kg	BB-T267A	3 / 16	0.046 - 4.1	0.24	N/A	780	n	N	2
	120-12-7	Anthracene	0.0056	J	3.9		mg/kg	A5-1	14 / 16	1.3 - 1.4	3.9	N/A	1,700	n	N	2
	92-87-5	Benzidine	4.6		81	J	mg/kg	A5-1	5 / 6	2.6	81	N/A	0.00050	c	Y	1
	56-55-3	Benzo(a)anthracene	0.0068	J	8.3		mg/kg	A5-1	15 / 16	1.3	8.3	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.0063	J	6.4		mg/kg	A5-1	15 / 16	1.3	6.4	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.015	J	7.7	J	mg/kg	BB-T255B	15 / 16	1.3	7.7	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.011	J	3.1		mg/kg	A5-1	15 / 16	1.3	3.1	N/A	NA		Y	5
	65-85-0	Benzoic acid	--		0.30	J	mg/kg	A4-1	1 / 6	1.3 - 4.1	0.30	N/A	24,000	n	N	2
	207-08-9	Benzo(k)fluoranthene	0.0061	J	5.2	J	mg/kg	TRB-NEWBRUN	13 / 16	1.3 - 4.1	5.2	N/A	1.5	c	Y	1
	117-81-7	bis(2-Ethylhexyl) phthalate	0.22	J	38	B	mg/kg	A3-1	12 / 16	0.20 - 1.4	38	N/A	35	c	Y	1
	85-68-7	Butyl benzyl phthalate	0.049	J	2.7	J	mg/kg	A3-1	9 / 15	0.071 - 3.4	2.7	N/A	260	c	N	2
	86-74-8	Carbazole	0.11	J	0.36		mg/kg	TRB-NEWBRUN	5 / 10	0.077 - 0.24	0.36	N/A	NA		Y	5
	218-01-9	Chrysene	0.011	J	7.3	J	mg/kg	A5-1	15 / 16	1.3	7.3	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.0041	J	0.86	J	mg/kg	BB-T255B	10 / 16	1.3 - 4.1	0.86	N/A	0.015	c	Y	1
	84-74-2	di-n-Butyl phthalate	0.18		2.4	J	mg/kg	A3-2	7 / 16	0.041 - 0.17	2.4	N/A	610	n	N	2
	117-84-0	di-n-Octyl phthalate	0.088	J	35		mg/kg	A3-1	8 / 16	0.047 - 2.3	35	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.013	J	12		mg/kg	A5-1	15 / 16	1.3	12	N/A	230	n	N	2
	86-73-7	Fluorene	0.041	B	1.4	J	mg/kg	A5-1	9 / 16	0.0013 - 4.1	1.4	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.0094	J	3.4	J	mg/kg	BB-T255B	15 / 16	1.3	3.4	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.0080	J	0.12	J	mg/kg	BB-T255B	9 / 16	0.0012 - 4.1	0.12	N/A	23	n	N	2
	106-44-5 / 15831-10-4 / 65794-96-9	3- & 4-Methylphenol	--		13		mg/kg	A3-2	1 / 16	0.12 - 4.1	13	N/A	610 [a]	n	N	2
	91-20-3	Naphthalene	0.0013	J	0.16	J	mg/kg	A5-1	10 / 16	0.0045 - 4.1	0.16	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.014	J	14		mg/kg	A5-1	14 / 16	0.10 - 1.3	14	N/A	NA		Y	5
	129-00-0	Pyrene	0.032	J	17		mg/kg	A5-1	16 / 16	N/A	17	N/A	170	n	N	2
	309-00-2	Aldrin	--		0.0015	J	mg/kg	TRB-NEWBRUN	1 / 15	0.00054 - 0.021	0.0015	N/A	0.029	c	N	2
	319-84-6	alpha-BHC	0.00088	J	0.012	J	mg/kg	BB-T231C	6 / 15	0.00049 - 0.021	0.012	N/A	0.077	c	N	2
	319-85-7	beta-BHC	0.013		0.048	NJ	mg/kg	BB-T231C	4 / 13	0.00079 - 0.021	0.048	N/A	0.27	c	N	2
	58-89-9	gamma-BHC	0.0019	J	0.0092	NJ	mg/kg	BB-T231C	5 / 16	0.00044 - 0.021	0.0092	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.0023		0.22		mg/kg	BB-T231A	9 / 15	0.063 - 0.21	0.22	N/A	1.6 [b]	c	N	2
	60-57-1	Dieldrin	0.19	J	0.30	J	mg/kg	A3-1	2 / 10	0.063 - 0.21	0.30	N/A	0.030	c	Y	1
	72-54-8	4,4'-DDD	0.016	J	0.039	J	mg/kg	TRB-NEWBRUN	3 / 14	0.00091 - 0.042	0.039	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0082	J	0.14	J	mg/kg	BB-T231C	7 / 15	0.00094 - 0.042	0.14	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.0097	J	0.083		mg/kg	BB-T217B	2 / 12	0.0014 - 0.042	0.083	N/A	1.7	c	N	2
	959-98-8	alpha-Endosulfan	0.026	JN	0.040	J	mg/kg	BB-T255B	2 / 14	0.00044 - 0.021	0.040	N/A	37 [c]	n	N	2
	33213-65-9	beta-Endosulfan	--		0.010	NJ	mg/kg	BB-T217B	1 / 12	0.00080 - 0.042	0.010	N/A	37 [c]	n	N	2
	72-20-8	Endrin	0.011	NJ	0.058	NJ	mg/kg	BB-T231C	5 / 14	0.0010 - 0.042	0.058	N/A	1.8	n	N	2
	7421-93-4	Endrin aldehyde	0.0088	NJ	0.018	NJ	mg/kg	BB-T231A	3 / 13	0.0014 - 0.042	0.018	N/A	NA		Y	5
	53494-70-5	Endrin ketone	0.010	J	0.010	J	mg/kg	TRB-NEWBRUN/BB-T231B	2 / 16	0.00090 - 0.042	0.010	N/A	NA		Y	5
	76-44-8	Heptachlor	--		0.0029	J	mg/kg	BB-T255A	1 / 16	0.00068 - 0.021	0.0029	N/A	0.11	c	N	2
	1024-57-3	Heptachlor epoxide	--		0.0037	NJ	mg/kg	TRB-NEWBRUN	1 / 9	0.0011 - 0.021	0.0037	N/A	0.053	c	N	2
	72-43-5	Methoxychlor	0.015	J	0.028	J	mg/kg	BB-T267A	2 / 14	0.0040 - 0.21	0.028	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.020		25		mg/kg	Transect AAAA	33 / 42	0.013 - 1.8	25	N/A	0.11	n	Y	1

TABLE 2.8: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB3	7429-90-5	Aluminum	2,400		22,900		mg/kg	BB-T231C	16 / 16	N/A	22,900	5,030 - 8,310	7,700	n	Y	1
	7440-36-0	Antimony	0.38		2.9		mg/kg	A3-1	6 / 16	0.010	2.9	1.2 E	3.1	n	N	2
	7440-38-2	Arsenic	0.85	J	12		mg/kg	A3-1	16 / 16	N/A	12	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	23		340		mg/kg	BB-T231C	16 / 16	N/A	340	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	0.20		2.9	J	mg/kg	BB-T231B	7 / 16	0.0040	2.9	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	0.67		16		mg/kg	A3-1	15 / 16	0.0020	22	1.1	7.0	n	Y	1
	7440-70-2	Calcium	740		7,240	J	mg/kg	BB-T267A	16 / 16	N/A	7,240	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	6.4		76	J	mg/kg	BB-T231C	16 / 16	N/A	76	19.7 E - 32.4 E	12,000 [d]	n	N	2
	7440-48-4	Cobalt	2.0		45	J	mg/kg	BB-T231B	16 / 16	N/A	45	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	3.2	J	170		mg/kg	A3-1	16 / 16	N/A	170	10 E - 53.5 J	310	n	N	2
	57-12-5	Cyanide	0.10	J	0.84	J	mg/kg	TRB-NEWBRUN	8 / 10	0.0040	0.84	0.77 J	4.7 [e]	n	N	2
	7439-89-6	Iron	7,300		30,300		mg/kg	BB-T231B	16 / 16	N/A	30,300	23,600 E - 32,100 ED	5,500	n	Y	1
	7439-92-1	Lead	5.5		350		mg/kg	A4-1	16 / 16	N/A	350	27.2 E - 71.4 J	400	L	N	2
	7439-95-4	Magnesium	910		5,910		mg/kg	BB-T231B	16 / 16	N/A	5,910	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	62	J	500		mg/kg	A3-2	16 / 16	N/A	500	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.012	J	2.1		mg/kg	BB-T255A	11 / 16	0.0010 - 0.024	2.1	--	2.3 [f]	n	N	2
	7440-02-0	Nickel	5.1	J	42		mg/kg	A3-1	16 / 16	N/A	42	23.5 - 39.9 D	150 [g]	n	N	2
	7440-09-7	Potassium	260		1,600	J	mg/kg	BB-T231B	11 / 16	3.5	1,600	832 - 1,060	NA		N	3,5
	7782-49-2	Selenium	0.63		3.3		mg/kg	A3-1	6 / 16	0.034	3.3	0.11 J - 0.44 J	39	n	N	2
	7440-22-4	Silver	0.13		11		mg/kg	A3-1	12 / 16	0.0010 - 0.089	11	0.22 J	39	n	N	2
	7440-23-5	Sodium	74	J	720	J	mg/kg	BB-T231C	15 / 16	8.6	720	207 J - 554	NA		N	3,5
	7440-62-2	Vanadium	8.9		52		mg/kg	A3-1	16 / 16	N/A	52	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	14	J	590		mg/kg	A3-1	16 / 16	N/A	590	100 E - 411 J	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for p-Cresol.
b = Screening toxicity value is for Chlordane.
c = Screening toxicity value is for Endosulfan.
d = Screening toxicity value is for Chromium III.
e = Screening toxicity value is for free cyanide (CN-)
f = Screening toxicity value is for mercuric chloride.
g = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.9: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 3 (BB3)	67-64-1	Acetone	0.013		7.7	J	mg/kg	A3-1	12 / 39	0.0030 - 0.022	7.7	N/A	6,100	n	N	2
	75-15-0	Carbon disulfide	0.00085	J	0.030	J	mg/kg	A3-1	20 / 39	0.00040 - 0.087	0.030	N/A	82	n	N	2
	75-00-3	Chloroethane	--		0.030	J	mg/kg	A4-1	1 / 39	0.00087 - 0.21	0.030	N/A	1,500	n	N	2,4
	74-87-3	Chloromethane	0.070	J	0.13		mg/kg	A4-1	2 / 39	0.00076 - 0.18	0.13	N/A	12	n	N	2
	156-59-2	cis-1,2-Dichloroethene	--		0.0019	J	mg/kg	BB-T217A	1 / 39	0.00051 - 0.13	0.0019	N/A	16	n	N	2,4
	591-78-6	2-Hexanone	--		0.050	J	mg/kg	A4-1	1 / 39	0.0011 - 0.21	0.050	N/A	21	n	N	2,4
	78-93-3	Methyl ethyl ketone	0.016		0.056		mg/kg	BB-T217A	4 / 39	0.0017 - 0.25	0.056	N/A	2,800	n	N	2
	75-09-2	Methylene chloride	0.010	J	0.080	JB	mg/kg	A3-1	6 / 39	0.00064 - 0.0046	0.080	N/A	36	n	N	2
	108-88-3	Toluene	0.020	J	0.070	J	mg/kg	A3-2	2 / 39	0.00042 - 0.059	0.070	N/A	500	n	N	2
	71-55-6	1,1,1-Trichloroethane	--		0.020		mg/kg	A4-1	1 / 39	0.00039 - 0.11	0.020	N/A	870	n	N	2,4
	83-32-9	Acenaphthene	0.0056		0.31	J	mg/kg	BB-T217B	15 / 40	0.00065 - 4.1	0.31	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0016	J	0.60	J	mg/kg	A5-1	18 / 40	0.00067 - 4.1	0.60	N/A	NA		Y	5
	98-86-2	Acetophenone	0.050	J	0.24	J	mg/kg	BB-T267A	6 / 40	0.040 - 4.1	0.24	N/A	780	n	N	2
	120-12-7	Anthracene	0.00067	J	3.9		mg/kg	A5-1	23 / 40	0.00046 - 1.4	3.9	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.10	J	0.10	J	mg/kg	BB-T231A	1 / 34	0.041 - 0.29	0.10	N/A	780	n	N	2,4
	92-87-5	Benzidine	4.6		81	J	mg/kg	A5-1	5 / 6	2.6	81	N/A	0.00050	c	Y	1
	56-55-3	Benzo(a)anthracene	0.00082	J	8.3		mg/kg	A5-1	27 / 40	0.00055 - 1.3	8.3	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.0020	J	6.4		mg/kg	A5-1	25 / 40	0.00054 - 1.3	6.4	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.0022	J	9.6	EX	mg/kg	BB-T231A	26 / 40	0.00087 - 1.3	9.6	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.011	J	3.5		mg/kg	BB-T231A	24 / 40	0.00076 - 1.3	3.5	N/A	NA		Y	5
	65-85-0	Benzoic acid	--		0.30	J	mg/kg	A4-1	1 / 6	1.3 - 4.1	0.30	N/A	24,000	n	N	2
	207-08-9	Benzo(k)fluoranthene	0.0017	J	9.0	EX	mg/kg	BB-T231A	23 / 40	0.00093 - 4.1	9.0	N/A	1.5	c	Y	1
	117-81-7	bis(2-Ethylhexyl) phthalate	0.12	J	38	B	mg/kg	A3-1	16 / 40	0.081 - 1.4	38	N/A	35	c	Y	1
	85-68-7	Butyl benzyl phthalate	0.049	J	2.7	J	mg/kg	A3-1	12 / 39	0.029 - 3.4	2.7	N/A	260	c	N	2
	86-74-8	Carbazole	0.11	J	0.36		mg/kg	TRB-NEWBRUN	6 / 34	0.049 - 0.34	0.36	N/A	NA		Y	5
	218-01-9	Chrysene	0.0011	J	7.3	J	mg/kg	A5-1	29 / 40	0.00048 - 1.3	7.3	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.0039	J	1.7		mg/kg	BB-T231A	19 / 40	0.00076 - 4.1	1.7	N/A	0.015	c	Y	1
	84-74-2	di-n-Butyl phthalate	0.18		2.4	J	mg/kg	A3-2	7 / 40	0.036 - 0.25	2.4	N/A	610 [a]	n	N	2,4
	117-84-0	di-n-Octyl phthalate	0.088	J	35		mg/kg	A3-1	9 / 40	0.038 - 2.3	35	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.0012	J	12		mg/kg	A5-1	27 / 40	0.00069 - 1.3	12	N/A	230	n	N	2
	86-73-7	Fluorene	0.00086	J	1.4	J	mg/kg	A5-1	16 / 40	0.00052 - 4.1	1.4	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.0040	J	5.9		mg/kg	BB-T231A	25 / 40	0.00079 - 1.3	5.9	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.00065	J	0.21	J	mg/kg	BB-T231A	23 / 40	0.00051 - 4.1	0.21	N/A	23	n	N	2
	106-44-5 / 15831-10-4 / 65794-96-9	3- & 4-Methylphenol	--		13		mg/kg	A3-2	1 / 40	0.11 - 4.1	13	N/A	610	n	N	2,4
	91-20-3	Naphthalene	0.00055	J	0.22	J	mg/kg	BB-T231A	19 / 40	0.00040 - 4.1	0.22	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.0025	J	14		mg/kg	A5-1	24 / 40	0.00093 - 1.3	14	N/A	NA		Y	5
	129-00-0	Pyrene	0.0011	J	17		mg/kg	A5-1	30 / 40	0.00057 - 0.41	17	N/A	170	n	N	2
	309-00-2	Aldrin	--		0.0015	J	mg/kg	TRB-NEWBRUN	1 / 39	0.00047 - 0.021	0.0015	N/A	0.029	c	N	2,4
	319-84-6	alpha-BHC	0.00088	J	0.17		mg/kg	BB-T255A	12 / 39	0.00040 - 0.021	0.17	N/A	0.077	c	Y	1
	319-85-7	beta-BHC	0.0076	NJ	0.048	NJ	mg/kg	BB-T231C	9 / 37	0.00065 - 0.021	0.048	N/A	0.27	c	N	2
	58-89-9	gamma-BHC	0.0011	J	0.010	J	mg/kg	BB-T255B	8 / 40	0.00039 - 0.021	0.010	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.0022		1.3		mg/kg	BB-T255A	16 / 38	0.00046 - 0.21	1.3	N/A	1.6 [b]	c	N	2
	60-57-1	Dieldrin	0.0077	J	0.48	JN	mg/kg	BB-T231A	4 / 28	0.00085 - 0.023	0.48	N/A	0.030	c	Y	1
	72-54-8	4,4'-DDD	0.0019	J	1.0	NJ	mg/kg	BB-T231A	8 / 35	0.00081 - 0.042	1.0	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0024	J	0.61	PE	mg/kg	BB-T231A	15 / 39	0.00083 - 0.042	0.61	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.0032	J	0.83	JN	mg/kg	BB-T231A	6 / 32	0.0012 - 0.042	0.83	N/A	1.7	c	N	2
	959-98-8	alpha-Endosulfan	0.018	J	0.040	J	mg/kg	BB-T255B	3 / 36	0.00039 - 0.021	0.040	N/A	37 [c]	n	N	2
	33213-65-9	beta-Endosulfan	0.0097	J	0.46	P	mg/kg	BB-T255A	2 / 32	0.00071 - 0.042	0.46	N/A	37 [c]	n	N	2
	1031-07-8	Endosulfan sulfate	0.0035	J	0.078		mg/kg	BB-T231A	2 / 40	0.00089 - 0.042	0.078	N/A	NA		N	4,5
	72-20-8	Endrin	0.0062	NJ	0.32	NJ	mg/kg	BB-T255A	11 / 38	0.00081 - 0.042	0.32	N/A	1.8	n	N	2
	7421-93-4	Endrin aldehyde	0.0088	NJ	0.19	PE	mg/kg	BB-T231A	4 / 33	0.0012 - 0.042	0.19	N/A	NA		Y	5
	53494-70-5	Endrin ketone	0.010	J	0.010	J	mg/kg	TRB-NEWBRUN/ BB-T231B	2 / 40	0.00080 - 0.042	0.010	N/A	NA		N	4,5

TABLE 2.9: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB3	76-44-8	Heptachlor	0.0029	J	0.012		mg/kg	BB-T255A	2 / 40	0.00060 - 0.021	0.012	N/A	0.11	c	N	2,4
	1024-57-3	Heptachlor epoxide	0.0037	NJ	1.2	JN	mg/kg	BB-T255A	3 / 28	0.00046 - 0.021	1.2	N/A	0.053	c	Y	1
	72-43-5	Methoxychlor	0.015	J	0.078		mg/kg	BB-T231A	3 / 38	0.0035 - 0.21	0.078	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.011		39		mg/kg	BB-T231A	59 / 87	0.0058 - 1.8	39	N/A	0.11	n	Y	1
	7429-90-5	Aluminum	1,650	J	26,900		mg/kg	BB-T231A	41 / 41	N/A	26,900	5,030 - 8,310	7,700	n	Y	1
	7440-36-0	Antimony	0.38		2.9		mg/kg	A3-1	6 / 41	0.010	2.9	1.2 E	3.1	n	N	2
	7440-38-2	Arsenic	0.85	J	12		mg/kg	A3-1	33 / 41	0.0040	12	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	23		567		mg/kg	BB-T231C	41 / 41	N/A	567	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	0.20		2.9	J	mg/kg	BB-T231B	10 / 41	0.0040	2.9	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	0.67		17		mg/kg	BB-T231C	23 / 41	0.0020	17	1.1	7.0	n	Y	1
	7440-70-2	Calcium	710		9,450		mg/kg	BB-T231C	41 / 41	N/A	9,450	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	4.8	J	132	J	mg/kg	BB-T231A	41 / 41	N/A	132	19.7 E - 32.4 E	12,000 [d]	n	N	2
	7440-48-4	Cobalt	1.4	J	45	J	mg/kg	BB-T231B	41 / 41	N/A	45	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	1.4	J	170	J	mg/kg	A3-1	40 / 41	0.010	170	10 E - 53.5 J	310	n	N	2
	57-12-5	Cyanide	0.062	J	0.92	J	mg/kg	BB-T255A	29 / 35	0.0040	0.92	0.77 J	4.7 [e]	n	N	2
	7439-89-6	Iron	3,400		30,300		mg/kg	BB-T231B	41 / 41	N/A	30,300	23,600 E - 32,100 ED	5,500	n	Y	1
	7439-92-1	Lead	1.7		350		mg/kg	A4-1	41 / 41	N/A	350	27.2 E - 71.4 J	400	L	N	2
	7439-95-4	Magnesium	688		5,910		mg/kg	BB-T231B	41 / 41	N/A	5,910	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	17	J	500		mg/kg	A3-2	41 / 41	N/A	500	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.0031	J	2.1		mg/kg	BB-T255A	18 / 41	0.0010	2.1	--	2.3 [f]	n	N	2
	7440-02-0	Nickel	2.7	J	42		mg/kg	A3-1	41 / 41	N/A	42	23.5 - 39.9 D	150 [g]	n	N	2
	7440-09-7	Potassium	260		1,600	J	mg/kg	BB-T231B	23 / 41	3.5	1,600	832 - 1,060	NA		N	3,5
	7782-49-2	Selenium	0.63		3.3		mg/kg	A3-1	6 / 41	0.034	3.3	0.11 J - 0.44 J	39	n	N	2
	7440-22-4	Silver	0.13		11		mg/kg	A3-1	15 / 41	0.0010 - 0.089	11	0.22 J	39	n	N	2
	7440-23-5	Sodium	49	J	720	J	mg/kg	BB-T231C	38 / 41	8.6	720	207 J - 554	NA		N	3,5
	7440-62-2	Vanadium	7.1	J	52		mg/kg	A3-1	41 / 41	N/A	52	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	7.7	J	590		mg/kg	A3-1	41 / 41	N/A	590	100 E - 411 J	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for p-Cresol.
b = Screening toxicity value is for Chlordane.
c = Screening toxicity value is for Endosulfan.
d = Screening toxicity value is for Chromium III.
e = Screening toxicity value is for free cyanide (CN-)
f = Screening toxicity value is for mercuric chloride.
g = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
C = Identification confirmed by GC/MS.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.
P = Observed >25% difference between the two GC columns.
X =

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.10: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 4 (BB4)	67-64-1	Acetone	0.69	J	1.1	J	mg/kg	A2-2	2 / 14	0.0032 - 0.0052	1.1	N/A	6,100	n	N	2
	75-15-0	Carbon disulfide	0.0010	J	0.0013	J	mg/kg	BB-T304B	3 / 14	0.00044 - 0.079	0.0013	N/A	82	n	N	2
	156-59-2	cis-1,2-Dichloroethene	--		0.0022	J	mg/kg	BB-T328A	1 / 14	0.00053 - 0.079	0.0022	N/A	16	n	N	2
	79-01-6	Trichloroethene	--		0.0012	J	mg/kg	TRB-ELSIE	1 / 14	0.00041 - 0.079	0.0012	N/A	0.44	n	N	2
	83-32-9	Acenaphthene	0.0027	J	0.19		mg/kg	BB-T304B	13 / 15	2.1 - 3.0	0.19	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0014	J	0.026	J	mg/kg	BB-T304B	9 / 15	0.0037 - 3.0	0.026	N/A	NA		Y	5
	98-86-2	Acetophenone	0.11	J	0.27	J	mg/kg	BB-T319B	5 / 15	0.045 - 3.0	0.27	N/A	780	n	N	2
	120-12-7	Anthracene	0.0064	J	0.49	J	mg/kg	BB-T304B	15 / 15	N/A	0.49	N/A	1,700	n	N	2
	92-87-5	Benzidine	18		20		mg/kg	A2-1	2 / 2	N/A	20	N/A	0.00050	c	Y	1
	56-55-3	Benzo(a)anthracene	0.051	J	2.9		mg/kg	BB-T304B	15 / 15	N/A	2.9	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.059	J	2.6		mg/kg	BB-T304B	15 / 15	N/A	2.6	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.10	J	4.2		mg/kg	A2-1	14 / 14	N/A	4.2	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.13		1.9		mg/kg	BB-T304A	14 / 15	0.063	1.9	N/A	NA		Y	5
	65-85-0	Benzoic acid	0.50	J	0.57	J	mg/kg	A2-1	2 / 2	N/A	0.57	N/A	24,000	n	N	2
	207-08-9	Benzo(k)fluoranthene	0.037	J	1.5		mg/kg	BB-T304B	15 / 15	N/A	1.5	N/A	1.5	c	N	2
	117-81-7	bis(2-Ethylhexyl) phthalate	0.10	J	26	J	mg/kg	BB-T304A	15 / 15	N/A	26	N/A	35	c	N	2
	85-68-7	Butyl benzyl phthalate	0.093	J	3.2		mg/kg	A2-2	12 / 15	0.032 - 0.035	3.2	N/A	260	c	N	2
	86-74-8	Carbazole	0.061	J	0.22	J	mg/kg	BB-T328B	6 / 13	0.054 - 0.32	0.22	N/A	NA		Y	5
	218-01-9	Chrysene	0.066	J	2.9	J	mg/kg	A2-1	15 / 15	N/A	2.9	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.014	J	0.46		mg/kg	BB-T304B	13 / 15	2.1 - 3.0	0.46	N/A	0.015	c	Y	1
	84-74-2	di-n-Butyl phthalate	0.045	J	3.9	J	mg/kg	A2-2	3 / 15	0.039 - 0.24	0.19	N/A	610	n	N	2
	117-84-0	di-n-Octyl phthalate	0.10	J	4.0		mg/kg	A2-1	8 / 15	0.042 - 0.25	4.0	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.093	J	4.6		mg/kg	BB-T304B	15 / 15	N/A	4.6	N/A	230	n	N	2
	86-73-7	Fluorene	0.0043	J	0.26		mg/kg	BB-T304B	13 / 15	2.1 - 3.0	0.26	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.069	J	2.2		mg/kg	BB-T304A	15 / 15	N/A	2.2	N/A	0.15	c	Y	1
	99-87-6	p-Isopropyltouene	--		0.080	J	mg/kg	A2-2	1 / 2	0.054	0.080	N/A	NA		Y	5
	91-57-6	2-Methylnaphthalene	0.0047	J	0.081		mg/kg	BB-T304A	11 / 15	0.0056 - 3.0	0.081	N/A	23	n	N	2
	91-20-3	Naphthalene	0.0048	J	0.23	J	mg/kg	A2-1	12 / 15	0.0022 - 3.0	0.23	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.036	J	3.0		mg/kg	BB-T304B	15 / 15	N/A	3.0	N/A	NA		Y	5
	108-95-2	Phenol	--		0.12	J	mg/kg	BB-T309A	1 / 15	0.033 - 3.0	0.12	N/A	1,800	n	N	2
	129-00-0	Pyrene	1.0		8.1		mg/kg	BB-T304B	14 / 15	0.20	8.1	N/A	170	n	N	2
	309-00-2	Aldrin	--		0.0024	J	mg/kg	BB-T304B	1 / 15	0.00052 - 0.015	0.0024	N/A	0.029	c	N	2
	319-84-6	alpha-BHC	0.0015	J	0.017	J	mg/kg	BB-T304A	11 / 15	0.00044 - 0.015	0.017	N/A	0.077	c	N	2
	319-85-7	beta-BHC	0.0061	J	0.019	NJ	mg/kg	BB-T309B	5 / 9	0.00071 - 0.015	0.019	N/A	0.27	c	N	2
	58-89-9	gamma-BHC	0.0012	J	0.024	NJ	mg/kg	BB-T304A	10 / 15	0.00043 - 0.015	0.024	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.008		0.116		mg/kg	BB-T309A	11 / 14	0.00051 - 0.15	0.116	N/A	1.6 [a]	c	N	2
	60-57-1	Dieldrin	--		0.015	NJ	mg/kg	BB-T304B	1 / 4	0.00094 - 0.030	0.015	N/A	0.030	c	N	2
	72-54-8	4,4'-DDD	0.0035	J	0.045	J	mg/kg	BB-T304B	3 / 12	0.00088 - 0.030	0.045	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.027		0.18	J	mg/kg	BB-T304A	10 / 15	0.00092 - 0.030	0.18	N/A	1.4	c	N	2
	959-98-8	alpha-Endosulfan	--		0.0073	NJ	mg/kg	BB-T319A	1 / 10	0.00042 - 0.015	0.0073	N/A	37 [b]	n	N	2
	33213-65-9	beta-Endosulfan	0.0010	J	0.025	JN	mg/kg	BB-T323B	2 / 4	0.020 - 0.030	0.025	N/A	37 [b]	n	N	2
	1031-07-8	Endosulfan sulfate	--		0.013	NJ	mg/kg	BB-T304B	1 / 14	0.00098 - 0.030	0.013	N/A	NA		Y	5
	72-20-8	Endrin	0.011	NJ	0.11	JN	mg/kg	BB-T304A	7 / 11	0.00088 - 0.030	0.11	N/A	1.8	n	N	2
	7421-93-4	Endrin aldehyde	0.0063	J	0.027	JN	mg/kg	BB-T309A	4 / 7	0.0013 - 0.030	0.027	N/A	NA		Y	5
	53494-70-5	Endrin ketone	0.0075	J	0.013	J	mg/kg	BB-T323B	4 / 14	0.00087 - 0.030	0.013	N/A	NA		Y	5
	1024-57-3	Heptachlor epoxide	--		0.034	JN	mg/kg	BB-T309B	1 / 4	0.00051 - 0.015	0.034	N/A	0.053	c	N	2
	72-43-5	Methoxychlor	0.016	J	0.032	NJ	mg/kg	BB-T328A	3 / 12	0.0038 - 0.015	0.032	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.055		39		mg/kg	Transect HHH	47 / 53	0.012 - 0.43	39	N/A	0.11	n	Y	1

TABLE 2.10: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB4	7429-90-5	Aluminum	3,700	J	11,000		mg/kg	A2-2	15 / 15	N/A	11,000	5,030 - 8,310	7,700	n	Y	1
	7440-36-0	Antimony	1.1		1.9		mg/kg	A2-2	2 / 12	0.010	1.9	1.2 E	3.1	n	N	2
	7440-38-2	Arsenic	0.79	J	12		mg/kg	A2-2	14 / 15	0.0040	12	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	38		260		mg/kg	A2-2	15 / 15	N/A	260	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	0.53		0.84		mg/kg	A2-2	2 / 15	0.0040	0.84	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	0.78	J	12		mg/kg	A2-2	13 / 15	0.0020	12	1.1	7.0	n	Y	1
	7440-70-2	Calcium	1,440	J	7,870	J	mg/kg	BB-T328A	15 / 15	N/A	7,870	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	6.7	J	53		mg/kg	A2-2	15 / 15	N/A	53	19.7 E - 32.4 E	12,000 [c]	n	N	2
	7440-48-4	Cobalt	2.9	J	12		mg/kg	A2-2	15 / 15	N/A	12	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	6.6	J	130		mg/kg	A2-2	15 / 15	N/A	130	10 E - 53.5 J	310	n	N	2
	57-12-5	Cyanide	0.12	J	0.79	J	mg/kg	BB-T323A	8 / 13	0.0040	0.79	0.77 J	4.7 [d]	n	N	2
	7439-89-6	Iron	7,950	J	28,000		mg/kg	BB-T328A	15 / 15	N/A	28,000	23,600 E - 32,100 ED	5,500	n	Y	1
	7439-92-1	Lead	16	J	250		mg/kg	A2-2	15 / 15	N/A	250	27.2 E - 71.4 J	400	L	N	2
	7439-95-4	Magnesium	1,520	J	6,280		mg/kg	BB-T328B	15 / 15	N/A	6,280	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	72	J	3,060	J	mg/kg	BB-T328A	15 / 15	N/A	3,060	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.016	J	0.35		mg/kg	A2-2	6 / 15	0.0010	0.35	--	2.3 [e]	n	N	2
	7440-02-0	Nickel	6.7	J	37		mg/kg	A2-2	15 / 15	N/A	37	23.5 - 39.9 D	150 [f]	n	N	2
	7440-09-7	Potassium	520		1,650		mg/kg	BB-T328B	13 / 15	3.5	1,650	832 - 1,060	NA		N	3,5
	7782-49-2	Selenium	0.15	J	3.3		mg/kg	A2-2	3 / 15	0.034	3.3	0.11 J - 0.44 J	39	n	N	2
	7440-22-4	Silver	0.71		5.2		mg/kg	A2-1	7 / 15	0.0010	5.2	0.22 J	39	n	N	2
	7440-23-5	Sodium	139	J	430		mg/kg	A2-2	15 / 15	N/A	430	207 J - 554	NA		N	3,5
	7440-62-2	Vanadium	7.8	J	46		mg/kg	A2-2	15 / 15	N/A	46	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	32	J	460		mg/kg	A2-2	15 / 15	N/A	460	100 E - 411 J	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Endosulfan.
c = Screening toxicity value is for Chromium III.
d = Screening toxicity value is for free cyanide (CN-)
e = Screening toxicity value is for mercuric chloride.
f = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Chemical was tentatively identified.
P = Observed >25% difference between the two GC columns.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.11: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU)	67-64-1	Acetone	0.026	B	1.1	J	mg/kg	A2-2	4 / 25	0.0032 - 0.0057	1.1	N/A	6,100	n	N	2
Bound Brook 4 (BB4)	75-15-0	Carbon disulfide	0.00094	J	0.017		mg/kg	BB-T309A	8 / 25	0.00044 - 0.079	0.017	N/A	82	n	N	2
	156-59-2	cis-1,2-Dichloroethene	0.0016	J	0.014		mg/kg	BB-T319B	4 / 25	0.00053 - 0.079	0.014	N/A	16	n	N	2
	78-93-3	Methyl ethyl ketone	--		0.0071	J	mg/kg	BB-T304A	1 / 25	0.0017 - 0.16	0.0071	N/A	2,800	n	N	2,4
	79-01-6	Trichloroethene	0.0012	J	0.047		mg/kg	BB-T319B	2 / 25	0.00041 - 0.079	0.047	N/A	0.44	n	N	2
	83-32-9	Acenaphthene	0.0027	J	0.23	D	mg/kg	BB-T309A	22 / 27	0.00072 - 3.0	0.23	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0014	J	0.026	J	mg/kg	BB-T304B	15 / 27	0.00074 - 3.0	0.026	N/A	NA		Y	5
	98-86-2	Acetophenone	0.068	J	2.1		mg/kg	BB-T309A	11 / 27	0.043 - 3.0	2.1	N/A	780	n	N	2
	120-12-7	Anthracene	0.00094	J	0.59	J	mg/kg	BB-T309A	26 / 27	0.00052 - 0.00050	0.59	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.048	J	0.19	J	mg/kg	BB-T309A	2 / 25	0.044 - 0.32	0.19	N/A	780	n	N	2
	92-87-5	Benzidine	18		20		mg/kg	A2-1	2 / 2	N/A	20	N/A	0.00050	c	Y	1
	56-55-3	Benzo(a)anthracene	0.0012	J	2.9		mg/kg	BB-T304B	27 / 27	N/A	2.9	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.0018	J	2.6		mg/kg	BB-T304B	26 / 27	0.046	2.6	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.0016	J	4.2		mg/kg	A2-1	26 / 26	N/A	4.2	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.0013	J	1.9		mg/kg	BB-T304A	26 / 27	0.063	1.9	N/A	NA		Y	5
	65-85-0	Benzoic acid	0.50	J	0.57	J	mg/kg	A2-1	2 / 2	N/A	0.57	N/A	24,000	n	N	2
	207-08-9	Benzo(k)fluoranthene	0.0017	J	1.5		mg/kg	BB-T304B	26 / 27	0.0010	1.5	N/A	1.5	c	N	2
	117-81-7	bis(2-Ethylhexyl) phthalate	0.10	J	26	J	mg/kg	BB-T304A	24 / 27	0.088 - 0.094	26	N/A	35	c	N	2
	85-68-7	Butyl benzyl phthalate	0.091	J	3.2		mg/kg	A2-2	19 / 26	0.032 - 0.037	3.2	N/A	260	c	N	2
	86-74-8	Carbazole	0.057	J	0.22	J	mg/kg	BB-T328B	10 / 25	0.052 - 0.38	0.22	N/A	NA		Y	5
	218-01-9	Chrysene	0.0013	J	2.9	J	mg/kg	A2-1	27 / 27	N/A	2.9	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.0021	J	0.46		mg/kg	BB-T304B	23 / 27	0.00085 - 3.0	0.46	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	--		0.53		mg/kg	BB-T309A	1 / 27	0.19 - 3.0	0.53	N/A	7.8	n	N	2,4
	84-66-2	Diethylphthalate	--		0.14	J	mg/kg	BB-T304A	1 / 27	0.036 - 3.0	0.14	N/A	4,900	n	N	2,4
	84-74-2	di-n-Butyl phthalate	0.045	J	3.9	J	mg/kg	A2-2	6 / 27	0.038 - 0.28	3.9	N/A	610	n	N	2
	117-84-0	di-n-Octyl phthalate	0.085	J	4.0		mg/kg	A2-1	14 / 27	0.042 - 0.25	4.0	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.0027	J	4.6		mg/kg	BB-T304B	27 / 27	N/A	4.6	N/A	230	n	N	2
	86-73-7	Fluorene	0.0043	J	0.26		mg/kg	BB-T304B	22 / 27	0.00058 - 3.0	0.26	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.0023	J	2.2		mg/kg	BB-T304A	26 / 27	0.00088 - 0.00090	2.2	N/A	0.15	c	Y	1
	99-87-6	p-Isopropyltouene	--		0.080	J	mg/kg	A2-2	1 / 2	0.054	0.080	N/A	NA		Y	5
	91-57-6	2-Methylnaphthalene	0.0028	J	0.081		mg/kg	BB-T304A	20 / 27	0.00056 - 3.0	0.081	N/A	23	n	N	2
	106-44-5	4-Methylphenol	--		0.26		mg/kg	BB-T309A	1 / 25	0.00088 - 0.00090	0.26	N/A	610	n	N	2,4
	91-20-3	Naphthalene	0.0048	J	0.23	J	mg/kg	A2-1	19 / 27	0.00043 - 3.0	0.23	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.0016	J	3.0		mg/kg	BB-T304B	27 / 27	N/A	3.0	N/A	NA		Y	5
	108-95-2	Phenol	0.039	J	0.32		mg/kg	BB-T309A	4 / 27	0.032 - 3.0	0.32	N/A	1,800	n	N	2
	129-00-0	Pyrene	0.0025	J	8.1		mg/kg	BB-T304B	25 / 27	0.20 - 0.23	8.1	N/A	170	n	N	2
	309-00-2	Aldrin	--		0.0024	J	mg/kg	BB-T304B	1 / 27	0.00050 - 0.015	0.0024	N/A	0.029	c	N	2,4
	319-84-6	alpha-BHC	0.00061	J	0.017	J	mg/kg	BB-T304A	20 / 27	0.00043 - 0.015	0.017	N/A	0.077	c	N	2
	319-85-7	beta-BHC	0.0061	J	0.022	J	mg/kg	BB-T304A	9 / 17	0.00071 - 0.015	0.022	N/A	0.27	c	N	2
	58-89-9	gamma-BHC	0.0012	J	0.024	NJ	mg/kg	BB-T309A	17 / 27	0.00041 - 0.015	0.024	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.008		0.19		mg/kg	BB-T309A	19 26	0.00047 - 0.15	0.19	N/A	1.6 [a]	c	N	2
	60-57-1	Dieldrin	0.015	NJ	0.12	JN	mg/kg	BB-T319B	5 / 12	0.00090 - 0.030	0.12	N/A	0.030	c	Y	1
	72-54-8	4,4'-DDD	0.0024	J	0.045	J	mg/kg	BB-T304B	5 / 20	0.00088 - 0.030	0.045	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0011	J	0.23	E	mg/kg	BB-T328B	19 / 27	0.00090 - 0.030	0.23	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	--		0.091	JN	mg/kg	BB-T282A	1 / 13	0.0013 - 0.030	0.091	N/A	1.7	c	N	2
	959-98-8	alpha-Endosulfan	--		0.0073	NJ	mg/kg	BB-T319A	1 / 16	0.00042 - 0.015	0.0073	N/A	37 [b]	n	N	2
	33213-65-9	beta-Endosulfan	0.0010	J	0.089	JN	mg/kg	BB-T328B	5 / 11	0.00077 - 0.030	0.089	N/A	37 [b]	n	N	2
	1031-07-8	Endosulfan sulfate	--		0.013	NJ	mg/kg	BB-T304B	1 / 26	0.0010 - 0.030	0.013	N/A	NA		N	4,5
	72-20-8	Endrin	0.011	NJ	0.11	JN	mg/kg	BB-T304A	13 / 21	0.00088 -0.030	0.11	N/A	1.8	n	N	2
	7421-93-4	Endrin aldehyde	0.0063	J	0.027	JN	mg/kg	BB-T309A	5 / 12	0.0013 - 0.030	0.027	N/A	NA		Y	5
	53494-70-5	Endrin ketone	0.0075	J	0.013	J	mg/kg	BB-T323B	4 / 23	0.00086 -0.030	0.013	N/A	NA		Y	5
	1024-57-3	Heptachlor epoxide	0.034	JN	0.14	JN	mg/kg	BB-T309A	5 / 12	0.00050 - 0.015	0.14	N/A	0.053	c	Y	1
	72-43-5	Methoxychlor	0.013	J	0.032	NJ	mg/kg	BB-T328A	4 / 22	0.0037 - 0.15	0.032	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.019		39		mg/kg	Transect HHH	83 / 91	0.012 - 0.53	39	N/A	0.11	n	Y	1

TABLE 2.11: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB4	7429-90-5	Aluminum	3,490	J	11,000		mg/kg	A2-2	27 / 27	N/A	11,000	5,030 - 8,310	7,700	n	Y	1
	7440-36-0	Antimony	1.1		1.9		mg/kg	A2-2	2 / 21	0.010	1.9	1.2 E	3.1	n	N	2
	7440-38-2	Arsenic	0.59	J	12		mg/kg	A2-2	26 / 27	0.0040	12	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	36		260		mg/kg	A2-2	27 / 27	N/A	260	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	0.53		0.84		mg/kg	A2-2	2 / 27	0.0040	0.84	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	0.78	J	12		mg/kg	A2-2	22 / 27	0.0020	12	1.1	7.0	n	Y	1
	7440-70-2	Calcium	1,240		11,100		mg/kg	BB-T328B	27 / 27	N/A	11,100	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	6.7	J	53		mg/kg	A2-2	27 / 27	N/A	53	19.7 E - 32.4 E	12,000 [c]	n	N	2
	7440-48-4	Cobalt	2.9	J	12		mg/kg	A2-2	27 / 27	N/A	12	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	5.0	J	130		mg/kg	A2-2	27 / 27	N/A	130	10 E - 53.5 J	310	n	N	2
	57-12-5	Cyanide	0.071	J	0.79	J	mg/kg	BB-T323A	15 / 25	0.0040	0.79	0.77 J	4.7 [d]	n	N	2
	7439-89-6	Iron	7,950	J	28,000		mg/kg	BB-T328A	27 / 27	N/A	28,000	23,600 E - 32,100 ED	5,500	n	Y	1
	7439-92-1	Lead	5.0	J	250		mg/kg	A2-2	27 / 27	N/A	250	27.2 E - 71.4 J	400	L	N	2
	7439-95-4	Magnesium	1,520	J	6,280		mg/kg	BB-T328B	27 / 27	N/A	6,280	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	59	J	3,060	J	mg/kg	BB-T328A	27 / 27	N/A	3,060	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.0076	J	0.77		mg/kg	TRB-ELSIE	12 / 27	0.0010	0.77	--	2.3 [e]	n	N	2
	7440-02-0	Nickel	6.7	J	37		mg/kg	A2-2	27 / 27	N/A	37	23.5 - 39.9 D	150 [f]	n	N	2
	7440-09-7	Potassium	394	J	1,650		mg/kg	BB-T328B	24 / 27	3.5	1,650	832 - 1,060	NA		N	3,5
	7782-49-2	Selenium	0.072	J	3.3		mg/kg	A2-2	6 / 27	0.034	3.3	0.11 J - 0.44 J	39	n	N	2
	7440-22-4	Silver	0.62		5.2		mg/kg	A2-1	12 / 27	0.0010	5.2	0.22 J	39	n	N	2
	7440-23-5	Sodium	139	J	430		mg/kg	A2-2	27 / 27	N/A	430	207 J - 554	NA		N	3,5
	7440-62-2	Vanadium	7.6	J	46		mg/kg	A2-2	27 / 27	N/A	46	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	17	J	460		mg/kg	A2-2	27 / 27	N/A	460	100 E - 411 J	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Endosulfan.
c = Screening toxicity value is for Chromium III.
d = Screening toxicity value is for free cyanide (CN-)
e = Screening toxicity value is for mercuric chloride.
f = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Chemical was tentatively identified.
P = Observed >25% difference between the two GC columns.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.12: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 5 (BB5)	67-64-1	Acetone	0.0043	J	3.6	J	mg/kg	A1-3	14 / 24	0.0035 - 0.0063	3.6	N/A	6,100	n	N	2
	75-15-0	Carbon disulfide	0.00077	J	0.0067	J	mg/kg	BB-T346A	9 / 24	0.00046 - 0.093	0.0067	N/A	82	n	N	2
	108-90-7	Chlorobenzene	0.0061	J	0.030	J	mg/kg	BB-T346A	4 / 24	0.00042 - 0.093	0.030	N/A	29	n	N	2
	106-46-7	1,4-Dichlorobenzene	0.018		0.053	J	mg/kg	BB-T348B	4 / 24	0.00047 - 0.093	0.053	N/A	2.4	c	N	2
	75-34-3	1,1-Dichloroethane	--		0.0017	J	mg/kg	BB-T337A	1 / 24	0.00051 - 0.093	0.0017	N/A	3.3	c	N	2,4
	75-35-4	1,1-Dichloroethene	--		0.028	J	mg/kg	BB-T337A	1 / 24	0.0012 - 0.093	0.028	N/A	24	n	N	2,4
	156-59-2	cis-1,2-Dichloroethene	0.0012	J	61	E	mg/kg	BB-T337A	14 / 24	0.00059 - 0.093	61	N/A	16	n	Y	1
	156-60-5	trans-1,2-Dichloroethene	0.00085	J	0.025		mg/kg	BB-T344A	7 / 24	0.00054 - 0.093	0.025	N/A	15	n	N	2
	78-93-3	Methyl ethyl ketone	0.013		0.013	J	mg/kg	BB-T346B	2 / 24	0.0019 - 0.19	0.013	N/A	2,800	n	N	2
	75-09-2	Methylene chloride	0.010	J	0.060	JB	mg/kg	A1-1	3 / 24	0.00072 - 0.093	0.060	N/A	36	n	N	2
	127-18-4	Tetrachloroethene	0.012		0.037		mg/kg	BB-T348A	2 / 24	0.00048 - 0.093	0.037	N/A	8.6	n	N	2
	108-88-3	Toluene	0.040	J	1.9	J	mg/kg	A1-3	2 / 24	0.00048 - 0.065	1.9	N/A	500	n	N	2
	87-61-6	1,2,3-Trichlorobenzene	0.0018	J	0.074	J	mg/kg	BB-T348B	5 / 24	0.00048 - 0.093	0.074	N/A	4.9	n	N	2
	79-00-5	1,1,2-Trichloroethane	--		0.0019	J	mg/kg	BB-T337A	1 / 24	0.00038 - 0.093	0.0019	N/A	0.16	n	N	2,4
	79-01-6	Trichloroethene	0.00072	J	0.056		mg/kg	BB-T348A	5 / 24	0.00048 - 0.093	0.056	N/A	0.44	n	N	2
	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	--		0.0015	J	mg/kg	BB-T337A	1 / 24	0.0010 - 0.093	0.0015	N/A	4,300	n	N	2,4
	75-01-4	Vinyl chloride	0.012		0.35	J	mg/kg	BB-T337A	7 / 24	0.00075 - 0.19	0.35	N/A	0.060	c	Y	1
	83-32-9	Acenaphthene	0.0019	J	0.28		mg/kg	BB-T337B	16 / 24	0.00087 - 3.7	0.28	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0011	J	0.020	J	mg/kg	BB-T337A	12 / 24	0.00068 - 3.7	0.020	N/A	NA		Y	5
	98-86-2	Acetophenone	0.052	J	0.17	J	mg/kg	BB-T350A	9 / 24	0.040 - 3.7	0.17	N/A	780	n	N	2
	120-12-7	Anthracene	0.00063	J	0.34	J	mg/kg	A1-4	16 / 24	0.00057 - 3.7	0.34	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	--		0.15	J	mg/kg	BB-T350A	1 / 18	0.041 - 1.0	0.15	N/A	780	n	N	2
	92-87-5	Benzidine	5.4		14		mg/kg	A1-3	6 / 6	N/A	14	N/A	0.00050	c	Y	1
	56-55-3	Benzo(a)anthracene	0.0018	J	6.5	J	mg/kg	BB-T337B	24 / 24	N/A	6.5	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.022	J	5.5	J	mg/kg	BB-T337B	22 / 24	0.00072 - 3.7	5.5	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.0047	J	8.7	E	mg/kg	BB-T337B	24 / 24	N/A	8.7	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.0025	J	2.3		mg/kg	BB-T337B	23 / 24	0.070	2.3	N/A	NA		Y	5
	65-85-0	Benzoic acid	0.35	J	0.48	J	mg/kg	A1-2	2 / 6	2.1 - 3.7	0.48	N/A	24,000	n	N	2
	207-08-9	Benzo(k)fluoranthene	0.0015	J	2.5		mg/kg	BB-T337B	23 / 24	2.5	2.5	N/A	1.5	c	Y	1
	117-81-7	bis(2-Ethylhexyl) phthalate	0.39		300	J	mg/kg	BB-T337B	24 / 24	N/A	300	N/A	35	c	Y	1
	104-51-8	n-Butylbenzene	--		0.030	J	mg/kg	A1-3	1 / 6	0.055 - 0.076	0.030	N/A	390	n	N	2
	85-68-7	Butyl benzyl phthalate	0.037	J	21	E	mg/kg	BB-T337B	23 / 24	0.046	21	N/A	260	c	N	2
	86-74-8	Carbazole	0.090	J	0.20	J	mg/kg	BB-T333B	4 / 18	0.048 - 1.2	0.20	N/A	NA		Y	5
	218-01-9	Chrysene	0.0028	J	6.6	J	mg/kg	BB-T337B	24 / 24	N/A	6.6	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.0060	J	1.0		mg/kg	BB-T337B	16 / 24	0.0010 - 3.7	1.0	N/A	0.015	c	Y	1
	95-50-1	1,2-Dichlorobenzene	0.0046	J	0.0077	J	mg/kg	BB-T348B	4 / 24	0.00038 - 3.7	0.0077	N/A	190	n	N	2
	541-73-1	1,3-Dichlorobenzene	0.0091		0.025	J	mg/kg	BB-T346A	4 / 24	0.00039 - 3.7	0.025	N/A	NA		Y	5
	606-20-2	2,6-Dinitrotoluene	--		0.47	J	mg/kg	A1-2	1 / 24	0.031 - 3.7	0.47	N/A	6.1	n	N	2,4

TABLE 2.12: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB5	84-74-2	di-n-Butyl phthalate	0.087	J	4.4	J	mg/kg	A1-3	16 / 24	0.035 - 0.056	4.4	N/A	610	n	N	2
	117-84-0	di-n-Octyl phthalate	0.054	J	42	E	mg/kg	BB-T363B	20 / 24	0.045 - 0.052	42	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.0050	J	2.7	J	mg/kg	A1-3	24 / 24	N/A	2.7	N/A	230	n	N	2
	86-73-7	Fluorene	0.0021	J	0.29		mg/kg	BB-T337B	17 / 24	0.00069 - 3.7	0.29	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.0021	J	4.0	J	mg/kg	BB-T337B	24 / 24	N/A	4.0	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.0010	J	0.11	D	mg/kg	BB-T337A	16 / 24	0.00068 - 3.7	0.11	N/A	23	n	N	2
	106-44-5 / 15831-10-4 / 65794-96-9	3- & 4-Methylphenol	0.57	J	37		mg/kg	A1-3	3 / 24	0.11 - 2.9	37	N/A	610 [a]	n	N	2
	91-20-3	Naphthalene	0.0011	J	0.083	BD	mg/kg	BB-T337A	16 / 24	0.0014 - 3.7	0.083	N/A	3.6	c	N	2
	87-86-5	Pentachlorophenol	--		0.013	J	mg/kg	BB-T363B	1 / 24	0.0062 - 19	0.013	N/A	0.89	c	N	2,4
	85-01-8	Phenanthrene	0.0026	J	1.6	J	mg/kg	A1-4	24 / 24	N/A	1.6	N/A	NA		Y	5
	108-95-2	Phenol	--		0.090	J	mg/kg	BB-T363B	1 / 24	0.030 - 3.7	0.090	N/A	1,800	n	N	2,4
	129-00-0	Pyrene	0.011	J	9.3	E	mg/kg	BB-T337B	21 / 24	0.19 - 0.23	9.3	N/A	170	n	N	2
	120-82-1	1,2,4-Trichlorobenzene	0.0011	J	0.25	J	mg/kg	BB-T348B	7 / 24	0.00062 - 3.7	0.25	N/A	6.2	n	N	2
	319-84-6	alpha-BHC	0.00073	J	0.075	J	mg/kg	BB-T337B	12 / 24	0.00046 - 0.018	0.075	N/A	0.077	c	N	2
	319-85-7	beta-BHC	--		0.0067	J	mg/kg	BB-T350B	1 / 18	0.00063 - 0.018	0.0067	N/A	0.27	c	N	2
	319-86-8	delta-BHC	--		0.0011	J	mg/kg	BB-T350B	1 / 23	0.00042 - 0.018	0.0011	N/A	0.52	c	N	2,4
	58-89-9	gamma-BHC	0.0015	J	0.043	J	mg/kg	BB-T350A	4 / 22	0.00045 - 0.018	0.043	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.0036		1.5		mg/kg	BB-T337B	16 24	0.00051 - 0.18	1.5	N/A	1.6 [b]	c	N	2
	60-57-1	Dieldrin	0.0083		2.0	JN	mg/kg	BB-T337B	11 / 20	0.00098 - 0.035	2.0	N/A	0.030	c	Y	1
	72-54-8	4,4'-DDD	0.0082		0.049	NJ	mg/kg	BB-T337A	6 / 22	0.00079 - 0.035	0.049	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0051		1.1	E	mg/kg	BB-T337B	15 / 24	0.00095 - 0.035	1.1	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.0037	J	1.8	J	mg/kg	BB-T350A	8 / 15	0.0016 - 0.035	1.8	N/A	1.7	c	Y	1
	33213-65-9	beta-Endosulfan	0.0050	J	0.30	JN	mg/kg	BB-T348B	5 / 18	0.00070 - 0.035	0.30	N/A	37 [c]	n	N	2
	72-20-8	Endrin	0.014	J	0.85	J	mg/kg	BB-T337B	8 / 24	0.00093 - 0.035	0.85	N/A	1.8	n	N	2
	7421-93-4	Endrin aldehyde	0.013	NJ	0.25		mg/kg	BB-T337A	6 / 18	0.0014 - 0.035	0.25	N/A	NA		Y	5
	53494-70-5	Endrin ketone	0.0012	J	0.020	J	mg/kg	BB-T333B	2 / 23	0.00078 - 0.035	0.020	N/A	NA		Y	5
	76-44-8	Heptachlor	--		0.0013	J	mg/kg	BB-T350B	1 / 24	0.00059 - 0.018	0.0013	N/A	0.11	c	N	2,4
	1024-57-3	Heptachlor epoxide	0.0045	J	1.3	JN	mg/kg	BB-T337B	6 / 15	0.00053 - 0.018	1.3	N/A	0.053	c	Y	1
	72-43-5	Methoxychlor	0.047	J	0.091	J	mg/kg	BB-T337B	2 / 24	0.0034 - 0.18	0.091	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.040		235		mg/kg	BB-T337B	97 / 113	0.014 - 9.25	235	N/A	0.11	n	Y	1

TABLE 2.12: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB5	7429-90-5	Aluminum	4,580		19,100	J	mg/kg	BB-T350A	24 / 24	N/A	19,100	5,030 - 8,310	7,700	n	Y	1
	7440-36-0	Antimony	1.5	J	3.5		mg/kg	A1-3	7 / 23	0.010	3.5	1.2 E	3.1	n	Y	1
	7440-38-2	Arsenic	0.70	J	13		mg/kg	A1-3	23 / 24	0.0040	13	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	42		420		mg/kg	A1-3	24 / 24	N/A	420	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	0.61	J	1.5	J	mg/kg	BB-T346A	10 / 24	0.0040	1.5	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	0.81	J	35	J	mg/kg	BB-T350A	20 / 24	0.0020	35	1.1	7.0	n	Y	1
	7440-70-2	Calcium	1,270		19,200	J	mg/kg	BB-T337A	24 / 24	N/A	19,200	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	5.4	J	56		mg/kg	A1-2	24 / 24	N/A	56	19.7 E - 32.4 E	12,000 [d]	n	N	2
	7440-48-4	Cobalt	2.0	J	15		mg/kg	A1-2	24 / 24	N/A	15	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	2.3	J	152	J	mg/kg	BB-T348B	24 / 24	N/A	152	10 E - 53.5 J	310	n	N	2
	57-12-5	Cyanide	0.036	J	5.4	J	mg/kg	BB-T344B	17 / 18	0.0040	5.4	0.77 J	4.7 [e]	n	N	2
	7439-89-6	Iron	8,990		75,600		mg/kg	BB-T339A	24 / 24	N/A	75,600	23,600 E - 32,100 ED	5,500	n	Y	1
	7439-92-1	Lead	8.6		340		mg/kg	A1-2	24 / 24	N/A	340	27.2 E - 71.4 J	400	L	N	2
	7439-95-4	Magnesium	1,710		10,200	J	mg/kg	BB-T337A	24 / 24	N/A	10,200	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	66	J	1,100		mg/kg	A1-3	24 / 24	N/A	1,100	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.0068	J	0.46	J	mg/kg	BB-T337A	20 / 24	0.0010	0.46	--	2.3 [f]	n	N	2
	7440-02-0	Nickel	4.6	J	52		mg/kg	A1-2	24 / 24	N/A	52	23.5 - 39.9 D	150 [g]	n	N	2
	7440-09-7	Potassium	510		2,300		mg/kg	BB-T353B	22 / 24	3.5	2,300	832 - 1,060	NA		N	3,5
	7782-49-2	Selenium	1.6		3.8		mg/kg	A1-3	6 / 24	0.034	3.8	0.11 J - 0.44 J	39	n	N	2
	7440-22-4	Silver	0.93		8.5	J	mg/kg	BB-T350A	11 / 24	0.0010	8.5	0.22 J	39	n	N	2
	7440-23-5	Sodium	151	J	481	J	mg/kg	BB-T350A	24 / 24	N/A	481	207 J - 554	NA		N	3,5
	7440-62-2	Vanadium	5.9	J	58		mg/kg	A1-2	24 / 24	N/A	58	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	12	J	630		mg/kg	A1-3	24 / 24	N/A	630	100 E - 411 J	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for p-Cresol.
b = Screening toxicity value is for Chlordane.
c = Screening toxicity value is for Endosulfan.
d = Screening toxicity value is for Chromium III.
e = Screening toxicity value is for free cyanide (CN-)
f = Screening toxicity value is for mercuric chloride.
g = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Chemical was tentatively identified.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.13: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 5 (BB5)	67-64-1	Acetone	0.0042	J	3.6	J	mg/kg	A1-3	19 / 30	0.0035 - 0.0063	3.6	N/A	6,100	n	N	2
	75-15-0	Carbon disulfide	0.00077	J	0.0067	J	mg/kg	BB-T346A	11 / 30	0.00046 - 0.093	0.0067	N/A	82	n	N	2
	108-90-7	Chlorobenzene	0.0061	J	0.030	J	mg/kg	BB-T346A	4 / 30	0.00042 - 0.093	0.030	N/A	29	n	N	2
	106-46-7	1,4-Dichlorobenzene	0.0041	J	0.053	J	mg/kg	BB-T348B	6 / 30	0.00047 - 0.093	0.053	N/A	2.4	c	N	2
	75-34-3	1,1-Dichloroethane	0.0017	J	0.0024	J	mg/kg	BB-T353A	2 / 30	0.00051 - 0.093	0.0024	N/A	3.3	c	N	2
	75-35-4	1,1-Dichloroethene	0.0084		0.028	J	mg/kg	BB-T337A	2 / 30	0.0012 - 0.093	0.028	N/A	24	n	N	2
	156-59-2	cis-1,2-Dichloroethene	0.0010	J	61	E	mg/kg	BB-T337A	19 / 30	0.00059 - 0.093	61	N/A	16	n	Y	1
	156-60-5	trans-1,2-Dichloroethene	0.00085	J	0.025		mg/kg	BB-T344A	8 / 30	0.00054 - 0.093	0.025	N/A	15	n	N	2
	78-93-3	Methyl ethyl ketone	0.013		0.045		mg/kg	BB-T353A	4 / 30	0.0019 - 0.19	0.045	N/A	2,800	n	N	2
	75-09-2	Methylene chloride	0.010	J	0.060	JB	mg/kg	A1-1	3 / 30	0.00072 - 0.093	0.060	N/A	36	n	N	2
	127-18-4	Tetrachloroethene	0.0036	J	0.037		mg/kg	BB-T348A	3 / 30	0.00048 - 0.093	0.037	N/A	8.6	n	N	2
	108-88-3	Toluene	0.040	J	1.9	J	mg/kg	A1-3	2 / 30	0.00048 - 0.093	1.9	N/A	500	n	N	2
	87-61-6	1,2,3-Trichlorobenzene	0.0018	J	0.074	J	mg/kg	BB-T348B	7 / 30	0.00048 - 0.093	0.074	N/A	4.9	n	N	2
	79-00-5	1,1,2-Trichloroethane	--		0.0019	J	mg/kg	BB-T337A	1 / 30	0.00038 - 0.093	0.0019	N/A	0.16	n	N	2,4
	79-01-6	Trichloroethene	0.00072	J	0.056		mg/kg	BB-T348A	9 / 30	0.00045 - 0.093	0.056	N/A	0.44	n	N	2
	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	--		0.0015	J	mg/kg	BB-T337A	1 / 30	0.0010 - 0.093	0.0015	N/A	4,300	n	N	2,4
	75-01-4	Vinyl chloride	0.012		0.35	J	mg/kg	BB-T337A	8 / 30	0.00075 - 0.19	0.35	N/A	0.060	c	Y	1
	83-32-9	Acenaphthene	0.0019	J	0.28		mg/kg	BB-T337B	19 / 30	0.00069 - 3.7	0.28	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0011	J	0.020	J	mg/kg	BB-T337A	14 / 30	0.00068 - 3.7	0.020	N/A	NA		Y	5
	98-86-2	Acetophenone	0.052	J	0.17	J	mg/kg	BB-T350A	10 / 30	0.040 - 3.7	0.17	N/A	780	n	N	2
	120-12-7	Anthracene	0.00063	J	0.34	J	mg/kg	A1-4	18 / 30	0.00050 - 3.7	0.34	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	--		0.15	J	mg/kg	BB-T350A	1 / 24	0.040 - 1.0	0.15	N/A	780	n	N	2,4
	92-87-5	Benzidine	5.4		14		mg/kg	A1-3	6 / 6	N/A	14	N/A	0.00050	c	Y	1
	56-55-3	Benzo(a)anthracene	0.0018	J	6.5	J	mg/kg	BB-T337B	27 / 30	0.00060 - 0.00065	6.5	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.0078		5.5	J	mg/kg	BB-T337B	25 / 30	0.00059 - 3.7	5.5	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.0047	J	8.7	E	mg/kg	BB-T337B	27 / 30	0.00095 - 0.0010	8.7	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.0025	J	2.3		mg/kg	BB-T337B	26 / 30	0.00083 - 0.070	2.3	N/A	NA		Y	5
	65-85-0	Benzoic acid	0.35	J	0.48	J	mg/kg	A1-2	2 / 6	2.1 - 3.7	0.48	N/A	24,000	n	N	2
	207-08-9	Benzo(k)fluoranthene	0.0015	J	2.5		mg/kg	BB-T337B	26 / 30	0.0010 - 2.5	2.5	N/A	1.5	c	Y	1
	117-81-7	bis(2-Ethylhexyl) phthalate	0.10	J	350	E	mg/kg	BB-T350A	27 / 30	0.088 - 0.096	350	N/A	35	c	Y	1
	104-51-8	n-Butylbenzene	--		0.030	J	mg/kg	A1-3	1 / 30	0.055 - 0.076	0.030	N/A	390	n	N	2,4
	85-68-7	Butyl benzyl phthalate	0.037	J	21	E	mg/kg	BB-T337B	25 / 30	0.031 - 0.046	21	N/A	260	c	N	2
	86-74-8	Carbazole	0.090	J	0.20	J	mg/kg	BB-T333B	4 / 24	0.048 - 1.2	0.20	N/A	NA		Y	5
	218-01-9	Chrysene	0.0028	J	6.6	J	mg/kg	BB-T337B	27 / 30	0.00053 - 0.00057	6.6	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.0012	J	1.0		mg/kg	BB-T337B	19 / 30	0.00083 - 3.7	1.0	N/A	0.015	c	Y	1
	95-50-1	1,2-Dichlorobenzene	0.0046	J	0.0077	J	mg/kg	BB-T348B	4 / 30	0.00038 - 3.7	0.0077	N/A	190	n	N	2
	541-73-1	1,3-Dichlorobenzene	0.00084	J	0.025	J	mg/kg	BB-T346A	6 / 30	0.00039 - 3.7	0.025	N/A	NA		Y	5
	606-20-2	2,6-Dinitrotoluene	--		0.47	J	mg/kg	A1-2	1 / 30	0.031 - 3.7	0.47	N/A	6.1	n	N	2,4
	84-74-2	di-n-Butyl phthalate	0.087	J	4.4	J	mg/kg	A1-3	18 / 30	0.035 - 0.056	1.1	N/A	610	n	N	2
	117-84-0	di-n-Octyl phthalate	0.054	J	42	E	mg/kg	BB-T363B	22 / 30	0.041 - 0.052	42	N/A	NA		Y	5

TABLE 2.13: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB5	206-44-0	Fluoranthene	0.0050	J	2.7	J	mg/kg	A1-3	27 / 30	0.00075 - 0.00081	2.7	N/A	230	n	N	2
	86-73-7	Fluorene	0.0021	J	0.29		mg/kg	BB-T337B	19 / 30	0.00056 - 3.7	0.29	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.0021	J	4.0	J	mg/kg	BB-T337B	27 / 30	0.00085 - 0.00093	4.0	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.0010	J	0.11	D	mg/kg	BB-T337A	18 / 30	0.00054 - 3.7	0.11	N/A	23	n	N	2
	106-44-5 / 15831-10-4 / 65794-96-9	3- & 4-Methylphenol	0.57	J	37		mg/kg	A1-3	3 / 30	0.11 - 2.9	37	N/A	610 [a]	n	N	2
	91-20-3	Naphthalene	0.0011	J	0.083	BD	mg/kg	BB-T337A	18 / 30	0.00043 - 3.7	0.083	N/A	3.6	c	N	2
	87-86-5	Pentachlorophenol	--		0.013	J	mg/kg	BB-T363B	1 / 30	0.0062 - 19	0.013	N/A	0.89	c	N	2,4
	85-01-8	Phenanthrene	0.0016	J	1.6	J	mg/kg	A1-4	27 / 30	0.0010 - 0.0011	1.6	N/A	NA		Y	5
	108-95-2	Phenol	--		0.090	J	mg/kg	BB-T363B	1 / 30	0.030 - 3.7	0.090	N/A	1,800	n	N	2,4
	129-00-0	Pyrene	0.0052	J	9.3	E	mg/kg	BB-T337B	24 / 30	0.00062 - 0.23	9.3	N/A	170	n	N	2
	120-82-1	1,2,4-Trichlorobenzene	0.0011	J	0.25	J	mg/kg	BB-T348B	10 / 30	0.00062 - 3.7	0.25	N/A	6.2	n	N	2
	319-84-6	alpha-BHC	0.00073	J	0.075	J	mg/kg	BB-T337B	14 / 30	0.00043 - 0.018	0.075	N/A	0.077	c	N	2
	319-85-7	beta-BHC	--		0.0067	J	mg/kg	BB-T350B	1 / 23	0.00063 - 0.018	0.0067	N/A	0.27	c	N	2,4
	319-86-8	delta-BHC	--		0.0011	J	mg/kg	BB-T350B	1 / 29	0.00042 - 0.018	0.0011	N/A	NA		N	4,5
	58-89-9	gamma-BHC	0.0015	J	0.80	J	mg/kg	BB-T350A	5 / 27	0.00042 - 0.018	0.80	N/A	0.52	c	Y	1
	57-74-9	Chlordane, total	0.00098		4.2		mg/kg	BB-T350A	20 / 29	0.00050 - 0.18	4.2	N/A	1.6 [b]	c	N	2
	60-57-1	Dieldrin	0.0083		4.0	JN	mg/kg	BB-T350A	12 / 24	0.00091 - 0.035	4.0	N/A	0.030	c	Y	1
	72-54-8	4,4'-DDD	0.0082		0.18	NJ	mg/kg	BB-T350A	8 / 28	0.00079 - 0.035	0.18	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0051		5.1	E	mg/kg	BB-T350A	19 / 30	0.00089 - 0.035	5.1	N/A	1.4	c	Y	1
	50-29-3	4,4'-DDT	0.0037	J	1.8	J	mg/kg	BB-T350A	9 / 19	0.0013 - 0.035	1.8	N/A	1.7	c	Y	1
	33213-65-9	beta-Endosulfan	0.0025	J	1.9	JN	mg/kg	BB-T350A	7 / 24	0.00070 - 0.035	1.9	N/A	37 [c]	n	N	2
	72-20-8	Endrin	0.0024	J	2.4	NJ	mg/kg	BB-T350A	11 / 30	0.00087 - 0.035	2.4	N/A	1.8	n	Y	1
	7421-93-4	Endrin aldehyde	0.013	NJ	1.8	NJ	mg/kg	BB-T350A	7 / 24	0.0013 - 0.035	1.8	N/A	NA		Y	5
	53494-70-5	Endrin ketone	0.0012	J	0.020	J	mg/kg	BB-T333B	2 / 29	0.00078 - 0.035	0.020	N/A	NA		Y	5
	76-44-8	Heptachlor	--		0.0013	J	mg/kg	BB-T350B	1 / 30	0.00059 - 0.018	0.0013	N/A	0.11	c	N	2,4
	1024-57-3	Heptachlor epoxide	0.0045	J	1.6	JN	mg/kg	BB-T350A	7 / 19	0.00050 - 0.018	1.6	N/A	0.053	c	Y	1
	72-43-5	Methoxychlor	0.047	J	0.091	J	mg/kg	BB-T337B	2 / 30	0.0034 - 0.18	0.091	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.035		235		mg/kg	BB-T337B	132 / 162	0.0061 - 9.3	235	N/A	0.11	n	Y	1

TABLE 2.13: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB5	7429-90-5	Aluminum	4,230		22,000	J	mg/kg	BB-T350A	30 / 30	N/A	22,000	5,030 - 8,310	7,700	n	Y	1
	7440-36-0	Antimony	1.5	J	3.5		mg/kg	A1-3	7 / 28	0.010	3.5	1.2 E	3.1	n	Y	1
	7440-38-2	Arsenic	0.70	J	13		mg/kg	A1-3	29 / 30	0.0040	13	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	42		462	J	mg/kg	BB-T350A	30 / 30	N/A	462	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	0.61	J	1.6	J	mg/kg	BB-T350A	12 / 30	0.0040	1.6	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	0.81	J	86	J	mg/kg	BB-T350A	22 / 30	0.002	86	1.1	7.0	n	Y	1
	7440-70-2	Calcium	1,110		19,200	J	mg/kg	BB-T337A	30 / 30	N/A	19,200	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	5.4	J	56		mg/kg	A1-2	30 / 30	N/A	56	19.7 E - 32.4 E	12,000 [d]	n	N	2
	7440-48-4	Cobalt	2.0	J	15		mg/kg	A1-2	30 / 30	N/A	15	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	2.3	J	152	J	mg/kg	BB-T348B	30 / 30	N/A	152	10 E - 53.5 J	310	n	N	2
	57-12-5	Cyanide	0.036	J	5.4	J	mg/kg	BB-T344B	21 / 24	0.004	5.4	0.77 J	4.7 [e]	n	N	2
	7439-89-6	Iron	8,990		75,600		mg/kg	BB-T339A	30 / 30	N/A	75,600	23,600 E - 32,100 ED	5,500	n	Y	1
	7439-92-1	Lead	2.8		340		mg/kg	A1-2	30 / 30	N/A	340	27.2 E - 71.4 J	400	L	N	2
	7439-95-4	Magnesium	1,710		10,200	J	mg/kg	BB-T337A	30 / 30	N/A	10,200	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	39	J	1,100		mg/kg	A1-3	30 / 30	N/A	1,100	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.0025	J	0.50	J	mg/kg	BB-T350A	24 / 30	0.001	0.50	--	2.3 [f]	n	N	2
	7440-02-0	Nickel	4.6	J	59	J	mg/kg	BB-T350A	30 / 30	N/A	59	23.5 - 39.9 D	150 [g]	n	N	2
	7440-09-7	Potassium	510		2,300		mg/kg	BB-T353B	28 / 30	3.5	2,300	832 - 1,060	NA		N	3,5
	7782-49-2	Selenium	1.6		3.8		mg/kg	A1-3	6 / 30	0.034	3.8	0.11 J - 0.44 J	39	n	N	2
	7440-22-4	Silver	0.80		15	J	mg/kg	BB-T350A	13 / 30	0.001	15	0.22 J	39	n	N	2
	7440-23-5	Sodium	150	J	481	J	mg/kg	BB-T350A	30 / 30	N/A	481	207 J - 554	NA		N	3,5
	7440-62-2	Vanadium	5.9	J	58		mg/kg	A1-2	30 / 30	N/A	58	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	12	J	630		mg/kg	A1-3	30 / 30	N/A	630	100 E - 411 J	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for p-Cresol.
b = Screening toxicity value is for Chlordane.
c = Screening toxicity value is for Endosulfan.
d = Screening toxicity value is for Chromium III.
e = Screening toxicity value is for free cyanide (CN-)
f = Screening toxicity value is for mercuric chloride.
g = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.14: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB6
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 6 (BB6)	67-64-1	Acetone	0.014	J	3.1	J	mg/kg	A9-1	24 / 32	0.0037 - 0.034	3.1	N/A	6,100	n	N	2
	75-15-0	Carbon disulfide	0.0012	J	0.017		mg/kg	BU-006	11 / 34	0.00049 - 0.065	0.017	N/A	82	n	N	2
	108-90-7	Chlorobenzene	0.0037	J	0.0087	J	mg/kg	BS-010	2 / 34	0.00045 - 0.065	0.0087	N/A	29	n	N	2
	106-46-7	1,4-Dichlorobenzene	--		0.0030	J	mg/kg	BS-010	1 / 34	0.00050 - 0.065	0.0030	N/A	2.4	c	N	2,4
	75-34-3	1,1-Dichloroethane	--		0.017		mg/kg	BU-010	1 / 34	0.00055 - 0.065	0.017	N/A	3.3	c	N	2,4
	78-93-3	Methyl ethyl ketone	0.0075	J	0.088	J	mg/kg	BS-001	16 / 32	0.0020 - 0.13	0.088	N/A	2,800	n	N	2
	75-09-2	Methylene chloride	0.0016	J	0.0071	JB	mg/kg	A9-1	5 / 34	0.00077 - 0.025	0.0071	N/A	36	n	N	2
	108-88-3	Toluene	0.0018		0.070		mg/kg	A9-2	6 / 34	0.00051 - 0.055	0.070	N/A	500	n	N	2
	79-01-6	Trichloroethene	0.00068	J	0.0019	J	mg/kg	BD-006	2 / 34	0.00048 - 0.065	0.0019	N/A	0.44	n	N	2
	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0022	J	0.012	J	mg/kg	BU-002	8 / 34	0.0011 - 0.065	0.012	N/A	4,300	n	N	2
	83-32-9	Acenaphthene	0.0076		0.053	J	mg/kg	BU-010	5 / 42	0.011 - 2.6	0.053	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0014	J	0.10	J	mg/kg	BU-005	13 / 42	0.012 - 2.6	0.10	N/A	NA		Y	5
	120-12-7	Anthracene	0.017		0.16	J	mg/kg	BU-005	22 / 42	0.015 - 2.6	0.16	N/A	1,700	n	N	2
	92-87-5	Benzidine	9.7	J	10	J	mg/kg	A9-2	2 / 2	N/A	10	N/A	0.00050	c	Y	1
	56-55-3	Benzo(a)anthracene	0.029	J	1.4	J	mg/kg	A9-1	34 / 42	0.012 - 0.088	1.4	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.016	J	1.5	J	mg/kg	A9-1	36 / 42	0.013 - 0.081	1.5	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.020	J	2.9		mg/kg	A9-2	37 / 42	0.017 - 0.081	2.9	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.026	J	1.5	J	mg/kg	A9-2	33 / 42	0.016 - 0.088	1.5	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.032	J	0.63		mg/kg	BU-004	29 / 42	0.016 - 2.6	0.63	N/A	1.5	c	N	2
	117-81-7	bis(2-ethylhexyl)phthalate	0.13	J	2.5	J	mg/kg	BU-010	16 / 42	0.036 - 2.6	2.5	N/A	35	c	N	2
	85-68-7	Butyl benzyl phthalate	0.087	J	0.095	J	mg/kg	BU-004	2 / 41	0.016 - 2.6	0.095	N/A	260	c	N	2,4
	86-74-8	Carbazole	0.055	J	0.057	J	mg/kg	BU-002	2 / 40	0.013 - 0.15	0.057	N/A	NA		N	4,5
	218-01-9	Chrysene	0.024	J	1.6	J	mg/kg	A9-1	37 / 42	0.015 - 0.088	1.6	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.027	J	0.13	J	mg/kg	BU-005	21 / 42	0.015 - 2.6	0.13	N/A	0.015	c	Y	1
	206-44-0	Fluoranthene	0.033	J	2.9		mg/kg	A9-1	38 / 42	0.012 - 0.081	2.9	N/A	230	n	N	2
	86-73-7	Fluorene	0.010		0.070	J	mg/kg	BU-010	5 / 42	0.011 - 2.6	0.070	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.034	J	1.2	J	mg/kg	A9-2	32 / 42	0.015 - 0.088	1.2	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.0026	J	0.0037	J	mg/kg	BB-RM7.11A	4 / 42	0.011 - 2.6	0.0037	N/A	23	n	N	2
	91-20-3	Naphthalene	0.0027	J	0.0040	J	mg/kg	BB-RM7.11B	3 / 42	0.00050 - 2.6	0.0040	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.019	J	1.2	J	mg/kg	A9-1	33 / 42	0.015 - 0.088	1.2	N/A	NA		Y	5
	129-00-0	Pyrene	0.030	J	2.5	J	mg/kg	A9-1	38 / 42	0.013 - 0.081	2.5	N/A	170	n	N	2
	319-84-6	alpha-BHC	0.00060	J	0.00087	J	mg/kg	BB-RM7.33A	2 / 34	0.00046 - 0.012	0.00087	N/A	0.077	c	N	2
	319-85-7	beta-BHC	0.0025	NJ	0.016	J	mg/kg	BB-RM7.11B	3 / 34	0.00082 - 0.012	0.016	N/A	0.27	c	N	2
	319-86-8	delta-BHC	0.017		0.037		mg/kg	BS-011	2 / 34	0.00049 - 0.012	0.037	N/A	0.27	c	N	2
	57-74-9	Chlordane, total	0.0038		0.15		mg/kg	BU-010	21 / 34	0.0030 - 0.12	0.15	N/A	1.6 [b]	c	N	2
	60-57-1	Dieldrin	0.0018		0.027	J	mg/kg	BU-010	6 / 34	0.00097 - 0.025	0.027	N/A	0.030	c	N	2
	72-54-8	4,4'-DDD	0.0038	J	0.022	J	mg/kg	BU-008	9 / 34	0.0015 - 0.025	0.022	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0032	J	0.010		mg/kg	BS-012	4 / 34	0.0011 - 0.025	0.010	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	--		0.0065		mg/kg	BS-012	1 / 31	0.0015 - 0.025	0.0065	N/A	1.7	c	N	2,4
	33213-65-9	beta-Endosulfan	0.0015	J	0.0027	J	mg/kg	BB-RM7.33A	3 / 34	0.00090 - 0.025	0.0027	N/A	37 [c]	n	N	2
	1031-07-8	Endosulfan sulfate	--		0.0024	J	mg/kg	BB-RM7.11A	1 / 34	0.0010 - 0.025	0.0024	N/A	NA		N	4,5
	7421-93-4	Endrin aldehyde	--		0.0017	J	mg/kg	BB-RM7.11B	1 / 34	0.0014 - 0.025	0.0017	N/A	NA		N	4,5
	1024-57-3	Heptachlor epoxide	--		0.00085	J	mg/kg	BB-RM7.33B	1 / 34	0.00053 - 0.012	0.00085	N/A	0.053	c	N	2,4
	72-43-5	Methoxychlor	0.0045	J	0.0091	J	mg/kg	BB-RM7.11B	2 / 34	0.0038 - 0.12	0.0091	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.080		0.46		mg/kg	BS-001	11 / 42	0.010 - 0.25	0.46	N/A	0.11	n	Y	1

TABLE 2.14: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB6
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB6	7429-90-5	Aluminum	3,520		22,200	J	mg/kg	BU-010	42 / 42	N/A	22,200	5,030 - 8,310	7,700	n	Y	1
	7440-36-0	Antimony	1.3		1.5		mg/kg	A9-1	2 / 42	0.010 - 5.3	1.5	1.2 E	3.1	n	N	2,4
	7440-38-2	Arsenic	0.41	J	8.7	J	mg/kg	BU-010	42 / 42	N/A	8.7	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	32		498	J	mg/kg	BU-010	42 / 42	N/A	498	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	0.68		1.3	J	mg/kg	BU-010	3 / 42	0.0040 - 1.3	1.3	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	0.15	J	70	J	mg/kg	BU-010	41 / 42	0.62	70	1.1	7.0	n	Y	1
	7440-70-2	Calcium	760		6,470	J	mg/kg	BU-005	42 / 42	N/A	6,470	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	6.1	J	73	J	mg/kg	BU-010	42 / 42	N/A	73	19.7 E - 32.4 E	12,000 [d]	n	N	2
	7440-48-4	Cobalt	3.1	J	19	J	mg/kg	BU-010	22 / 42	6.0 - 13	19	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	3.9	D	179	J	mg/kg	BU-010	42 / 42	N/A	179	10 E - 53.5 J	310	n	N	2
	57-12-5	Cyanide	--		0.19	J	mg/kg	BB-RM7.33A	1 / 12	0.0040 - 0.062	0.19	0.77 J	4.7 [e]	n	N	2
	7439-89-6	Iron	4,530	J	28,500	J	mg/kg	BU-010	42 / 42	N/A	28,500	ED	5,500	n	Y	1
	7439-92-1	Lead	3.1	D	769	J	mg/kg	BU-010	42 / 42	N/A	769	27.2 E - 71.4 J	400	L	Y	1
	7439-95-4	Magnesium	853	J	5,950	J	mg/kg	BU-010	42 / 42	N/A	5,950	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	39		1,125		mg/kg	BS-001	42 / 42	N/A	1,125	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.047		0.56	J	mg/kg	BU-010	26 / 42	0.0010 - 0.042	0.56	--	2.3 [f]	n	N	2
	7440-02-0	Nickel	5.2		119	J	mg/kg	BU-010	42 / 42	N/A	119	23.5 - 39.9 D	150 [g]	n	N	2
	7440-09-7	Potassium	667		2,680	J	mg/kg	BU-010	36 / 42	3.5 - 790	2,680	832 - 1,060	NA		N	3,5
	7782-49-2	Selenium	1.7		1.8		mg/kg	A9-1	2 / 42	0.034 - 5.3	1.8	0.11 J - 0.44 J	39	n	N	2,4
	7440-22-4	Silver	0.76		31	J	mg/kg	BU-010	21 / 42	0.0010 - 1.6	31	0.22 J	39	n	N	2
	7440-23-5	Sodium	120	J	240		mg/kg	A9-2	5 / 42	7.7 - 2,600	240	207 J - 554	NA		N	3,5
	7440-28-0	Thallium	0.028	J	0.16	J	mg/kg	BU-010	28 / 42	0.0020 - 0.61	0.16	--	0.078	n	Y	1
	7440-62-2	Vanadium	6.0	J	54	J	mg/kg	BU-010	42 / 42	N/A	54	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	19	J	542	J	mg/kg	BU-010	42 / 42	N/A	542	100 E - 411 J	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for p-Cresol.
b = Screening toxicity value is for Chlordane.
c = Screening toxicity value is for Endosulfan.
d = Screening toxicity value is for Chromium III.
e = Screening toxicity value is for free cyanide (CN-)
f = Screening toxicity value is for mercuric chloride.
g = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
N = Chemical was tentatively identified.
J = Estimated concentration.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.15: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB6
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 6 (BB6)	67-64-1	Acetone	0.0077	J	3.1	J	mg/kg	A9-1	46 / 70	0.0034 - 0.034	3.1	N/A	6,100	n	N	2
	75-15-0	Carbon disulfide	0.00077	J	0.020		mg/kg	BS-001	31 / 72	0.00045 - 0.065	0.020	N/A	82	n	N	2
	108-90-7	Chlorobenzene	0.0037	J	0.014		mg/kg	BD-004	3 / 72	0.00041 - 0.065	0.014	N/A	29	n	N	2,4
	106-46-7	1,4-Dichlorobenzene	--		0.0030	J	mg/kg	BS-010	1 / 72	0.00046 - 0.065	0.0030	N/A	2.4	c	N	2,4
	75-34-3	1,1-Dichloroethane	0.00068	J	0.017		mg/kg	BU-010	2 / 72	0.00050 - 0.065	0.017	N/A	3.3	c	N	2,4
	156-59-2	cis-1,2-Dichloroethene	0.0011	J	0.0065	J	mg/kg	BD-004	2 / 72	0.00056 - 0.065	0.0065	N/A	16	n	N	2,4
	78-93-3	Methyl ethyl ketone	0.0075	J	0.088	J	mg/kg	BS-001	27 / 68	0.0018 - 0.13	0.088	N/A	2,800	n	N	2
	75-09-2	Methylene chloride	0.0015	J	0.048	JB	mg/kg	A9-1	10 / 72	0.00070 - 0.025	0.050	N/A	36	n	N	2
	108-88-3	Toluene	0.0018		0.070		mg/kg	A9-2	6 / 72	0.00047 - 0.055	0.070	N/A	500	n	N	2
	79-01-6	Trichloroethene	0.00068	J	0.0024	J	mg/kg	BD-005	7 / 72	0.00043 - 0.065	0.0024	N/A	0.44	n	N	2
	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0012	J	0.017		mg/kg	BU-010	17 / 72	0.00098 - 0.065	0.017	N/A	4,300	n	N	2
	83-32-9	Acenaphthene	0.0055		0.57		mg/kg	BB-RM7.11B	12 / 106	0.00072 - 2.6	0.57	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0012	J	0.22		mg/kg	BU-003	21 / 106	0.00074 - 2.6	0.22	N/A	NA		Y	5
	120-12-7	Anthracene	0.011		1.3		mg/kg	BB-RM7.11B	31 / 106	0.00052 - 2.6	1.3	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	--		0.27		mg/kg	BB-RM7.41A	1 / 48	0.014 - 0.12	0.27	N/A	780	n	N	2,4
	92-87-5	Benzidine	9.7	J	10	J	mg/kg	A9-2	2 / 2	N/A	10	N/A	0.00050	c	Y	1
	56-55-3	Benzo(a)anthracene	0.025	J	2.3		mg/kg	BB-RM7.11B	49 / 106	0.00061 - 0.092	2.3	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.016	J	2.1		mg/kg	BB-RM7.11B	52 / 106	0.00060 - 0.092	2.1	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.020	J	2.9		mg/kg	A9-2	55 / 106	0.00097 - 0.092	2.9	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.026	J	1.5	J	mg/kg	A9-2	44 / 106	0.00085 - 0.10	1.5	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.032	J	0.93		mg/kg	BB-RM7.11B	39 / 106	0.0010 - 2.6	0.93	N/A	1.5	c	N	2
	117-81-7	bis(2-ethylhexyl)phthalate	0.079	J	4.6	E	mg/kg	BB-RM8.1B	30 / 106	0.034 - 2.6	4.6	N/A	35	c	N	2
	85-68-7	Butyl benzyl phthalate	0.087	J	0.095	J	mg/kg	BU-004	2 / 105	0.015 - 2.6	0.095	N/A	260	c	N	2,4
	86-74-8	Carbazole	0.055	J	0.72		mg/kg	BB-RM7.11B	4 / 104	0.013 - 0.15	0.72	N/A	NA		N	4,5
	218-01-9	Chrysene	0.020	J	2.4		mg/kg	BB-RM7.11B	55 / 106	0.00054 - 0.092	2.4	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.022	J	0.35	J	mg/kg	BB-RM7.11B	30 / 106	0.00085 - 2.6	0.35	N/A	0.015	c	Y	1
	84-74-2	di-n-butylphthalate	--		2.6		mg/kg	A9-2	2 / 106	0.015 - 0.18	0.28	N/A	610	n	N	2,4
	206-44-0	Fluoranthene	0.021	J	4.8		mg/kg	BB-RM7.11B	58 / 106	0.00077 - 0.092	4.8	N/A	230	n	N	2
	86-73-7	Fluorene	0.0066		0.62		mg/kg	BB-RM7.11B	12 / 106	0.00058 - 2.6	0.62	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.034	J	1.8		mg/kg	BB-RM7.11B	43 / 106	0.00088 - 0.10	1.8	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.0026	J	0.13	J	mg/kg	BB-RM7.11B	11 / 106	0.00056 - 2.6	0.13	N/A	23	n	N	2
	91-20-3	Naphthalene	0.00051	J	0.24	J	mg/kg	BB-RM7.11B	10 / 106	0.00046 - 2.6	0.24	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.019	J	4.3		mg/kg	BB-RM7.11B	45 / 106	0.0010 - 0.0092	4.3	N/A	NA		Y	5
	129-00-0	Pyrene	0.0013	J	6.2		mg/kg	BB-RM7.11B	61 / 106	0.00064 - 0.20	6.2	N/A	170	n	N	2
	319-84-6	alpha-BHC	0.00060	J	0.019		mg/kg	BU-003	3 / 72	0.00044 - 0.012	0.019	N/A	0.077	c	N	2,4
	319-85-7	beta-BHC	0.0025	NJ	0.016	J	mg/kg	BB-RM7.11B	5 / 72	0.00072 - 0.012	0.016	N/A	0.27	c	N	2
	319-86-8	delta-BHC	0.0031		0.037		mg/kg	BS-011	4 / 72	0.00048 - 0.012	0.037	N/A	0.27	c	N	2
	57-74-9	Chlordane, total	0.0038		0.63		mg/kg	BB-RM7.11B	30 72	0.00052 - 0.12	0.63	N/A	1.6 [b]	c	N	2
	60-57-1	Dieldrin	0.0018		0.027	J	mg/kg	BU-010	14 / 71	0.00095 - 0.025	0.027	N/A	0.030	c	N	2
	72-54-8	4,4'-DDD	0.0038	J	0.15	E	mg/kg	BB-RM7.11B	17 / 72	0.00090 - 0.025	0.15	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0032	J	0.028	J	mg/kg	BB-RM7.11B	10 / 72	0.00092 - 0.025	0.028	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.0065		0.046		mg/kg	BB-RM7.11B	5 / 66	0.0014 - 0.025	0.046	N/A	1.7	c	N	2
	959-98-8	alpha-Endosulfan	--		0.0015	J	mg/kg	BB-RM7.11B	1 / 72	0.00043 - 0.012	0.0015	N/A	37 [c]	n	N	2,4
	33213-65-9	beta-Endosulfan	0.0015	J	0.0092	J	mg/kg	BB-RM7.11B	5 / 72	0.00079 - 0.025	0.0092	N/A	37 [c]	n	N	2
	1031-07-8	Endosulfan sulfate	--		0.0024	J	mg/kg	BB-RM7.11A	1 / 71	0.0010 - 0.025	0.0024	N/A	NA		N	4,5
	72-20-8	Endrin	0.0078	J	0.0078	NJ	mg/kg	BB-RM7.11B	1 / 72	0.00090 - 0.025	0.0078	N/A	1.8	n	N	2,4
	7421-93-4	Endrin aldehyde	0.0017	J	0.0058	NJ	mg/kg	BB-RM7.11B	4 / 71	0.0013 - 0.025	0.0058	N/A	NA		Y	5
	1024-57-3	Heptachlor epoxide	0.00085	J	0.014	NJ	mg/kg	BB-RM7.11B	5 / 71	0.00052 - 0.012	0.014	N/A	0.053	c	N	2
	72-43-5	Methoxychlor	0.0045	J	0.0091	J	mg/kg	BB-RM7.11B	2 / 72	0.0038 - 0.12	0.0091	N/A	31	n	N	2,4
	--	Total PCB Aroclors [4]	0.015		0.81		mg/kg	BB-RM8.1B	23 / 105	0.0097 - 0.25	0.81	N/A	0.11	n	Y	1

TABLE 2.15: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU BB6
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB6	7429-90-5	Aluminum	3,520		22,200	J	mg/kg	BU-010	106 / 106	N/A	22,200	5,030 - 8,310	7,700	n	Y	1
	7440-36-0	Antimony	1.3		1.5		mg/kg	A9-1	2 / 106	0.010 - 5.3	1.5	1.2 E	3.1	n	N	2,4
	7440-38-2	Arsenic	0.41	J	12	D	mg/kg	BB-RM8.1A	106 / 106	N/A	12	6.6 E - 10.1 E	0.39	c	Y	1
	7440-39-3	Barium	16	D	498	J	mg/kg	BU-010	103 / 106	23 - 25	498	87.6 E - 173 J	1,500	n	N	2
	7440-41-7	Beryllium	0.45	D	1.3	J	mg/kg	BU-010	13 / 106	0.0040 - 1.3	1.3	0.79 - 1.2	16	n	N	2
	7440-43-9	Cadmium	0.049	J	70	J	mg/kg	BU-010	69 / 106	0.0020 - 0.68	70	1.1	7.0	n	Y	1
	7440-70-2	Calcium	653		14,300	J	mg/kg	BD-005	106 / 106	N/A	14,300	2,190 E - 4,970 E	NA		N	3,5
	7440-47-3	Chromium	6.1	J	73	J	mg/kg	BU-010	106 / 106	N/A	73	19.7 E - 32.4 E	12,000 [d]	n	N	2
	7440-48-4	Cobalt	2.6	J	19	J	mg/kg	BU-010	70 / 106	5.8 - 13	19	12.1 E - 18.7 ED	2.3	n	Y	1
	7440-50-8	Copper	3.9	D	179	J	mg/kg	BU-010	106 / 106	N/A	179	10 E - 53.5 J	310	n	N	2
	57-12-5	Cyanide	0.074	J	0.25	J	mg/kg	BB-RM7.41A	5 / 48	0.0040 - 0.062	0.25	0.77 J	4.7 [e]	n	N	2
	7439-89-6	Iron	4,530	J	28,600	J	mg/kg	BB-RM8.1B	106 / 106	N/A	28,600	ED	5,500	n	Y	1
	7439-92-1	Lead	3.1	D	769	J	mg/kg	BU-010	106 / 106	N/A	769	27.2 E - 71.4 J	400	L	Y	1
	7439-95-4	Magnesium	853	J	5,950	J	mg/kg	BU-010	106 / 106	N/A	5,950	3,610 - 4,760	NA		N	3,5
	7439-96-5	Manganese	39		1,125		mg/kg	BS-001	106 / 106	N/A	1,125	345 ED - 975 ED	180	n	Y	1
	7439-97-6	Mercury	0.047		0.56	J	mg/kg	BU-010	38 / 106	0.0010 - 0.042	0.56	--	2.3 [f]	n	N	2
	7440-02-0	Nickel	5.2		119	J	mg/kg	BU-010	106 / 106	N/A	119	23.5 - 39.9 D	150 [g]	n	N	2
	7440-09-7	Potassium	667		2,680	J	mg/kg	BU-010	95 / 106	3.5 - 790	2,680	832 - 1,060	NA		N	3,5
	7782-49-2	Selenium	1.7		1.8		mg/kg	A9-1	2 / 106	0.034 - 5.3	1.8	0.11 J - 0.44 J	39	n	N	2,4
	7440-22-4	Silver	0.57	D	31	J	mg/kg	BU-010	36 / 106	0.0010 - 1.6	31	0.22 J	39	n	N	2
	7440-23-5	Sodium	113	J	240		mg/kg	A9-2	12 / 106	7.7 - 2,600	240	207 J - 554	NA		N	3,5
	7440-28-0	Thallium	0.028	J	0.16	J	mg/kg	BU-010	56 / 106	0.0020 - 0.61	0.16	--	0.078	n	Y	1
	7440-62-2	Vanadium	6.0	J	54	J	mg/kg	BU-010	106 / 106	N/A	54	25.5 - 49 D	39	n	Y	1
	7440-66-6	Zinc	16	J	542	J	mg/kg	BU-010	106 / 106	N/A	542	100 E - 411 J	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Ambrose Brook, which was selected as the reference area for stream channel sediment within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for p-Cresol.
b = Screening toxicity value is for Chlordane.
c = Screening toxicity value is for Endosulfan.
d = Screening toxicity value is for Chromium III.
e = Screening toxicity value is for free cyanide (CN-)
f = Screening toxicity value is for mercuric chloride.
g = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
N = Chemical was tentatively identified.
J = Estimated concentration.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.16: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU SL
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment and All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Spring Lake (SL)	67-64-1	Acetone	0.010		0.020		mg/kg	A10-2	2 / 3	0.0038	0.020	N/A	6,100	n	N	2
	75-15-0	Carbon disulfide	--		0.00059	J	mg/kg	TRB-SPRING	1 / 3	N/A	0.00059	N/A	82	n	N	2
	156-59-2	cis-1,2-Dichloroethene	--		0.039		mg/kg	TRB-SPRING	1 / 3	N/A	0.039	N/A	16	n	N	2
	78-93-3	Methyl ethyl ketone	--		0.0039	J	mg/kg	A10-1	1 / 3	0.0015 - 0.0023	0.0039	N/A	2,800	n	N	2
	1634-04-4	Methyl tert-butyl ether	--		0.010	J	mg/kg	A10-2	1 / 3	0.0015 - 0.0023	0.010	N/A	43	c	N	2
	108-88-3	Toluene	0.0022		0.090		mg/kg	A10-2	2 / 3	0.0021 - 0.0068	0.090	N/A	500	n	N	2
	83-32-9	Acenaphthene	--		0.049	D	mg/kg	TRB-SPRING	1 / 3	2.6 - 3.5	0.049	N/A	340	n	N	2
	208-96-8	Acenaphthylene	--		0.0036	J	mg/kg	TRB-SPRING	1 / 3	2.6 - 3.5	0.0036	N/A	NA		Y	5
	98-86-2	Acetophenone	--		0.057	J	mg/kg	TRB-SPRING	1 / 1	N/A	0.057	N/A	780	n	N	2
	120-12-7	Anthracene	--		0.15	D	mg/kg	TRB-SPRING	1 / 3	2.6 - 3.5	0.15	N/A	1,700	n	N	2
	56-55-3	Benzo(a)anthracene	0.75		3.9		mg/kg	A10-2	3 / 3	N/A	3.9	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.35	J	5.8		mg/kg	A10-2	3 / 3	N/A	5.8	N/A	0.02	c	Y	1
	205-99-2	Benzo(b)fluoranthene	1.1		5.4		mg/kg	A10-2	3 / 3	N/A	5.4	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.27	J	3.5		mg/kg	A10-2	3 / 3	N/A	3.5	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.35	J	5.2		mg/kg	A10-2	3 / 3	N/A	5.2	N/A	1.5	c	Y	1
	117-81-7	bis(2-Ethylhexyl) phthalate	0.87		1.6		mg/kg	A10-2	2 / 3	0.089	1.6	N/A	35	c	N	2
	86-74-8	Carbazole	--		0.069	J	mg/kg	TRB-SPRING	1 / 1	N/A	0.069	N/A	NA		Y	5
	218-01-9	Chrysene	0.83		4.9		mg/kg	A10-2	3 / 3	N/A	4.9	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.059	J	1.3		mg/kg	A10-2	2 / 3	2.6	1.3	N/A	0.02	c	Y	1
	206-44-0	Fluoranthene	1.4		9.3		mg/kg	A10-2	3 / 3	N/A	9.3	N/A	230	n	N	2
	86-73-7	Fluorene	--		0.069	D	mg/kg	TRB-SPRING	1 / 3	N/A	0.069	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.28	J	3.2		mg/kg	A10-2	3 / 3	N/A	3.2	N/A	0.15	c	Y	1
	99-87-6	p-Isopropyltouene	--		0.010		mg/kg	A10-2	1 / 2	0.0015	0.010	N/A	NA		Y	5
	91-57-6	2-Methylnaphthalene	--		0.0034	J	mg/kg	TRB-SPRING	1 / 3	2.6 - 3.5	0.0034	N/A	23	n	N	2
	85-01-8	Phenanthrene	0.87		4.1		mg/kg	A10-2	3 / 3	N/A	4.1	N/A	NA		Y	5
	129-00-0	Pyrene	1.3	J	8.2		mg/kg	A10-2	3 / 3	N/A	8.2	N/A	170	n	N	2
	57-74-9	Chlordane, total	0.0098		0.30		mg/kg	26	16 / 24	0.0052 - 0.053	0.30	N/A	1.6 [a]	c	N	2
	72-54-8	4,4'-DDD	0.0045	J	0.091	NJ	mg/kg	17	4 / 24	0.0052 - 0.10	0.091	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0051	NJ	0.048	NJ	mg/kg	17	3 / 24	0.0052 - 0.10	0.048	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.0045	NJ	0.16	J	mg/kg	17	5 / 24	0.0052 - 0.10	0.16	N/A	1.7	c	N	2
	1024-57-3	Heptachlor epoxide	--		0.023	J	mg/kg	17	1 / 24	0.00051 - 0.053	0.023	N/A	0.05	c	N	2
	--	Total PCB Aroclors [4]	--		0.057		mg/kg	TRB-SPRING	1 / 22	0.037 - 1.0	0.057	N/A	0.11	n	N	2,4

TABLE 2.16: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT EU SL
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment and All Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU SL	7429-90-5	Aluminum	5,300		9,800		mg/kg	A10-2	3 / 3	N/A	9,800	8,190 - 13,050	7,700	n	Y	1
	7440-38-2	Arsenic	0.88	J	3.3		mg/kg	A10-2	3 / 3	N/A	3.3	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	55		110		mg/kg	A10-2	3 / 3	N/A	110	142 E - 238	1,500	n	N	2
	7440-43-9	Cadmium	0.67		2.5		mg/kg	A10-2	3 / 3	N/A	2.5	0.6 - 2.2	7.0	n	N	2
	7440-70-2	Calcium	3,820		5,300		mg/kg	A10-2	3 / 3	N/A	5,300	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	13	J	41		mg/kg	A10-2	3 / 3	N/A	41	22.7 E - 39.8 E	12,000 [b]	n	N	2
	7440-48-4	Cobalt	3.6		8.0		mg/kg	A10-2	3 / 3	N/A	8.0	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	20		81		mg/kg	A10-2	3 / 3	N/A	81	30.2 E - 315 ED	310	n	N	2
	57-12-5	Cyanide	--		1.3		mg/kg	TRB-SPRING	1 / 1	N/A	1.3	0.37 J - 0.65 J	4.7 [c]	n	N	2
	7439-89-6	Iron	9,200		19,000		mg/kg	A10-2	3 / 3	N/A	19,000	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	53		290		mg/kg	A10-2	3 / 3	N/A	290	62.7 E - 270 ED	400	L	N	2
	7439-95-4	Magnesium	2,700		4,150		mg/kg	TRB-SPRING	3 / 3	N/A	4,150	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	118	J	220		mg/kg	A10-2	3 / 3	N/A	220	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.080		0.43		mg/kg	A10-2	2 / 3	0.0010	0.43	0.18 - 0.26	2.3 [d]	n	N	2
	7440-02-0	Nickel	8.5		25		mg/kg	A10-2	3 / 3	N/A	25	22.9 - 34.3	150 [e]	n	N	2
	7440-09-7	Potassium	370		1,070		mg/kg	TRB-SPRING	3 / 3	N/A	1,070	701 - 929.5 E	NA		N	3,5
	7440-22-4	Silver	--		1.1		mg/kg	A10-2	1 / 3	0.0010 - 0.65	1.1	0.54 - 0.72	39	n	N	2
	7440-23-5	Sodium	74		415	J	mg/kg	TRB-SPRING	3 / 3	N/A	415	266 J - 660	NA		N	3,5
	7440-62-2	Vanadium	14	J	39		mg/kg	A10-2	3 / 3	N/A	39	31.1 - 51.9	39	n	N	2
	7440-66-6	Zinc	64	J	300		mg/kg	A10-2	3 / 3	N/A	300	114 E - 376 ED	2,300	n	N	2

Notes

The Spring Lake sediment data set consists of twenty-one surface sediment samples and one additional subsurface sediment sample that was analyzed for TCL pesticides/PCB Aroclors only (see Table 2-3). As there was only one subsurface sediment sample collected, all Spring Lake sediment data were combined into a single data set, presented in this summary table.

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in sediment samples from Lake Nelson, which was selected as the reference area for Spring Lake (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Chromium III.
c = Screening toxicity value is for free cyanide (CN-)
d = Screening toxicity value is for mercuric chloride.
e = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
D = Sample dilution was performed.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Chemical was tentatively identified.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.17: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU GB
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Green Brook (GB)	83-32-9	Acenaphthene	0.11	J	0.30		mg/kg	T19C	2 / 12	0.011 - 0.015	0.30	N/A	340	n	N	2
	120-12-7	Anthracene	0.13	J	0.66		mg/kg	T19C	4 / 12	0.015 - 0.019	0.66	N/A	1,700	n	N	2
	56-55-3	Benzo(a)anthracene	0.24	J	1.6		mg/kg	T19C	11 / 12	0.014	1.6	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.14	J	1.5		mg/kg	T19C	12 / 12	N/A	1.5	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.20	J	2.0		mg/kg	T19C	12 / 12	N/A	2.0	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.19	J	0.77		mg/kg	T20C	11 / 12	0.019	0.77	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.15	J	0.85		mg/kg	T19C	11 / 12	0.019	0.85	N/A	1.5	c	N	2
	86-74-8	Carbazole	0.13	J	0.29		mg/kg	T19C	2 / 12	0.013 - 0.018	0.29	N/A	NA		Y	5
	218-01-9	Chrysene	0.14	J	1.5		mg/kg	T19C	12 / 12	N/A	1.5	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.12	J	0.25		mg/kg	T20C	5 / 12	0.015 - 0.019	0.25	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	--		0.19	J	mg/kg	T19C	1 / 12	0.011 - 0.015	0.19	N/A	7.8	n	N	2
	206-44-0	Fluoranthene	0.21	J	2.8	E	mg/kg	T19C	12 / 12	N/A	2.8	N/A	230	n	N	2
	86-73-7	Fluorene	0.13	J	0.39		mg/kg	T19C	2 / 12	0.011 - 0.014	0.39	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-c,d)pyrene	0.17	J	0.83		mg/kg	T19C	11 / 12	0.017	0.83	N/A	0.15	c	Y	1
	91-20-3	Naphthalene	--		0.14	J	mg/kg	T19C	1 / 12	0.012 - 0.016	0.14	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.20	J	3.0		mg/kg	T19C	11 / 12	0.017	3.0	N/A	NA		Y	5
	129-00-0	Pyrene	0.23	J	3.1		mg/kg	T19C	12 / 12	N/A	3.1	N/A	170	n	N	2
	--	Total PCB Aroclors [4]	0.021		0.13		mg/kg	T19A	10 / 12	0.018 - 0.022	0.13	N/A	0.11	n	Y	1
	7429-90-5	Aluminum	6,860		36,900	J	mg/kg	T21A	12 / 12	N/A	36,900	8,190 - 13,050	7,700	n	Y	1
	7440-38-2	Arsenic	2.4	D	13	J	mg/kg	T21A	12 / 12	N/A	13	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	43	D	292	J	mg/kg	T21A	12 / 12	N/A	292	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.50	D	1.3	D	mg/kg	T21B	8 / 12	0.025	1.3	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	0.27	J	1.9	J	mg/kg	T21A	12 / 12	N/A	1.9	0.6 - 2.2	7.0	n	N	2
	7440-70-2	Calcium	828	J	8,010	J	mg/kg	T20B	11 / 12	13.8	8,010	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	13	J	73	J	mg/kg	T21A	12 / 12	N/A	73	22.7 E - 39.8 E	12,000 [a]	n	N	2
	7440-48-4	Cobalt	4.9	D	21	J	mg/kg	T21A	12 / 12	N/A	21	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	18	D	129	J	mg/kg	T21A	12 / 12	N/A	129	30.2 E - 315 ED	310	n	N	2
	57-12-5	Cyanide	0.15	J	1.0	J	mg/kg	T21A	4 / 12	0.062	1.0	0.37 J - 0.65 J	4.7 [b]	n	N	2
	7439-89-6	Iron	11,000		49,500	J	mg/kg	T21A	12 / 12	N/A	49,500	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	44	D	262	J	mg/kg	T21A	12 / 12	N/A	262	62.7 E - 270 ED	400	L	N	2
	7439-95-4	Magnesium	1,960		8,440	J	mg/kg	T21A	12 / 12	N/A	8,440	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	191	D	1,150	J	mg/kg	T21A	12 / 12	N/A	1,150	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.11		4.5	D	mg/kg	T20A	12 / 12	N/A	4.5	0.18 - 0.26	2.3 [c]	n	Y	1
	7440-02-0	Nickel	8.9	D	39	J	mg/kg	T21A	12 / 12	N/A	39	22.9 - 34.3	150 [d]	n	N	2
	7440-09-7	Potassium	479		1,920	J	mg/kg	T21A	12 / 12	N/A	1,920	701 - 929.5 E	NA		N	3,5
	7782-49-2	Selenium	0.19	J	0.56	J	mg/kg	T22B	5 / 12	0.15	0.56	0.55 - 0.96 J	39	n	N	2
	7440-22-4	Silver	0.61	D	3.0	J	mg/kg	T21A	3 / 12	0.015	3.0	0.54 - 0.72	39	n	N	2
	7440-62-2	Vanadium	16	J	80	J	mg/kg	T21A	12 / 12	N/A	80	31.1 - 51.9	39	n	Y	1
	7440-66-6	Zinc	48	J	301	J	mg/kg	T21A	12 / 12	N/A	301	114 E - 376 ED	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chromium III.
b = Screening toxicity value is for free cyanide (CN-).
c = Screening toxicity value is for mercuric chloride.
d = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.18: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU GI
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Green Brook (GB)	83-32-9	Acenaphthene	0.11	J	0.30		mg/kg	T19C	3 / 24	0.010 - 0.015	0.30	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.11	J	0.20	J	mg/kg	T23A	2 / 24	0.011 - 0.016	0.20	N/A	NA		Y	5
	120-12-7	Anthracene	0.11	J	0.66		mg/kg	T19C	7 / 24	0.014 - 0.019	0.66	N/A	1,700	n	N	2
	56-55-3	Benzo(a)anthracene	0.24	J	1.7		mg/kg	T23A	14 / 24	0.012 - 0.015	1.7	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.14	J	2.1		mg/kg	T23A	15 / 24	0.013 - 0.017	2.1	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.20	J	2.9		mg/kg	T23A	15 / 24	0.016 - 0.021	2.9	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.19	J	0.89		mg/kg	T20C	14 / 24	0.015 - 0.020	0.89	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.15	J	1.3		mg/kg	T23A	14 / 24	0.015 - 0.020	1.3	N/A	1.5	c	N	2
	86-74-8	Carbazole	0.12	J	0.29		mg/kg	T19C	4 / 24	0.013 - 0.018	0.29	N/A	NA		Y	5
	218-01-9	Chrysene	0.14	J	2.1		mg/kg	T23A	15 / 24	0.014 - 0.018	2.1	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.12	J	0.32		mg/kg	T23A	7 / 24	0.014 - 0.019	0.32	N/A	0.015	c	Y	2
	132-64-9	Dibenzofuran	--		0.19	J	mg/kg	T19C	1 / 24	0.011 - 0.015	0.19	N/A	7.8	n	N	2,4
	206-44-0	Fluoranthene	0.21	J	3.4		mg/kg	T23A	15 / 24	0.012 - 0.015	3.4	N/A	230	n	N	2
	86-73-7	Fluorene	0.13	J	0.39		mg/kg	T19C	3 / 24	0.010 - 0.014	0.39	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-c,d)pyrene	0.17	J	1.2		mg/kg	T23A	14 / 24	0.014 - 0.018	1.2	N/A	0.15	c	Y	1
	91-20-3	Naphthalene	--		0.14	J	mg/kg	T19C	1 / 24	0.011 - 0.016	0.14	N/A	3.6	c	N	2,4
	85-01-8	Phenanthrene	0.20	J	3.0		mg/kg	T19C	14 / 24	0.014 - 0.018	3.0	N/A	NA		Y	5
	129-00-0	Pyrene	0.23	J	3.7		mg/kg	T23A	15 / 24	0.013 - 0.017	3.7	N/A	170	n	N	2
	--	Total PCB Aroclors [4]	0.021		0.13		mg/kg	T19A	13 / 24	0.018 - 0.023	0.127	N/A	0.11	n	Y	1
	7429-90-5	Aluminum	6,860		36,900	J	mg/kg	T21A	24 / 24	N/A	36,900	8,190 - 13,050	7,700	n	Y	1
	7440-38-2	Arsenic	0.95	D	13	J	mg/kg	T21A	24 / 24	N/A	13	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	38	D	333	J	mg/kg	T22B	24 / 24	N/A	333	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.50	D	1.3	D	mg/kg	T21B	15 / 24	0.025	1.3	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	0.088	J	3.2	D	mg/kg	T23A	24 / 24	N/A	3.2	0.6 - 2.2	7.0	n	N	2
	7440-70-2	Calcium	651	J	8,010	J	mg/kg	T20B	20 / 24	14	8,010	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	13	J	73	J	mg/kg	T21A	24 / 24	N/A	73	22.7 E - 39.8 E	12,000 [a]	n	N	2
	7440-48-4	Cobalt	4.9	D	23	D	mg/kg	T22A	24 / 24	N/A	23	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	2.5	D	129	J	mg/kg	T21A	24 / 24	N/A	129	30.2 E - 315 ED	310	n	N	2
	57-12-5	Cyanide	0.15	J	1.0	J	mg/kg	T21A	4 / 24	0.062	1.0	0.37 J - 0.65 J	4.7 [b]	n	N	2
	7439-89-6	Iron	10,100		54,000	D	mg/kg	T21B	24 / 24	N/A	54,000	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	5.7	D	262	J	mg/kg	T21A	24 / 24	N/A	262	62.7 E - 270 ED	400	L	N	2
	7439-95-4	Magnesium	1,700	J	8,440	J	mg/kg	T21A	24 / 24	N/A	8,440	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	59	D	1,600	D	mg/kg	T22A	24 / 24	N/A	1,600	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.11		4.6	D	mg/kg	T20A	18 / 24	0.0022	4.6	0.18 - 0.26	2.3 [c]	n	Y	1
	7440-02-0	Nickel	6.6	J	39	J	mg/kg	T21A	24 / 24	N/A	39	22.9 - 34.3	150 [d]	n	N	2
	7440-09-7	Potassium	479		1,920	J	mg/kg	T21A	21 / 24	17	1,920	701 - 929.5 E	NA		N	3,5
	7782-49-2	Selenium	0.19	J	0.56	J	mg/kg	T22B	7 / 24	0.15	0.56	0.55 - 0.96 J	39	n	N	2
	7440-22-4	Silver	0.61	D	3.1	D	mg/kg	T23A	4 / 24	0.015	3.1	0.54 - 0.72	39	n	N	2
	7440-62-2	Vanadium	16	J	80	J	mg/kg	T21A	24 / 24	N/A	80	31.1 - 51.9	39	n	Y	1
	7440-66-6	Zinc	21	J	541	J	mg/kg	T23A	24 / 24	N/A	541	114 E - 376 ED	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B)

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chromium III.
b = Screening toxicity value is for free cyanide (CN-).
c = Screening toxicity value is for mercuric chloride.
d = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
D = Sample dilution was performed.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.19: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB1
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 1 (BB1)	83-32-9	Acenaphthene	0.00099	J	0.095		mg/kg	T02A	27 / 27	N/A	0.095	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0012	J	0.067		mg/kg	T07B	27 / 27	N/A	0.067	N/A	NA		Y	5
	98-86-2	Acetophenone	0.011	J	0.031	J	mg/kg	T02A	9 / 27	0.011 - 0.045	0.031	N/A	780	n	N	2
	120-12-7	Anthracene	0.0021	J	0.33		mg/kg	T02A	27 / 27	N/A	0.33	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.0074	J	0.035	J	mg/kg	T02A	10 / 27	0.011 - 0.046	0.035	N/A	780	n	N	2
	56-55-3	Benzo(a)anthracene	0.026		2.4		mg/kg	T02A	27 / 27	N/A	2.4	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.035	B	2.6	J	mg/kg	T02A	27 / 27	N/A	2.6	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.039		2.7	J	mg/kg	T02A	27 / 27	N/A	2.7	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.016	B	1.8	J	mg/kg	T02A	27 / 27	N/A	1.8	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.039		2.8	J	mg/kg	T02A	27 / 27	N/A	2.8	N/A	1.5	c	Y	1
	85-68-7	Butyl benzyl phthalate	--		0.040	J	mg/kg	T08A	1 / 27	0.017 - 0.040	0.040	N/A	260	c	N	2,4
	92-52-4	Biphenyl	0.0036	J	0.029	J	mg/kg	T01A	10 / 27	0.011 - 0.033	0.029	N/A	5.1	n	N	2
	105-60-2	Caprolactam	0.019	J	0.025	J	mg/kg	T07A	3 / 27	0.018 - 0.20	0.025	N/A	3,100	n	N	2
	86-74-8	Carbazole	0.0027	J	0.18	J	mg/kg	T02A	23 / 27	0.014 - 0.055	0.18	N/A	NA		Y	5
	218-01-9	Chrysene	0.033		3.1		mg/kg	T02A	27 / 27	N/A	3.1	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.0051	J	0.61	J	mg/kg	T02A	27 / 27	N/A	0.61	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	0.0025	J	0.072	J	mg/kg	T01A	17 / 27	0.015 - 0.20	0.072	N/A	7.8	n	N	2
	84-66-2	Diethyl phthalate	0.0021	J	0.12	J	mg/kg	T07C	4 / 27	0.019 - 0.045	0.12	N/A	4,900	n	N	2
	131-11-3	Dimethyl phthalate	0.012	J	0.13	J	mg/kg	T02A	3 / 27	0.019 - 0.039	0.13	N/A	NA		Y	5
	117-84-0	di-n-Octyl phthalate	0.012		0.12	J	mg/kg	T07C	4 / 25	0.021 - 0.043	0.12	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.049		4.6		mg/kg	T02A	27 / 27	N/A	4.6	N/A	230	n	N	2
	86-73-7	Fluorene	0.0011	J	0.14		mg/kg	T02A	27 / 27	N/A	0.14	N/A	230	n	N	2
	118-74-1	Hexachlorobenzene	0.017	J	0.028	J	mg/kg	T01A	2 / 27	0.013 - 0.038	0.028	N/A	0.30	c	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.016	B	1.6	J	mg/kg	T02A	27 / 27	N/A	1.6	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.0019	J	0.14		mg/kg	T01A	31 / 31	N/A	0.14	N/A	23	n	N	2
	106-44-5	4-Methylphenol	0.0037	J	0.0089	J	mg/kg	T07B	3 / 27	0.011 - 0.12	0.0089	N/A	610	n	N	2
	91-20-3	Naphthalene	0.015	B	0.12	B	mg/kg	T01A	8 / 27	0.00042 - 0.0039	0.12	N/A	3.6	c	N	2
	87-86-5	Pentachlorophenol	0.0017	J	0.0039	J	mg/kg	T02A	3 / 27	0.012 - 0.39	0.0039	N/A	0.89	c	N	2
	85-01-8	Phenanthrene	0.027		2.0		mg/kg	T02A	27 / 27	N/A	2.0	N/A	NA		Y	5
	108-95-2	Phenol	--		0.038	J	mg/kg	T05A	1 / 27	0.013 - 0.033	0.038	N/A	1,800	n	N	2,4
	129-00-0	Pyrene	0.048	B	4.6		mg/kg	T02A	27 / 27	N/A	4.6	N/A	170	n	N	2
	309-00-2	Aldrin	--		0.0014	J	mg/kg	T08A	1 / 4	0.00018 - 0.00043	0.0014	N/A	0.029	c	N	2
	319-84-6	alpha-BHC	--		0.00069	J	mg/kg	T01A	1 / 4	0.00017 - 0.00042	0.00069	N/A	0.077	c	N	2
	58-89-9	gamma-BHC	--		0.00024	J	mg/kg	T07C	1 / 4	0.00021 - 0.00049	0.00024	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.0066		0.23	EJ	mg/kg	T01A	3 / 4	0.00048	0.23	N/A	1.6 [a]	c	N	2
	60-57-1	Dieldrin	--		0.030	JN	mg/kg	T07C	1 / 2	0.00089	0.030	N/A	0.030	c	N	2
	72-54-8	4,4'-DDD	0.0044		0.0047	J	mg/kg	T07C	2 / 4	0.00084 - 0.0011	0.0047	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0028	J	0.036		mg/kg	T05A	4 / 4	N/A	0.036	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.0039	NJ	0.073	JN	mg/kg	T07C	2 / 4	N/A	0.073	N/A	1.7	c	N	2
	959-98-8	alpha-Endosulfan	--		0.00093	J	mg/kg	T08A	1 / 4	0.00018 - 0.00043	0.00093	N/A	37 [b]	n	N	2
	7421-93-4	Endrin aldehyde	--		0.0061	NJ	mg/kg	T07C	1 / 2	0.0012	0.0061	N/A	NA		Y	5
	76-44-8	Heptachlor	--		0.00037	J	mg/kg	T05A	1 / 4	0.00018 - 0.00063	0.00037	N/A	0.11	c	N	2
	1024-57-3	Heptachlor epoxide	0.0011	J	0.032	NJ	mg/kg	T01A	4 / 4	N/A	0.032	N/A	0.053	c	N	2
	72-43-5	Methoxychlor	--		0.013		mg/kg	T07C	1 / 4	0.0019 - 0.0046	0.013	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.0079		3.7		mg/kg	T07B	37 / 42	0.011 - 0.043	3.7	N/A	0.11	n	Y	1

TABLE 2.19: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB1
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB1	7429-90-5	Aluminum	6,590		27,050		mg/kg	T01C	27 / 27	N/A	27,050	8,190 - 13,050	7,700	n	Y	1
	7440-36-0	Antimony	0.18	J	1.7	J	mg/kg	T05A	7 / 27	0.010 - 0.059	1.7	0.99E - 2.15 J	3.1	n	N	2
	7440-38-2	Arsenic	1.6	J	21		mg/kg	T01A	27 / 27	N/A	21	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	32	J	326		mg/kg	T01B	27 / 27	N/A	326	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.089	J	1.5		mg/kg	T01C	23 / 27	0.0040 - 0.0060	1.5	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	0.14	J	5.6	J	mg/kg	T07B	18 / 27	0.0020 - 0.019	5.6	0.6 - 2.2	7.0	n	Y	1
	7440-70-2	Calcium	173	J	6,920		mg/kg	T02A	27 / 27	N/A	6,920	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	10		128	J	mg/kg	T07A	27 / 27	N/A	128	22.7 E - 39.8 E	12,000 [c]	n	N	2
	7440-48-4	Cobalt	2.5	J	28		mg/kg	T01A	27 / 27	N/A	28	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	11		136	J	mg/kg	T01A	27 / 27	N/A	136	30.2 E - 315 ED	310	n	N	2
	57-12-5	Cyanide	0.20	J	4.0	J	mg/kg	T04A	20 / 27	0.0040	4.0	0.37 J - 0.65 J	4.7 [d]	n	N	2
	7439-89-6	Iron	10,100		73,750		mg/kg	T01C	27 / 27	N/A	73,750	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	16		286		mg/kg	T01A	27 / 27	N/A	286	62.7 E - 270 ED	400	L	N	2
	7439-95-4	Magnesium	1,300		5,460	J	mg/kg	T02D	27 / 27	N/A	5,460	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	94		1,960	J	mg/kg	T01A	27 / 27	N/A	1,960	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.043	J	0.44	J	mg/kg	T07B	20 / 27	0.0010 - 0.0040	0.44	0.18 - 0.26	2.3 [e]	n	N	2
	7440-02-0	Nickel	6.7		34		mg/kg	T01A	27 / 27	N/A	34	22.9 - 34.3	150 [f]	n	N	2
	7440-09-7	Potassium	383	J	1,510	J	mg/kg	T03A	17 / 27	3.5	1,510	701 - 929.5 E	NA		N	3,5
	7782-49-2	Selenium	0.76	J	4.1	J	mg/kg	T01C	14 / 27	0.034 - 0.18	4.1	0.55 - 0.96 J	39	n	N	2
	7440-22-4	Silver	0.86	J	5.0		mg/kg	T01A	23 / 27	0.0010 - 0.037	5.0	0.54 - 0.72	39	n	N	2
	7440-23-5	Sodium	117	J	794		mg/kg	T02E	22 / 27	8.6	794	266 J - 660	NA		N	3,5
	7440-62-2	Vanadium	16	J	152		mg/kg	T01C	27 / 27	N/A	152	31.1 - 51.9	39	n	Y	1
	7440-66-6	Zinc	25		340		mg/kg	T02A	27 / 27	N/A	340	114 E - 376 ED	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Endosulfan.
c = Screening toxicity value is for Chromium III.
d = Screening toxicity value is for free cyanide (CN-).
e = Screening toxicity value is for mercuric chloride.
f = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.20: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 1 (BB1)	83-32-9	Acenaphthene	0.00014	J	0.16		mg/kg	T03A	40 / 52	0.00038 - 0.00052	0.16	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.00043	J	0.20		mg/kg	T05C	39 / 52	0.00040 - 0.00055	0.20	N/A	NA		Y	5
	98-86-2	Acetophenone	0.0060	J	0.53		mg/kg	T07A	15 / 52	0.010 - 0.068	0.53	N/A	780	n	N	2
	120-12-7	Anthracene	0.00033	J	0.77		mg/kg	T03A	40 / 52	0.00050 - 0.00069	0.77	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.0042	J	0.37		mg/kg	T07A	18 / 52	0.0098 - 0.080	0.37	N/A	780	n	N	2
	56-55-3	Benzo(a)anthracene	0.00019	J	4.6		mg/kg	T05C	45 / 52	0.00043 - 0.00050	4.6	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.0039	B	4.9		mg/kg	T05C	47 / 52	0.00032 - 0.00037	4.9	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.00033	J	5.7		mg/kg	T05C	45 / 52	0.00046 - 0.00052	5.7	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.00062	J	2.5	J	mg/kg	T03A	43 / 52	0.00036 - 0.00041	2.5	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.00030	J	4.5		mg/kg	T05C	45 / 52	0.00043 - 0.00050	4.5	N/A	1.5	c	Y	1
	85-68-7	Butyl benzyl phthalate	--		0.040	J	mg/kg	T08A	1 / 52	0.017 - 0.086	0.040	N/A	260	c	N	2,4
	92-52-4	Biphenyl	0.0036	J	0.35		mg/kg	T07A	16 / 52	0.011 - 0.057	0.35	N/A	5.1	n	N	2
	105-60-2	Caprolactam	0.019	J	0.026	J	mg/kg	T07B	5 / 52	0.017 - 0.20	0.026	N/A	3,100	n	N	2
	86-74-8	Carbazole	0.0022	J	0.21	J	mg/kg	T05C	32 / 52	0.014 - 0.055	0.21	N/A	NA		Y	5
	218-01-9	Chrysene	0.00013	J	5.2		mg/kg	T03A	48 / 52	0.00039 - 0.00043	5.2	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.00031	J	0.87	J	mg/kg	T03A	43 / 52	0.00038 - 0.00052	0.87	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	0.0025	J	0.17	J	mg/kg	T07A	25 / 52	0.013 - 0.20	0.17	N/A	7.8	n	N	2
	84-66-2	Diethyl phthalate	0.0021	J	0.12	J	mg/kg	T07C	6 / 52	0.019 - 0.097	0.12	N/A	4,900	n	N	2
	105-67-9	2,4-Dimethylphenol	--		0.45		mg/kg	T07A	1 / 52	0.0091 - 0.20	0.45	N/A	120	n	N	2,4
	131-11-3	Dimethyl phthalate	0.012	J	9.2	E	mg/kg	T07A	4 / 52	0.019 - 0.097	9.2	N/A	NA		Y	5
	117-84-0	di-n-Octyl phthalate	0.012		0.12	J	mg/kg	T07C	5 / 49	0.020 - 0.15	0.12	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.00018	J	8.6		mg/kg	T05C	48 / 52	0.00046 - 0.00051	8.6	N/A	230	n	N	2
	86-73-7	Fluorene	0.00019	J	0.34		mg/kg	T03A	40 / 52	0.00049 - 0.00068	0.34	N/A	230	n	N	2
	118-74-1	Hexachlorobenzene	0.017	J	0.028	J	mg/kg	T01A	2 / 52	0.012 - 0.091	0.028	N/A	0.30	c	N	2,4
	193-39-5	Indeno(1,2,3-cd)pyrene	0.00059	J	2.2	J	mg/kg	T03A	43 / 52	0.00037 - 0.00042	2.2	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.00028	J	0.14		mg/kg	T01A	40 / 52	0.00042 - 0.00058	0.14	N/A	23	n	N	2
	95-48-7	2-Methylphenol	--		0.33		mg/kg	T07A	1 / 52	0.013 - 0.20	0.33	N/A	310	n	N	2,4
	106-44-5	4-Methylphenol	0.0037	J	0.42		mg/kg	T07A	4 / 52	0.011 - 0.12	0.42	N/A	610	n	N	2
	91-20-3	Naphthalene	0.015	B	0.20	B	mg/kg	T07A	13 / 52	0.00037 - 0.012	0.20	N/A	3.6	c	N	2
	87-86-5	Pentachlorophenol	0.0017	J	0.0039	J	mg/kg	T02A	4 / 52	0.0053 - 0.39	0.0039	N/A	0.89	c	N	2
	85-01-8	Phenanthrene	0.00022	J	4.0		mg/kg	T03A	46 / 52	0.00041 - 0.00047	4.0	N/A	NA		Y	5
	108-95-2	Phenol	0.010	J	0.25		mg/kg	T07A	4 / 52	0.012 - 0.063	0.25	N/A	1,800	n	N	2
	129-00-0	Pyrene	0.0043	B	7.0		mg/kg	T03A	42 / 52	0.00043 - 0.0006	7.0	N/A	170	n	N	2
	309-00-2	Aldrin	--		0.0014	J	mg/kg	T08A	1 / 4	0.00018 - 0.00043	0.0014	N/A	0.029	c	N	2
	319-84-6	alpha-BHC	--		0.00069	J	mg/kg	T01A	1 / 4	0.00017 - 0.00042	0.00069	N/A	0.077	c	N	2
	58-89-9	gamma-BHC	--		0.00024	J	mg/kg	T07C	1 / 4	0.00021 - 0.00049	0.00024	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.0066		0.23	EJ	mg/kg	T01A	3 / 4	0.00048	0.23	N/A	1.6 [a]	c	N	2
	60-57-1	Dieldrin	--		0.030	JN	mg/kg	T07C	1 / 2	0.00089	0.030	N/A	0.030	c	N	2
	72-54-8	4,4'-DDD	0.0044		0.0047	J	mg/kg	T07C	2 / 4	0.00084 - 0.0011	0.0047	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0028	J	0.036		mg/kg	T05A	4 / 4	N/A	0.036	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.0039	NJ	0.073	JN	mg/kg	T07C	2 / 4	N/A	0.073	N/A	1.7	c	N	2
	959-98-8	alpha-Endosulfan	--		0.00093	J	mg/kg	T08A	1 / 4	0.00018 - 0.00043	0.00093	N/A	37 [b]	n	N	2
	7421-93-4	Endrin aldehyde	--		0.0061	NJ	mg/kg	T07C	1 / 2	0.0012	0.0061	N/A	NA		Y	5
	76-44-8	Heptachlor	--		0.00037	J	mg/kg	T05A	1 / 4	0.00018 - 0.00063	0.00037	N/A	0.11	c	N	2
	1024-57-3	Heptachlor epoxide	0.0011	J	0.032	NJ	mg/kg	T01A	4 / 4	N/A	0.032	N/A	0.053	c	N	2
	72-43-5	Methoxychlor	--		0.013		mg/kg	T07C	1 / 4	0.0019 - 0.0046	0.013	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.0079		3.7		mg/kg	T07B	51 / 77	0.0046 - 0.043	3.7	N/A	0.11	n	Y	1

TABLE 2.20: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB1	7429-90-5	Aluminum	4,760		27,050		mg/kg	T01C	52 / 52	N/A	27,050	8,190 - 13,050	7,700	n	Y	1
	7440-36-0	Antimony	0.18	J	1.7	J	mg/kg	T05A	8 / 52	0.010 - 0.059	1.7	0.99E - 2.15 J	3.1	n	N	2
	7440-38-2	Arsenic	0.38	J	23		mg/kg	T01A	49 / 52	0.11	23	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	20	J	473	J	mg/kg	T02C	52 / 52	N/A	473	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.089	J	1.5		mg/kg	T01C	44 / 52	0.0040 - 0.0060	1.5	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	0.054	J	5.6	J	mg/kg	T07B	33 / 52	0.0020 - 0.019	5.6	0.6 - 2.2	7.0	n	N	2
	7440-70-2	Calcium	94	J	15,200		mg/kg	T02E	52 / 52	N/A	15,200	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	6.4		128	J	mg/kg	T07A	52 / 52	N/A	128	22.7 E - 39.8 E	12,000 [c]	n	N	2
	7440-48-4	Cobalt	2.5	J	32	J	mg/kg	T02C	52 / 52	N/A	32	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	2.6	J	178	J	mg/kg	T02E	52 / 52	N/A	178	30.2 E - 315 ED	310	n	N	2
	57-12-5	Cyanide	0.053	J	4.0	J	mg/kg	T04A	37 / 51	0.0040	4.0	0.37 J - 0.65 J	4.7 [d]	n	N	2
	7439-89-6	Iron	6,580	J	73,750		mg/kg	T01C	52 / 52	N/A	73,750	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	4.5	J	286		mg/kg	T01A	52 / 52	N/A	286	62.7 E - 270 ED	400	L	N	2
	7439-95-4	Magnesium	1,290		6,970		mg/kg	T02E	52 / 52	N/A	6,970	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	40	J	1,960	J	mg/kg	T01A	52 / 52	N/A	1,960	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.007	J	0.44	J	mg/kg	T07B	31 / 52	0.0010 - 0.0040	0.44	0.18 - 0.26	2.3 [e]	n	N	2
	7440-02-0	Nickel	6.4	J	35		mg/kg	T01A	52 / 52	N/A	35	22.9 - 34.3	150 [f]	n	N	2
	7440-09-7	Potassium	383	J	1,740		mg/kg	T06C	32 / 52	3.5	1,740	701 - 929.5 E	NA		N	3,5
	7782-49-2	Selenium	0.62	J	4.1	J	mg/kg	T01C	28 / 52	0.034 - 0.18	4.1	0.55 - 0.96 J	39	n	N	2
	7440-22-4	Silver	0.47	J	5.0		mg/kg	T01A	39 / 52	0.0010 - 0.037	5.0	0.54 - 0.72	39	n	N	2
	7440-23-5	Sodium	116	J	2,810		mg/kg	T02E	44 / 52	8.6	2,810	266 J - 660	NA		N	3,5
	7440-62-2	Vanadium	9.7		152		mg/kg	T01C	52 / 52	N/A	152	31.1 - 51.9	39	n	Y	1
	7440-66-6	Zinc	19		340		mg/kg	T02A	52 / 52	N/A	340	114 E - 376 ED	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B)

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Endosulfan.
c = Screening toxicity value is for Chromium III.
d = Screening toxicity value is for free cyanide (CN-).
e = Screening toxicity value is for mercuric chloride.
f = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.21: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB2
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU)	67-64-1	Acetone	--		0.0059	J	mg/kg	T09A	1 / 1	N/A	0.0059	N/A	6,100	n	N	2
Bound Brook 2 (BB2)	83-32-9	Acenaphthene	0.0082	J	0.0095	J	mg/kg	T09A	2 / 2	N/A	0.0095	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.013	J	0.024		mg/kg	T09B	2 / 2	N/A	0.024	N/A	NA		Y	5
	120-12-7	Anthracene	0.025	J	0.027		mg/kg	T09B	2 / 2	N/A	0.027	N/A	1,700	n	N	2
	56-55-3	Benzo(a)anthracene	0.23		0.29		mg/kg	T09A	2 / 2	N/A	0.29	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.24		0.33		mg/kg	T09A	2 / 2	N/A	0.33	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.37		0.41		mg/kg	T09A	2 / 2	N/A	0.41	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.17		0.25		mg/kg	T09A	2 / 2	N/A	0.25	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.30		0.30		mg/kg	T09A	2 / 2	N/A	0.30	N/A	1.5	c	N	2
	92-52-4	Biphenyl	0.0034	J	0.027	J	mg/kg	T09B	2 / 2	N/A	0.027	N/A	5.1	n	N	2
	86-74-8	Carbazole	0.022	J	0.025	J	mg/kg	T09B	2 / 2	N/A	0.025	N/A	NA		Y	5
	218-01-9	Chrysene	0.35		0.39		mg/kg	T09A	2 / 2	N/A	0.39	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.063		0.077		mg/kg	T09A	2 / 2	N/A	0.077	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	0.010	J	0.060	J	mg/kg	T09B	2 / 2	N/A	0.060	N/A	7.8	n	N	2
	84-66-2	Diethyl phthalate	--		0.0029	J	mg/kg	T09A	1 / 2	0.022	0.0029	N/A	4,900	n	N	2
	206-44-0	Fluoranthene	0.35		0.44		mg/kg	T09B	2 / 2	N/A	0.44	N/A	230	n	N	2
	86-73-7	Fluorene	0.012	J	0.012	J	mg/kg	T09A	2 / 2	N/A	0.012	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-c,d)pyrene	0.17		0.23		mg/kg	T09A	2 / 2	N/A	0.23	N/A	0.15	c	Y	1
	91-20-3	Naphthalene	--		0.10	B	mg/kg	T09B	1 / 2	0.0034	0.10	N/A	3.6	c	N	2
	87-86-5	Pentachlorophenol	--		0.0023	J	mg/kg	T09B	1 / 2	0.050	0.0023	N/A	0.89	c	N	2
	85-01-8	Phenanthrene	0.24		0.29		mg/kg	T09B	2 / 2	N/A	0.29	N/A	NA		Y	5
	129-00-0	Pyrene	0.31		0.58		mg/kg	T09A	2 / 2	N/A	0.58	N/A	170	n	N	2
	319-84-6	alpha-BHC	--		0.00025	J	mg/kg	T09A	1 / 1	N/A	0.00025	N/A	0.077	c	N	2
	1031-07-8	Endosulfan sulfate	--		0.0055		mg/kg	T09A	1 / 1	N/A	0.0055	N/A	NA		Y	5
	72-20-8	Endrin	--		0.0072		mg/kg	T09A	1 / 1	N/A	0.0072	N/A	1.8	n	N	2
	1024-57-3	Heptachlor epoxide	--		0.0052	NJ	mg/kg	T09A	1 / 1	N/A	0.0052	N/A	0.053	c	N	2
	--	Total PCB Aroclors [4]	--		0.75		mg/kg	T09A	1 / 2	0.0057	0.75	N/A	0.11	n	Y	1

TABLE 2.21: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB2
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB2	7429-90-5	Aluminum	8,580		13,100		mg/kg	T09A	2 / 2	N/A	13,100	8,190 - 13,050	7,700	n	Y	1
	7440-38-2	Arsenic	6.8		12	J	mg/kg	T09B	2 / 2	N/A	12	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	82	J	100	J	mg/kg	T09A	2 / 2	N/A	100	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.38	J	0.61	J	mg/kg	T09A	2 / 2	N/A	0.61	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	--		0.55	J	mg/kg	T09A	1 / 2	0.019	0.55	0.6 - 2.2	7.0	n	N	2
	7440-70-2	Calcium	692	J	1,360	J	mg/kg	T09B	2 / 2	N/A	1,360	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	14	J	25		mg/kg	T09A	2 / 2	N/A	25	22.7 E - 39.8 E	12,000 [a]	n	N	2
	7440-48-4	Cobalt	5.1	J	5.6	J	mg/kg	T09A	2 / 2	N/A	5.6	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	31	J	38		mg/kg	T09A	2 / 2	N/A	38	30.2 E - 315 ED	310	n	N	2
	57-12-5	Cyanide	0.11	J	0.43	J	mg/kg	T09B	2 / 2	N/A	0.43	0.37 J - 0.65 J	4.7 [b]	n	N	2
	7439-89-6	Iron	12,400	J	15,800		mg/kg	T09A	2 / 2	N/A	15,800	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	44	J	85		mg/kg	T09A	2 / 2	N/A	85	62.7 E - 270 ED	400	L	N	2
	7439-95-4	Magnesium	1,790		2,260		mg/kg	T09A	2 / 2	N/A	2,260	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	273		492	J	mg/kg	T09B	2 / 2	N/A	492	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.062	J	0.12	J	mg/kg	T09A	2 / 2	N/A	0.12	0.18 - 0.26	2.3 [c]	n	N	2
	7440-02-0	Nickel	11		13		mg/kg	T09A	2 / 2	N/A	13	22.9 - 34.3	150 [d]	n	N	2
	7440-09-7	Potassium	554	J	562	J	mg/kg	T09B	2 / 2	N/A	562	701 - 929.5 E	NA		N	3,5
	7782-49-2	Selenium	--		1.9	J	mg/kg	T09A	1 / 2	0.18	1.9	0.55 - 0.96 J	39	n	N	2
	7440-22-4	Silver	1.1	J	1.9		mg/kg	T09A	2 / 2	N/A	1.9	0.54 - 0.72	39	n	N	2
	7440-23-5	Sodium	161	J	198	J	mg/kg	T09A	2 / 2	N/A	198	266 J - 660	NA		N	3,5
	7440-62-2	Vanadium	19	J	28		mg/kg	T09A	2 / 2	N/A	28	31.1 - 51.9	39	n	N	2
	7440-66-6	Zinc	54		62	J	mg/kg	T09B	2 / 2	N/A	62	114 E - 376 ED	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chromium III.
b = Screening toxicity value is for free cyanide (CN-).
c = Screening toxicity value is for mercuric chloride.
d = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.22: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB2
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 2 (BB2)	67-64-1	Acetone	--		0.0059	J	mg/kg	T09A	1 / 1	N/A	0.0059	N/A	6,100	n	N	2
	83-32-9	Acenaphthene	0.0082	J	0.0095	J	mg/kg	T09A	2 / 4	0.00037 - 0.00041	0.0095	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.013	J	0.024		mg/kg	T09B	2 / 4	0.00039 - 0.00043	0.024	N/A	NA		Y	5
	120-12-7	Anthracene	0.025	J	0.027		mg/kg	T09B	2 / 4	0.00049 - 0.00054	0.027	N/A	1,700	n	N	2
	56-55-3	Benzo(a)anthracene	0.00016	J	0.29		mg/kg	T09A	4 / 4	N/A	0.29	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.24		0.33		mg/kg	T09A	2 / 4	0.00032 - 0.00035	0.33	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.00049	J	0.41		mg/kg	T09A	3 / 4	0.00045	0.41	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.00036	J	0.25		mg/kg	T09A	3 / 4	0.00035	0.25	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.00047	J	0.30		mg/kg	T09A	3 / 4	0.00043	0.30	N/A	1.5	c	N	2
	92-52-4	Biphenyl	0.0034	J	0.027	J	mg/kg	T09B	2 / 4	0.013 - 0.014	0.027	N/A	5.1	n	N	2
	86-74-8	Carbazole	0.022	J	0.025	J	mg/kg	T09B	2 / 4	0.021 - 0.023	0.025	N/A	NA		Y	5
	218-01-9	Chrysene	0.00017	J	0.39		mg/kg	T09A	4 / 4	N/A	0.39	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.063		0.077		mg/kg	T09A	2 / 4	0.00037 - 0.00041	0.077	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	0.010	J	0.060	J	mg/kg	T09B	2 / 4	0.013 - 0.014	0.060	N/A	7.8	n	N	2
	84-66-2	Diethyl phthalate	--		0.0029	J	mg/kg	T09A	1 / 4	0.021 - 0.023	0.0029	N/A	4,900	n	N	2
	206-44-0	Fluoranthene	0.00024	J	0.44		mg/kg	T09B	4 / 4	N/A	0.44	N/A	230	n	N	2
	86-73-7	Fluorene	0.012	J	0.012	J	mg/kg	T09A	2 / 4	0.00048 - 0.00052	0.012	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-c,d)pyrene	0.00035	J	0.23		mg/kg	T09A	3 / 4	0.00036	0.23	N/A	0.15	c	Y	1
	91-20-3	Naphthalene	--		0.10	B	mg/kg	T09B	1 / 4	0.00036 - 0.0034	0.10	N/A	3.6	c	N	2
	87-86-5	Pentachlorophenol	--		0.0023	J	mg/kg	T09B	1 / 4	0.0052 - 0.050	0.0023	N/A	0.89	c	N	2
	85-01-8	Phenanthrene	0.00033	J	0.29		mg/kg	T09B	4 / 4	N/A	0.29	N/A	NA		Y	5
	129-00-0	Pyrene	0.31		0.58		mg/kg	T09A	2 / 4	0.00043 - 0.00046	0.58	N/A	170	n	N	2
	319-84-6	alpha-BHC	--		0.00025	J	mg/kg	T09A	1 / 1	N/A	0.00025	N/A	0.077	c	N	2
	1031-07-8	Endosulfan sulfate	--		0.0055		mg/kg	T09A	1 / 1	N/A	0.0055	N/A	NA		Y	5
	72-20-8	Endrin	--		0.0072		mg/kg	T09A	1 / 1	N/A	0.0072	N/A	1.8	n	N	2
	1024-57-3	Heptachlor epoxide	--		0.0052	NJ	mg/kg	T09A	1 / 1	N/A	0.0052	N/A	0.053	c	N	2
	--	Total PCB Aroclors [4]	--		0.75		mg/kg	T09A	1 / 4	0.0052 - 0.0058	0.75	N/A	0.11	n	Y	1

TABLE 2.22: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB2
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB2	7429-90-5	Aluminum	7,810		13,100		mg/kg	T09A	4 / 4	N/A	13,100	8,190 - 13,050	7,700	n	Y	1
	7440-38-2	Arsenic	0.27	J	12	J	mg/kg	T09B	3 / 4	0.11	12	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	24	J	100	J	mg/kg	T09A	4 / 4	N/A	100	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.34	J	0.61	J	mg/kg	T09A	4 / 4	N/A	0.61	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	0.035	J	0.55	J	mg/kg	T09A	2 / 4	0.019	0.55	0.6 - 2.2	7	n	N	2
	7440-70-2	Calcium	275	J	1,360	J	mg/kg	T09B	4 / 4	N/A	1,360	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	9.9	J	25		mg/kg	T09A	4 / 4	N/A	25	22.7 E - 39.8 E	12,000 [a]	n	N	2
	7440-48-4	Cobalt	4.8	J	5.6	J	mg/kg	T09A	4 / 4	N/A	5.6	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	6.9		38		mg/kg	T09A	4 / 4	N/A	38	30.2 E - 315 ED	310	n	N	2
	57-12-5	Cyanide	0.045	J	0.43	J	mg/kg	T09B	4 / 4	N/A	0.43	0.37 J - 0.65 J	4.7 [b]	n	N	2
	7439-89-6	Iron	11,000	J	15,800		mg/kg	T09A	4 / 4	N/A	15,800	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	3.3	J	85		mg/kg	T09A	4 / 4	N/A	85	62.7 E - 270 ED	400	L	N	2
	7439-95-4	Magnesium	1,790		2,370		mg/kg	T09A	4 / 4	N/A	2,370	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	169		492	J	mg/kg	T09B	4 / 4	N/A	492	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.0041	J	0.12	J	mg/kg	T09A	4 / 4	N/A	0.12	0.18 - 0.26	2.3 [c]	n	N	2
	7440-02-0	Nickel	10		13		mg/kg	T09A	4 / 4	N/A	13	22.9 - 34.3	150 [d]	n	N	2
	7440-09-7	Potassium	543	J	664		mg/kg	T09B	4 / 4	N/A	664	701 - 929.5 E	NA		N	3,5
	7782-49-2	Selenium	0.88	J	1.9	J	mg/kg	T09A	2 / 4	0.18	1.9	0.55 - 0.96 J	39	n	N	2
	7440-22-4	Silver	0.77	J	1.9		mg/kg	T09A	4 / 4	N/A	1.9	0.54 - 0.72	39	n	N	2
	7440-23-5	Sodium	144	J	198	J	mg/kg	T09A	4 / 4	N/A	198	266 J - 660	NA		N	3,5
	7440-62-2	Vanadium	15	J	28		mg/kg	T09A	4 / 4	N/A	28	31.1 - 51.9	39	n	N	2
	7440-66-6	Zinc	22	J	62	J	mg/kg	T09B	4 / 4	N/A	62	114 E - 376 ED	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chromium III.
b = Screening toxicity value is for free cyanide (CN-).
c = Screening toxicity value is for mercuric chloride.
d = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.23: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 3 (BB3)	67-64-1	Acetone	0.31	JD	0.71	JD	mg/kg	T3-1-13	4 / 9	0.0031 - 0.081	0.71	N/A	6,100	n	N	2
	78-93-3	Methyl ethyl ketone	--		0.012	J	mg/kg	T12A	1 / 9	0.0017 - 0.087	0.012	N/A	2,800	n	N	2
	75-09-2	Methylene chloride	--		0.040	JBD	mg/kg	T3-3-16	1 / 9	0.00065 - 0.044	0.040	N/A	36	n	N	2
	71-55-6	1,1,1-Trichloroethane	--		0.0030	J	mg/kg	T3-3-10	1 / 9	0.00040 - 0.044	0.0030	N/A	870	n	N	2
	75-69-4	Trichlorofluoromethane	0.010	JD	0.020	JD	mg/kg	T3-1-13	6 / 9	0.00044 - 0.00072	0.020	N/A	79	n	N	2
	83-32-9	Acenaphthene	0.0019	J	0.70	J	mg/kg	T3-3-16	19 / 24	0.00043 - 1.7	0.70	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0032	J	0.30		mg/kg	T12B	16 / 24	0.00046 - 1.7	0.30	N/A	NA		Y	5
	98-86-2	Acetophenone	--		0.011	J	mg/kg	T11C	1 / 24	0.011 - 1.7	0.011	N/A	780	n	N	2,4
	120-12-7	Anthracene	0.0033	J	1.1	J	mg/kg	T3-3-16	20 / 24	0.00058 - 1.7	1.1	N/A	1,700	n	N	2
	56-55-3	Benzo(a)anthracene	0.0010	J	4.9		mg/kg	T3-3-16	24 / 24	N/A	4.9	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.0051	B	4.5		mg/kg	T11C	24 / 24	N/A	4.5	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.0028	J	6.6		mg/kg	T3-3-16	24 / 24	N/A	6.6	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.0012	J	2.8		mg/kg	T12B	23 / 24	0.064 - 0.064	2.8	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.0018	J	5.3		mg/kg	T11C	23 / 24	0.061	5.3	N/A	1.5	c	Y	1
	85-68-7	Butyl benzyl phthalate	0.064	J	1.8		mg/kg	T3-1-7	4 / 22	0.020 - 1.7	1.8	N/A	260	c	N	2
	92-52-4	Biphenyl	0.0033	J	0.029	J	mg/kg	T11A	9 / 18	0.015 - 0.041	0.029	N/A	5.1	n	N	2
	111-44-4	bis(2-Chloroethyl) ether	--		0.0022	J	mg/kg	T11C	1 / 24	0.015 - 1.7	0.0022	N/A	0.21	c	N	2,4
	108-60-1	bis(2-Chloroisopropyl) ether	--		1.0	JB	mg/kg	T3-1-7	1 / 24	0.016 - 1.7	1.0	N/A	4.6	c	N	2,4
	117-81-7	bis(2-Ethylhexyl) phthalate	0.47		54	J	mg/kg	T10B	5 / 24	0.015 - 1.7	54	N/A	35	c	Y	1
	86-74-8	Carbazole	0.016	J	0.76		mg/kg	T12B	14 / 18	0.024 - 0.065	0.76	N/A	NA		Y	5
	218-01-9	Chrysene	0.0017	J	4.7		mg/kg	T3-3-16	24 / 24	N/A	4.7	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.073		1.1		mg/kg	T12B	16 / 24	0.00043 - 1.7	1.1	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	0.0048	J	0.28		mg/kg	T12B	12 / 24	0.015 - 1.7	0.28	N/A	7.8	n	N	2
	84-66-2	Diethyl phthalate	0.0030	J	0.20	J	mg/kg	T11A	3 / 24	0.022 - 1.7	0.20	N/A	4,900	n	N	2
	131-11-3	Dimethyl phthalate	--		0.069	J	mg/kg	T11A	1 / 24	0.021 - 1.7	0.069	N/A	NA		N	4,5
	84-74-2	di-n-Butyl phthalate	0.069	J	1.7	J	mg/kg	T11A	3 / 24	0.022 - 1.7	1.7	N/A	610	n	N	2
	117-84-0	di-n-Octyl phthalate	0.12	J	0.55	J	mg/kg	T10B	2 / 20	0.021 - 1.7	0.55	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.0015	J	9.7	E	mg/kg	T12B	24 / 24	N/A	9.7	N/A	230	n	N	2
	86-73-7	Fluorene	0.0024	J	0.43		mg/kg	T12B	19 / 24	0.00056 - 1.7	0.43	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.00077	J	3.3	J	mg/kg	T12B	24 / 24	N/A	3.3	N/A	0.15	c	Y	1
	106-44-5	4-Methylphenol	0.0039	J	0.82	J	mg/kg	T3-3-10	7 / 24	0.016 - 1.7	0.82	N/A	610	n	N	2

TABLE 2.23: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB3	91-20-3	Naphthalene	0.0072	B	0.21	J	mg/kg	T3-4-6	16 / 24	0.00042 - 1.5	0.21	N/A	3.6	c	N	2
	87-86-5	Pentachlorophenol	0.0049	J	0.023	J	mg/kg	T11B	3 / 24	0.0061 - 8.6	0.023	N/A	0.89	c	N	2
	85-01-8	Phenanthrene	0.00048	J	7.6	E	mg/kg	T12B	24 / 24	N/A	7.6	N/A	NA		Y	5
	108-95-2	Phenol	--		0.0070	J	mg/kg	T11C	1 / 24	0.013 - 1.7	0.0070	N/A	1,800	n	N	2,4
	129-00-0	Pyrene	0.0049	B	8.8	E	mg/kg	T12B	23 / 24	0.21 - 0.21	8.8	N/A	170	n	N	2
	309-00-2	Aldrin	--		0.00165	J	mg/kg	T12A	1 / 9	0.00054 - 0.0085	0.00165	N/A	0.029	c	N	2
	319-84-6	alpha-BHC	0.0011	J	0.0030		mg/kg	T13B	2 / 9	0.00045 - 0.0085	0.0030	N/A	0.077	c	N	2
	319-85-7	beta-BHC	--		0.0020	J	mg/kg	T10A	1 / 8	0.00088 - 0.0085	0.0020	N/A	0.27	c	N	2
	57-74-9	Chlordane, total	0.024		0.035		mg/kg	T13B	2 / 9	0.00052 - 0.085	0.035	N/A	1.6 [a]	c	N	2
	60-57-1	Dieldrin	--		0.026	JN	mg/kg	T12A	1 / 8	0.00096 - 0.017	0.026	N/A	0.030	c	N	2
	72-55-9	4,4'-DDE	0.0073	JN	0.040		mg/kg	T13B	4 / 9	0.00094 - 0.017	0.040	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	--		0.10	J	mg/kg	T12A	1 / 8	0.0014 - 0.017	0.10	N/A	1.7	c	N	2
	33213-65-9	beta-Endosulfan	--		0.014	J	mg/kg	T12A	1 / 8	0.0080 - 0.017	0.014	N/A	37 [b]	n	N	2
	72-20-8	Endrin	0.0049	J	0.013	J	mg/kg	T12A	2 / 9	0.00091 - 0.017	0.013	N/A	1.8	n	N	2
	7421-93-4	Endrin aldehyde	0.0087	J	0.0098	NJ	mg/kg	T13B	2 / 9	0.0014 - 0.017	0.0098	N/A	NA		Y	5
	53494-70-5	Endrin ketone	0.0044		0.0058	NJ	mg/kg	T13B	2 / 9	0.00090 - 0.017	0.0058	N/A	NA		Y	5
	76-44-8	Heptachlor	0.0014	J	0.020		mg/kg	T3-1-13	2 / 9	0.00068 - 0.0085	0.020	N/A	0.11	c	N	2
	1024-57-3	Heptachlor epoxide	--		0.0065	NJ	mg/kg	T12A	1 / 8	0.00052 - 0.0085	0.0065	N/A	0.053	c	N	2
	72-43-5	Methoxychlor	--		0.020	J	mg/kg	T12A	1 / 8	0.0040 - 0.085	0.020	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.0062		14		mg/kg	Transect YYY	115 / 132	0.0054 - 0.17	14	N/A	0.11	n	Y	1

TABLE 2.23: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB3	7429-90-5	Aluminum	4,100		21,400		mg/kg	T13A	24 / 24	N/A	21,400	8,190 - 13,050	7,700	n	Y	1
	7440-36-0	Antimony	11		42		mg/kg	T3-3-10	9 / 24	0.010 - 0.059	42	0.99E - 2.15 J	3.1	n	Y	1
	7440-38-2	Arsenic	1.0	J	39		mg/kg	T11C	24 / 24	N/A	39	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	52	J	1,200		mg/kg	T3-1-13	24 / 24	N/A	1,200	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.090		0.78		mg/kg	T13A	18 / 24	0.0040	0.78	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	1.0		14		mg/kg	T3-1-13	16 / 24	0.0020 - 0.019	14	0.6 - 2.2	7	n	Y	1
	7440-70-2	Calcium	309	J	18,200		mg/kg	T12B	24 / 24	N/A	18,200	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	8.6	J	242		mg/kg	T11B	24 / 24	N/A	242	22.7 E - 39.8 E	12,000 [c]	n	N	2
	7440-48-4	Cobalt	3.0	J	34		mg/kg	T11B	24 / 24	N/A	34	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	3.9		12,000		mg/kg	T3-2-11	24 / 24	N/A	12,000	30.2 E - 315 ED	310	n	Y	1
	57-12-5	Cyanide	0.067	J	2.6		mg/kg	T11B	17 / 18	0.0040	2.6	0.37 J - 0.65 J	4.7 [d]	n	N	2
	7439-89-6	Iron	8,600		282,000		mg/kg	T11A	24 / 24	N/A	282,000	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	10		9,950		mg/kg	T11A	24 / 24	N/A	9,950	62.7 E - 270 ED	400	L	Y	1
	7439-95-4	Magnesium	628	J	4,230		mg/kg	G2D	24 / 24	N/A	4,230	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	56		1,390	J	mg/kg	G1D	24 / 24	N/A	1,390	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.020	J	5.7	J	mg/kg	T11B	24 / 24	N/A	5.7	0.18 - 0.26	2.3 [e]	n	Y	1
	7440-02-0	Nickel	6.7	J	235		mg/kg	T11A	24 / 24	N/A	235	22.9 - 34.3	150 [f]	n	Y	1
	7440-09-7	Potassium	279	J	1,620		mg/kg	G1D	24 / 24	N/A	1,620	701 - 929.5 E	NA		N	3,5
	7782-49-2	Selenium	0.071	J	9.2		mg/kg	T3-2-11	14 / 24	0.034 - 0.18	9.2	0.55 - 0.96 J	39	n	N	2
	7440-22-4	Silver	0.48	J	28		mg/kg	T11A	21 / 24	0.0010	28	0.54 - 0.72	39	n	N	2
	7440-23-5	Sodium	99		319	J	mg/kg	T12B	24 / 24	N/A	319	266 J - 660	NA		N	3,5
	7440-28-0	Thallium	1.2		4.0		mg/kg	T3-2-11	4 / 24	0.0020 - 0.42	4.0	--	0.078	n	Y	1
	7440-62-2	Vanadium	13	J	40		mg/kg	T3-1-7	23 / 24	0.0050	40	31.1 - 51.9	39	n	Y	1
	7440-66-6	Zinc	20	J	3,680		mg/kg	T11B	24 / 24	N/A	3,680	114 E - 376 ED	2,300	n	Y	1

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Endosulfan.
c = Screening toxicity value is for Chromium III.
d = Screening toxicity value is for free cyanide (CN-).
e = Screening toxicity value is for mercuric chloride.
f = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.24: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 3 (BB3)	67-64-1	Acetone	0.31	JD	0.71	JD	mg/kg	T3-1-13	4 / 9	0.0031 - 0.081	0.71	N/A	6,100	n	N	2
	78-93-3	Methyl ethyl ketone	--		0.012	J	mg/kg	T12A	1 / 9	0.0017 - 0.087	0.012	N/A	2,800	n	N	2
	75-09-2	Methylene chloride	--		0.040	JBD	mg/kg	T3-3-16	1 / 9	0.00065 - 0.044	0.040	N/A	36	n	N	2
	71-55-6	1,1,1-Trichloroethane	--		0.0030	J	mg/kg	T3-3-10	1 / 9	0.00040 - 0.044	0.0030	N/A	870	n	N	2
	75-69-4	Trichlorofluoromethane	0.010	JD	0.020	JD	mg/kg	T3-1-13	6 / 9	0.00044 - 0.00072	0.020	N/A	79	n	N	2
	83-32-9	Acenaphthene	0.0010	J	1.3		mg/kg	G1D	35 / 41	0.00043 - 1.7	1.3	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0014	J	0.43		mg/kg	T13A	31 / 41	0.00046 - 1.7	0.43	N/A	NA		Y	5
	98-86-2	Acetophenone	0.011	J	0.16	J	mg/kg	T10A	3 / 41	0.010 - 1.7	0.16	N/A	780	n	N	2
	120-12-7	Anthracene	0.00075	J	2.9		mg/kg	G1D	37 / 41	0.00058 - 1.7	2.9	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.029	J	0.29		mg/kg	T11B	3 / 35	0.010 - 0.059	0.29	N/A	780	n	N	2
	56-55-3	Benzo(a)anthracene	0.0010	J	8.4		mg/kg	G1D	41 / 41	N/A	8.4	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.0051	B	8.4		mg/kg	T11C	38 / 41	0.00057 - 0.048	8.4	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.0028	J	8.3	J	mg/kg	G1D	39 / 41	0.046 - 0.057	8.3	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.0012	J	5.7	J	mg/kg	T11A	36 / 41	0.00081 - 0.074	5.7	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.0018	J	9.9		mg/kg	T11C	36 / 41	0.00098 - 0.071	9.9	N/A	1.5	c	Y	1
	85-68-7	Butyl benzyl phthalate	0.041	J	1.8		mg/kg	T3-1-7	5 / 37	0.019 - 1.7	1.8	N/A	260	c	N	2
	92-52-4	Biphenyl	0.0026	J	0.092	J	mg/kg	T13A	17 / 35	0.014 - 0.081	0.092	N/A	5.1	n	N	2
	111-44-4	bis(2-Chloroethyl) ether	--		0.0022	J	mg/kg	T11C	1 / 41	0.015 - 1.7	0.0022	N/A	0.21	c	N	2,4
	108-60-1	bis(2-Chloroisopropyl) ether	--		1.0	JB	mg/kg	T3-1-7	1 / 41	0.016 - 1.7	1.0	N/A	4.6	c	N	2,4
	117-81-7	bis(2-Ethylhexyl) phthalate	0.21		880	E	mg/kg	T10A	10 / 41	0.015 - 1.7	880	N/A	35	c	Y	1
	86-74-8	Carbazole	0.013	J	1.1	J	mg/kg	G1D	25 / 35	0.024 - 0.065	1.1	N/A	NA		Y	5
	218-01-9	Chrysene	0.0017	J	8.9		mg/kg	G1D	41 / 41	N/A	8.9	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.028	J	1.9	J	mg/kg	G1D	29 / 41	0.00043 - 1.7	1.9	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	0.0045	J	0.56	J	mg/kg	T13A	21 / 41	0.015 - 1.7	0.56	N/A	7.8	n	N	2
	84-66-2	Diethyl phthalate	0.0030	J	0.20	J	mg/kg	T11A	5 / 41	0.022 - 1.7	0.20	N/A	4,900	n	N	2
	131-11-3	Dimethyl phthalate	--		0.069	J	mg/kg	T11A	1 / 41	0.020 - 1.7	0.069	N/A	NA		N	4,5
	84-74-2	di-n-Butyl phthalate	0.045	J	1.7	J	mg/kg	T11A	4 / 41	0.022 - 1.7	1.7	N/A	610	n	N	2
	117-84-0	di-n-Octyl phthalate	0.12	J	0.55	J	mg/kg	T10B	2 / 33	0.020 - 1.7	0.55	N/A	NA		Y	5

TABLE 2.24: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB3	206-44-0	Fluoranthene	0.0015	J	13		mg/kg	G1D	41 / 41	N/A	13	N/A	230	n	N	2
	86-73-7	Fluorene	0.0016	J	1.2		mg/kg	T13A	35 / 41	0.00056 - 1.7	1.2	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.00077	J	4.4	J	mg/kg	G1D	38 / 41	0.032 - 0.040	4.4	N/A	0.15	c	Y	1
	106-44-5	4-Methylphenol	0.0039	J	0.82	J	mg/kg	T3-3-10	8 / 41	0.015 - 1.7	0.82	N/A	610	n	N	2
	91-20-3	Naphthalene	0.0072	B	0.28	B	mg/kg	G3D	25 / 41	0.00041 - 1.5	0.28	N/A	3.6	c	N	2
	86-30-6	N-Nitrosodiphenylamine	--		0.025	J	mg/kg	T11B	1 / 38	0.011 - 1.7	0.025	N/A	99	c	N	2,4
	87-86-5	Pentachlorophenol	0.0049	J	0.084	J	mg/kg	G1D	6 / 41	0.0061 - 8.6	0.084	N/A	0.89	c	N	2
	85-01-8	Phenanthrene	0.00048	J	11		mg/kg	T13A	41 / 41	N/A	11	N/A	NA		Y	5
	108-95-2	Phenol	--		0.0070	J	mg/kg	T11C	1 / 41	0.013 - 1.7	0.0070	N/A	1,800	n	N	2,4
	129-00-0	Pyrene	0.0049	B	12	J	mg/kg	G1D	36 / 41	0.19 - 0.22	12	N/A	170	n	N	2
	309-00-2	Aldrin	--		0.0017	J	mg/kg	T12A	1 / 9	0.00054 - 0.0085	0.0017	N/A	0.029	c	N	2
	319-84-6	alpha-BHC	0.0011	J	0.0030		mg/kg	T13B	2 / 9	0.00045 - 0.0085	0.0030	N/A	0.077	c	N	2
	319-85-7	beta-BHC	--		0.0020	J	mg/kg	T10A	1 / 8	0.00088 - 0.0085	0.0020	N/A	0.27	c	N	2
	57-74-9	Chlordane, total	0.024		0.035		mg/kg	T13B	2 / 9	0.00052 - 0.085	0.035	N/A	1.6 [a]	c	N	2
	60-57-1	Dieldrin	--		0.026	JN	mg/kg	T12A	1 / 8	0.00096 - 0.017	0.026	N/A	0.030	c	N	2
	72-55-9	4,4'-DDE	0.0073	JN	0.040		mg/kg	T13B	4 / 9	0.00094 - 0.017	0.040	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	--		0.10	J	mg/kg	T12A	1 / 8	0.0014 - 0.017	0.10	N/A	1.7	c	N	2
	33213-65-9	beta-Endosulfan	--		0.014	J	mg/kg	T12A	1 / 8	0.00080 - 0.017	0.01	N/A	37 [b]	n	N	2
	72-20-8	Endrin	0.0049	J	0.013	J	mg/kg	T12A	2 / 9	0.00091 - 0.017	0.013	N/A	1.8	n	N	2
	7421-93-4	Endrin aldehyde	0.0087	J	0.0098	NJ	mg/kg	T13B	2 / 9	0.0014 - 0.017	0.0098	N/A	NA		Y	5
	53494-70-5	Endrin ketone	0.0044	J	0.0058	NJ	mg/kg	T13B	2 / 9	0.00090 - 0.017	0.0058	N/A	NA		Y	5
	76-44-8	Heptachlor	0.0014	J	0.020		mg/kg	T3-1-13	2 / 9	0.00068 - 0.0085	0.020	N/A	0.11	c	N	2
	1024-57-3	Heptachlor epoxide	--		0.0065	NJ	mg/kg	T12A	1 / 8	0.00052 - 0.0085	0.0065	N/A	0.053	c	N	2
	72-43-5	Methoxychlor	--		0.020	J	mg/kg	T12A	1 / 8	0.0040 - 0.085	0.020	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.0062		31		mg/kg	Transect YYY	204 / 232	0.0054 - 0.17	31	N/A	0.11	n	Y	1

TABLE 2.24: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB3	7429-90-5	Aluminum	4,100	J	28,400		mg/kg	T12D	41 / 41	N/A	28,400	8,190 - 13,050	7,700	n	Y	1
	7440-36-0	Antimony	0.19	J	792	J	mg/kg	T11C	14 / 41	0.010 - 0.059	792	0.99E - 2.15 J	3.1	n	Y	1
	7440-38-2	Arsenic	1.0	J	39		mg/kg	T11C	38 / 41	0.0040	39	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	22	J	1,200		mg/kg	T3-1-13	41 / 41	N/A	1,200	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.090	J	1.1		mg/kg	T13A	29 / 41	0.0040	1.1	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	1.0	J	18		mg/kg	T12D	24 / 41	0.0020 - 0.019	18	0.6 - 2.2	7	n	Y	1
	7440-70-2	Calcium	177	J	18,200		mg/kg	T12B	41 / 41	N/A	18,200	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	5.6	J	242		mg/kg	T11B	41 / 41	N/A	242	22.7 E - 39.8 E	12,000 [c]	n	N	2
	7440-48-4	Cobalt	2.5	J	34		mg/kg	T11B	41 / 41	N/A	34	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	1.9	J	12,000		mg/kg	T3-2-11	41 / 41	N/A	12,000	30.2 E - 315 ED	310	n	Y	1
	57-12-5	Cyanide	0.052	J	2.6		mg/kg	T11B	34 / 35	0.0040	2.6	0.37 J - 0.65 J	4.7 [d]	n	N	2
	7439-89-6	Iron	7,310	J	282,000		mg/kg	T11A	41 / 41	N/A	282,000	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	6.2	J	21,300		mg/kg	T11C	41 / 41	N/A	21,300	62.7 E - 270 ED	400	L	Y	1
	7439-95-4	Magnesium	512	J	6,430		mg/kg	G2D	41 / 41	N/A	6,430	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	51	J	3,300	J	mg/kg	G1D	41 / 41	N/A	3,300	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.0050	J	5.7	J	mg/kg	T11B	40 / 41	0.0010	5.7	0.18 - 0.26	2.3 [e]	n	Y	1
	7440-02-0	Nickel	4.3	J	496	J	mg/kg	T12D	41 / 41	N/A	496	22.9 - 34.3	150 [f]	n	Y	1
	7440-09-7	Potassium	212	J	2,430		mg/kg	G2D	41 / 41	N/A	2,430	701 - 929.5 E	NA		N	3,5
	7782-49-2	Selenium	0.048	J	9.2		mg/kg	T3-2-11	21 / 41	0.034 - 0.18	9.2	0.55 - 0.96 J	39	n	N	2
	7440-22-4	Silver	0.48	J	28		mg/kg	T11A	34 / 41	0.0010	28	0.54 - 0.72	39	n	N	2
	7440-23-5	Sodium	99	J	1,740		mg/kg	T11C	41 / 41	N/A	1,740	266 J - 660	NA		N	3,5
	7440-28-0	Thallium	0.56	J	4.0		mg/kg	T3-2-11	6 / 41	0.0020 - 0.42	4.0	--	0.078	n	Y	1
	7440-62-2	Vanadium	7.8	J	53	J	mg/kg	T12D	40 / 41	0.0050	53	31.1 - 51.9	39	n	Y	1
	7440-66-6	Zinc	10	J	3,680		mg/kg	T11B	41 / 41	N/A	3,680	114 E - 376 ED	2,300	n	Y	1

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^6 cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Endosulfan.
c = Screening toxicity value is for Chromium III.
d = Screening toxicity value is for free cyanide (CN-).
e = Screening toxicity value is for mercuric chloride.
f = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.25: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 4 (BB4)	67-64-1	Acetone	0.040	J	0.56	B	mg/kg	G6A	12 / 55	0.0028 - 0.087	0.56	N/A	6,100	n	N	2
	75-15-0	Carbon disulfide	0.0041	J	0.0059	J	mg/kg	G14A	2 / 55	0.00038 - 0.045	0.0059	N/A	82	n	N	2,4
	56-23-5	Carbon tetrachloride	--		0.010		mg/kg	G19A	1 / 50	0.00038 - 0.045	0.010	N/A	0.61	c	N	2,4
	67-66-3	Chloroform	--		0.0011	J	mg/kg	G12B	1 / 55	0.00038 - 0.045	0.0011	N/A	0.29	c	N	2,4
	74-87-3	Chloromethane	--		0.0046	J	mg/kg	G1A	1 / 55	0.00071 - 0.090	0.0046	N/A	12	n	N	2,4
	110-82-7	Cyclohexane	0.0012	J	0.0020	J	mg/kg	G23A	3 / 38	0.00034 - 0.00061	0.0020	N/A	700	n	N	2
	75-34-3	1,1-Dichloroethane	--		0.0041	J	mg/kg	G11B	1 / 43	0.00042 - 0.00071	0.0041	N/A	3.3	c	N	2,4
	75-35-4	1,1-Dichloroethene	0.00066	J	0.0011	J	mg/kg	G7A	4 / 55	0.00074 - 0.045	0.0011	N/A	24	n	N	2
	156-59-2	cis-1,2-Dichloroethene	0.00094	J	0.0023	J	mg/kg	G4B	2 / 55	0.00047 - 0.045	0.0023	N/A	16	n	N	2,4
	10061-01-5	cis-1,3-Dichloropropene	0.0012	J	0.0038	J	mg/kg	G19A	2 / 50	0.00043 - 0.045	0.0038	N/A	1.7	c	N	2,4
	10061-02-6	trans-1,3-Dichloropropene	0.00090	J	0.0025	J	mg/kg	G19A	2 / 50	0.0006 - 0.045	0.0025	N/A	1.7	c	N	2,4
	100-41-4	Ethylbenzene	0.0020	J	0.011		mg/kg	G7B	2 / 50	0.00039 - 0.045	0.011	N/A	5.4	c	N	2,4
	591-78-6	2-Hexanone	0.0072	J	0.16	J	mg/kg	G1A	10 / 48	0.0011 - 0.09	0.16	N/A	21	n	N	2
	79-20-9	Methyl acetate	--		0.0086	J	mg/kg	G14A	1 / 43	0.0010 - 0.0014	0.0086	N/A	7,800	n	N	2,4
	78-93-3	Methyl ethyl ketone	0.0094	J	0.21	J	mg/kg	G13A	19 / 55	0.0015 - 0.09	0.21	N/A	2,800	n	N	2
	108-10-1	Methyl isobutyl ketone	0.0010	J	0.22		mg/kg	G13A	5 / 49	0.0012 - 0.09	0.22	N/A	530	n	N	2
	108-87-2	Methylcyclohexane	--		0.0042	J	mg/kg	G12B	1 / 39	0.00038 - 0.00056	0.0042	N/A	NA		N	4,5
	75-09-2	Methylene chloride	0.030	JB	0.050	B	mg/kg	T4-5-6	5 / 55	0.00059 - 0.044	0.050	N/A	36	n	N	2
	100-42-5	Styrene	--		0.014	J	mg/kg	G9B	1 / 50	0.00029 - 0.045	0.014	N/A	630	n	N	2,4
	108-88-3	Toluene	0.0012	J	0.053		mg/kg	G14A	7 / 51	0.00039 - 0.045	0.053	N/A	500	n	N	2
	71-55-6	1,1,1-Trichloroethane	--		0.010	JD	mg/kg	T2-7-1	1 / 50	0.00037 - 0.045	0.010	N/A	870	n	N	2,4
	75-69-4	Trichlorofluoromethane	0.010	JD	0.020	JD	mg/kg	T2-12-5	7 / 55	0.00039 - 0.045	0.020	N/A	79	n	N	2
	179601-23-1	m,p-Xylenes	0.0020	J	0.045		mg/kg	G7B	5 / 50	0.00035 - 0.045	0.045	N/A	63	n	N	2
	83-32-9	Acenaphthene	0.0035	J	0.34	J	mg/kg	T4-3-3	8 / 59	0.042 - 1.8	0.34	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0010	J	0.67		mg/kg	G24A	12 / 59	0.036 - 1.8	0.67	N/A	NA		Y	5
	120-12-7	Anthracene	0.0078	J	0.76	J	mg/kg	T4-3-3	25 / 59	0.041 - 1.6	0.76	N/A	1,700	n	N	2
	56-55-3	Benzo(a)anthracene	0.040	J	6.4		mg/kg	T4-3-3	49 / 59	0.042 - 1.4	6.4	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.023	J	6.2		mg/kg	T4-3-3	50 / 59	0.047 - 1.5	6.2	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.022	J	9.9		mg/kg	T4-3-3	52 / 59	0.05 - 1.6	9.9	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.019	J	3.6		mg/kg	T4-3-3	48 / 59	0.044 - 1.4	3.6	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.032	J	2.2		mg/kg	T4-3-3	46 / 59	0.048 - 1.8	2.2	N/A	1.5	c	Y	1
	85-68-7	Butyl benzyl phthalate	0.063	J	36	J	mg/kg	G6B	33 / 59	0.035 - 0.7	36	N/A	260	c	N	2
	92-52-4	Biphenyl	--		0.13	J	mg/kg	G17B	1 / 47	0.032 - 1.5	0.13	N/A	5.1	n	N	2,4
	117-81-7	bis(2-Ethylhexyl) phthalate	0.035	J	25	J	mg/kg	G6B	36 / 59	0.032 - 1.8	25	N/A	35	c	N	2
	86-74-8	Carbazole	0.060	J	0.25	J	mg/kg	T14A	3 / 47	0.045 - 1.7	0.25	N/A	NA		Y	5
	218-01-9	Chrysene	0.024	J	8.5		mg/kg	T4-3-3	51 / 59	0.044 - 1.4	8.5	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.033	J	1.6	J	mg/kg	T14A	7 / 59	0.043 - 1.8	1.6	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	0.083	J	0.22	J	mg/kg	T4-3-3	2 / 59	0.04 - 1.8	0.22	N/A	7.8	n	N	2,4
	91-94-1	3,3'-Dichlorobenzidine	--		0.17	J	mg/kg	T4-4-1	1 / 57	0.16 - 6.3	0.17	N/A	1.1	c	N	2,4
	84-74-2	di-n-Butyl phthalate	0.020	J	2.3	J	mg/kg	G6B	11 / 59	0.04 - 1.8	2.3	N/A	610	n	N	2
	117-84-0	di-n-Octyl phthalate	0.089	J	1.2	J	mg/kg	T2-2-1	8 / 58	0.037 - 1.7	1.2	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.026	J	11		mg/kg	T4-3-3	52 / 59	0.051 - 1.6	11	N/A	230	n	N	2
	86-73-7	Fluorene	0.0032	J	0.41	J	mg/kg	T4-3-3	7 / 59	0.042 - 1.8	0.41	N/A	230	n	N	2
	118-74-1	Hexachlorobenzene	0.079	J	0.26	J	mg/kg	T2-2-1	2 / 58	0.038 - 1.9	0.26	N/A	0.30	c	N	2,4

TABLE 2.25: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB4	193-39-5	Indeno(1,2,3-c,d)pyrene	0.036	J	3.7	J	mg/kg	T14A	46 / 59	0.043 - 1.4	3.7	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.0069		0.51	J	mg/kg	G17B	12 / 59	0.043 - 1.8	0.51	N/A	23	n	N	2
	106-44-5	4-Methylphenol	--		0.34	J	mg/kg	G14A	1 / 59	0.032 - 1.8	0.34	N/A	610	n	N	2,4
	91-20-3	Naphthalene	0.0061	B	0.37	J	mg/kg	T4-3-3	14 / 59	0.043 - 1.8	0.37	N/A	3.6	c	N	2
	100-01-6	4-Nitroaniline	--		8.7		mg/kg	T4-3-3	1 / 59	0.059 - 8.8	8.7	N/A	24	c	N	2,4
	85-01-8	Phenanthrene	0.040	J	5.7		mg/kg	T4-3-3	44 / 59	0.041 - 1.4	5.7	N/A	NA		Y	5
	129-00-0	Pyrene	0.028	J	11		mg/kg	T4-3-3	51 / 59	0.035 - 1.1	11	N/A	170	n	N	2
	309-00-2	Aldrin	0.000042	J	0.041	E	mg/kg	G9B	10 / 46	0.0017 - 0.013	0.041	N/A	0.029	c	Y	1
	319-84-6	alpha-BHC	0.000040	J	0.00093	J	mg/kg	G20A	7 / 55	0.00043 - 0.012	0.00093	N/A	0.077	c	N	2
	319-85-7	beta-BHC	0.00032	J	0.00058	J	mg/kg	G17B	2 / 55	0.0007 - 0.013	0.00058	N/A	0.27	c	N	2,4
	319-86-8	delta-BHC	0.000038	J	0.056	J	mg/kg	G7B	10 / 55	0.00047 - 0.013	0.056	N/A	NA		Y	5
	58-89-9	gamma-BHC	0.00011	J	0.013	NJ	mg/kg	G7B	8 / 55	0.00042 - 0.013	0.013	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.00049	J	1.1	EBJ	mg/kg	G20A	34 / 55	0.019 - 0.086	1.1	N/A	1.6 [a]	c	N	2
	60-57-1	Dieldrin	0.0020	J	2.4	EB	mg/kg	G6B	34 / 55	0.0036 - 0.017	2.4	N/A	0.030	c	Y	1
	72-54-8	4,4'-DDD	0.00013	J	0.062	J	mg/kg	G2B	9 / 50	0.00088 - 0.023	0.062	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0037	J	0.012		mg/kg	G4A	4 / 46	0.0033 - 0.023	0.012	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.0037	J	2.0	J	mg/kg	G6B	40 / 55	0.0036 - 0.017	2.0	N/A	1.7	c	Y	1
	959-98-8	alpha-Endosulfan	0.00013	J	0.082	EP	mg/kg	G2B	8 / 54	0.00042 - 0.013	0.082	N/A	37 [b]	n	N	2
	33213-65-9	beta-Endosulfan	0.0087	J	0.59	EB	mg/kg	G6B	8 / 44	0.0033 - 0.017	0.59	N/A	37 [b]	n	N	2
	1031-07-8	Endosulfan sulfate	0.00038	J	0.022	NJ	mg/kg	G8B	6 / 53	0.00097 - 0.026	0.022	N/A	NA		Y	5
	72-20-8	Endrin	0.0022	J	0.010	J	mg/kg	T15A	3 / 39	0.0033 - 0.017	0.010	N/A	1.8	n	N	2
	7421-93-4	Endrin aldehyde	0.00027	J	0.13	J	mg/kg	G24A	18 / 54	0.0033 - 0.026	0.13	N/A	NA		Y	5
	53494-70-5	Endrin ketone	0.017	B	0.065	B	mg/kg	G2B	2 / 40	0.00087 - 0.017	0.065	N/A	NA		Y	5
	76-44-8	Heptachlor	--		0.017	J	mg/kg	G20A	1 / 55	0.00066 - 0.013	0.017	N/A	0.11	c	N	2,4
	1024-57-3	Heptachlor epoxide	0.00018	J	0.0062	NJ	mg/kg	T15A	7 / 52	0.0017 - 0.013	0.0062	N/A	0.053	c	N	2
	72-43-5	Methoxychlor	0.0023	J	0.043	NJ	mg/kg	G2B	8 / 55	0.0038 - 0.13	0.043	N/A	31	n	N	2
		Total PCB Aroclors [4]	0.027		80		mg/kg	Transect OOO	285 / 305	0.034 - 0.42	80	N/A	0.11	n	Y	1
	7429-90-5	Aluminum	1,430		30,000		mg/kg	T2-6-7	59 / 59	N/A	30,000	8,190 - 13,050	7,700	n	Y	1
	7440-36-0	Antimony	1.2		4.0		mg/kg	T4-4-1	13 / 59	0.010 - 0.39	4.0	0.99E - 2.15 J	3.1	n	Y	1
	7440-38-2	Arsenic	1.4	J	33		mg/kg	T4-4-1	54 / 59	0.20	33	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	11	J	1,210	D	mg/kg	G16A	59 / 59	N/A	1,210	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.48		2.3		mg/kg	G24A	21 / 59	0.0040 - 0.16	2.3	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	1.1		38		mg/kg	T2-6-7	45 / 59	0.0020 - 0.19	38	0.6 - 2.2	7.0	n	Y	1
	7440-70-2	Calcium	570	J	23,000		mg/kg	G12B	58 / 59	148	23,000	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	2.5	J	304	D	mg/kg	G4B	55 / 59	0.29	304	22.7 E - 39.8 E	12,000 [c]	n	N	2
	7440-48-4	Cobalt	1.2	J	24		mg/kg	T2-6-7	54 / 59	0.17	24	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	3.2	J	520		mg/kg	T2-6-7	58 / 59	0.36	520	30.2 E - 315 ED	310	n	Y	1
	57-12-5	Cyanide	0.067	J	0.85		mg/kg	G3B	14 / 47	0.18	0.85	0.37 J - 0.65 J	4.7 [d]	n	N	2
	7439-89-6	Iron	1,970		75,900	J	mg/kg	T15C	59 / 59	N/A	75,900	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	1.9	J	1,245		mg/kg	G17B	59 / 59	N/A	1,245	62.7 E - 270 ED	400	L	Y	1
	7439-95-4	Magnesium	261	J	6,200		mg/kg	T15C	59 / 59	N/A	6,200	3,470 - 4,670	NA		N	3,5

TABLE 2.25: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB4	7439-96-5	Manganese	12		1,800		mg/kg	T2-6-7	59 / 59	N/A	1,800	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.028	J	1.1		mg/kg	T2-6-7	54 / 59	0.018	1.1	0.18 - 0.26	2.3 [e]	n	N	2
	7440-02-0	Nickel	1.2	J	72		mg/kg	T2-6-7	59 / 59	N/A	72	22.9 - 34.3	150 [f]	n	N	2
	7440-09-7	Potassium	203	J	1,790		mg/kg	T15C	36 / 59	148 - 157	1,790	701 - 929.5 E	NA		N	3,5
	7782-49-2	Selenium	0.20	J	5.0		mg/kg	T4-4-1	13 / 43	0.034 - 0.81	5.0	0.55 - 0.96 J	39	n	N	2
	7440-22-4	Silver	1.2	J	63	D	mg/kg	G15B	42 / 59	0.0010 - 0.17	63	0.54 - 0.72	39	n	Y	1
	7440-23-5	Sodium	63		457	J	mg/kg	T14A	18 / 59	148 - 159	457	266 J - 660	NA		N	3,5
	7440-28-0	Thallium	--		0.60		mg/kg	T2-6-7	1 / 59	0.0020 - 0.44	0.60	--	0.078	n	N	1,4
	7440-62-2	Vanadium	5.0	J	95		mg/kg	T4-4-1	55 / 59	0.72	95	31.1 - 51.9	39	n	Y	1
	7440-66-6	Zinc	5.0	J	570		mg/kg	T2-6-7	59 / 59	N/A	570	114 E - 376 ED	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Endosulfan.
c = Screening toxicity value is for Chromium III.
d = Screening toxicity value is for free cyanide (CN-).
e = Screening toxicity value is for mercuric chloride.
f = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = Concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.26: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU)	67-64-1	Acetone	0.040	J	0.56	B	mg/kg	G6A	18 / 84	0.0028 - 0.087	0.56	N/A	6,100	n	N	2
Bound Brook 4 (BB4)	71-43-2	Benzene	--		0.0017	J	mg/kg	G9A	1 / 94	0.00053 - 0.045	0.0017	N/A	1.1	c	N	2,4
	75-15-0	Carbon disulfide	0.0024	J	0.0072		mg/kg	G15A	6 / 84	0.00038 - 0.045	0.0072	N/A	82	n	N	2
	56-23-5	Carbon tetrachloride	--		0.010		mg/kg	G19A	1 / 79	0.00038 - 0.045	0.010	N/A	0.61	c	N	2,4
	67-66-3	Chloroform	--		0.0011	J	mg/kg	G12B	1 / 86	0.00038 - 0.045	0.0011	N/A	0.29	c	N	2,4
	74-87-3	Chloromethane	--		0.0046	J	mg/kg	G1A	1 / 86	0.00071 - 0.090	0.0046	N/A	12	n	N	2,4
	110-82-7	Cyclohexane	0.0012	J	0.0020	J	mg/kg	G23A	5 / 65	0.00034 - 0.00061	0.0020	N/A	700	n	N	2
	75-34-3	1,1-Dichloroethane	0.0040	J	0.0041	J	mg/kg	G11B	2 / 74	0.00042 - 0.00071	0.0041	N/A	3.3	c	N	2,4
	75-35-4	1,1-Dichloroethene	0.00066	J	0.0017	J	mg/kg	G6B	6 / 86	0.00074 - 0.045	0.0017	N/A	24	n	N	2
	156-59-2	cis-1,2-Dichloroethene	0.00094	J	0.0054	J	mg/kg	G6B	5 / 86	0.00047 - 0.045	0.0054	N/A	16	n	N	2
	10061-01-5	cis-1,3-Dichloropropene	0.0012	J	0.0038	J	mg/kg	G19A	4 / 79	0.00043 - 0.045	0.0038	N/A	1.7	c	N	2
	10061-02-6	trans-1,3-Dichloropropene	0.00090	J	0.0025	J	mg/kg	G19A	3 / 79	0.00060 - 0.045	0.0025	N/A	1.7	c	N	2,4
	100-41-4	Ethylbenzene	0.0020	J	0.011		mg/kg	G7B	2 / 87	0.00039 - 0.045	0.011	N/A	5.4	c	N	2,4
	591-78-6	2-Hexanone	0.0029	J	0.16	J	mg/kg	G1A	15 / 75	0.0011 - 0.090	0.16	N/A	21	n	N	2
	79-20-9	Methyl acetate	--		0.0086	J	mg/kg	G14A	1 / 72	0.0010 - 0.0014	0.0086	N/A	7,800	n	N	2,4
	78-93-3	Methyl ethyl ketone	0.0094	J	0.41		mg/kg	G9A	24 / 84	0.0015 - 0.090	0.41	N/A	2,800	n	N	2
	108-10-1	Methyl isobutyl ketone	0.0010	J	0.0072	J	mg/kg	G9A	6 / 76	0.0012 - 0.090	0.0072	N/A	530	n	N	2
	108-87-2	Methylcyclohexane	0.0042	J	0.096	J	mg/kg	G5B	2 / 66	0.00038 - 0.00056	0.096	N/A	NA		N	4,5
	75-09-2	Methylene chloride	0.030	JB	0.050	B	mg/kg	T4-5-6	5 / 86	0.00059 - 0.044	0.050	N/A	36	n	N	2
	100-42-5	Styrene	--		0.014	J	mg/kg	G9B	1 / 77	0.00029 - 0.045	0.014	N/A	630	n	N	2,4
	108-88-3	Toluene	0.0012	J	0.16	J	mg/kg	TP-33	9 / 88	0.00039 - 0.045	0.16	N/A	500	n	N	2
	71-55-6	1,1,1-Trichloroethane	--		0.010	JD	mg/kg	T2-7-1	1 / 79	0.00037 - 0.045	0.010	N/A	870	n	N	2,4
	75-69-4	Trichlorofluoromethane	0.010	JD	0.020	JD	mg/kg	T2-12-5	7 / 86	0.00039 - 0.045	0.020	N/A	79	n	N	2
	179601-23-1	m,p-Xylenes	0.0020	J	0.64	J	mg/kg	TP-33	6 / 87	0.00035 - 0.045	0.64	N/A	63	n	N	2
	83-32-9	Acenaphthene	0.0011	J	0.34	J	mg/kg	T4-3-3	18 / 117	0.00038 - 1.8	0.34	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0010	J	0.67		mg/kg	G24A	23 / 116	0.00040 - 1.8	0.67	N/A	NA		Y	5
	98-86-2	Acetophenone	0.0016	J	0.0091	J	mg/kg	G20A	7 / 107	0.010 - 1.8	0.0091	N/A	780	n	N	2
	120-12-7	Anthracene	0.00081	J	0.76	J	mg/kg	T4-3-3	39 / 117	0.00050 - 1.6	0.76	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.0078	J	0.073	J	mg/kg	T15B	10 / 95	0.0099 - 1.5	0.073	N/A	780	n	N	2
	56-55-3	Benzo(a)anthracene	0.00011	J	6.4		mg/kg	T4-3-3	75 / 117	0.00045 - 1.4	6.4	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.0044	B	6.2		mg/kg	T4-3-3	68 / 117	0.00032 - 1.5	6.2	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.00019	J	9.9		mg/kg	T4-3-3	81 / 117	0.00048 - 1.6	9.9	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.00022	J	3.6		mg/kg	T4-3-3	72 / 117	0.00036 - 1.4	3.6	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.00014	J	2.2		mg/kg	T4-3-3	70 / 116	0.00045 - 1.8	2.2	N/A	1.5	c	Y	1
	85-68-7	Butyl benzyl phthalate	0.0067	J	36	J	mg/kg	G6B	54 / 116	0.031 - 0.70	36	N/A	260	c	N	2
	92-52-4	Biphenyl	0.0043	J	0.13	J	mg/kg	G17B	4 / 95	0.013 - 1.5	0.13	N/A	5.1	n	N	2,4
	117-81-7	bis(2-Ethylhexyl) phthalate	0.035	J	25	J	mg/kg	G6B	50 / 116	0.015 - 1.8	25	N/A	35	c	N	2
	105-60-2	Caprolactam	--		0.010	J	mg/kg	G8B	1 / 95	0.017 - 1.7	0.010	N/A	3,100	n	N	2,4
	86-74-8	Carbazole	0.0054	J	0.25	J	mg/kg	T14A	8 / 95	0.021 - 1.7	0.25	N/A	NA		Y	5
	218-01-9	Chrysene	0.00014	J	8.5		mg/kg	T4-3-3	79 / 117	0.00040 - 1.4	8.5	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.00033	J	1.6	J	mg/kg	T14A	15 / 115	0.00038 - 1.8	1.6	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	0.0064	J	0.22	J	mg/kg	T4-3-3	7 / 107	0.013 - 1.8	0.22	N/A	7.8	n	N	2
	91-94-1	3,3'-Dichlorobenzidine	--		0.17	J	mg/kg	T4-4-1	1 / 112	0.041 - 6.3	0.17	N/A	1.1	c	N	2,4
	84-66-2	Diethyl phthalate	0.0020	J	0.0051	J	mg/kg	G9B	3 / 117	0.021 - 1.8	0.0051	N/A	4,900	n	N	2,4
	84-74-2	di-n-Butyl phthalate	0.020	J	2.3	J	mg/kg	G6B	15 / 117	0.021 - 1.8	2.3	N/A	610	n	N	2
	117-84-0	di-n-Octyl phthalate	0.080	J	1.2	J	mg/kg	T2-2-1	9 / 112	0.02 - 1.7	1.2	N/A	NA		Y	5

TABLE 2.26: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB4	206-44-0	Fluoranthene	0.00018	J	11		mg/kg	T4-3-3	82 / 117	0.00047 - 1.6	11	N/A	230	n	N	2
	86-73-7	Fluorene	0.0018	J	0.41	J	mg/kg	T4-3-3	17 / 117	0.00049 - 1.8	0.41	N/A	230	n	N	2
	118-74-1	Hexachlorobenzene	0.079	J	0.26	J	mg/kg	T2-2-1	2 / 115	0.012 - 1.9	0.26	N/A	0.30	c	N	2,4
	193-39-5	Indeno(1,2,3-c,d)pyrene	0.00019	J	3.7	J	mg/kg	T14A	68 / 116	0.00037 - 1.4	3.7	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.00031	J	0.51	J	mg/kg	G17B	23 / 107	0.00043 - 1.8	0.51	N/A	23	n	N	2
	106-44-5	4-Methylphenol	0.0058	J	0.34	J	mg/kg	G14A	3 / 114	0.015 - 1.8	0.34	N/A	610	n	N	2,4
	91-20-3	Naphthalene	0.0061	B	0.37	J	mg/kg	T4-3-3	21 / 117	0.00037 - 1.8	0.37	N/A	3.6	c	N	2
	100-01-6	4-Nitroaniline	--		8.7		mg/kg	T4-3-3	1 / 107	0.052 - 8.8	8.7	N/A	24	c	N	2,4
	87-86-5	Pentachlorophenol	0.00026	J	0.00040	J	mg/kg	G14A	2 / 115	0.0054 - 8.8	0.00040	N/A	0.89	c	N	2,4
	85-01-8	Phenanthrene	0.00019	J	5.7		mg/kg	T4-3-3	70 / 117	0.00043 - 1.4	5.7	N/A	NA		Y	5
	108-95-2	Phenol	0.012	J	0.35	J	mg/kg	B-6	9 / 115	0.012 - 1.8	0.35	N/A	1,800	n	N	2
	129-00-0	Pyrene	0.016	B	11		mg/kg	T4-3-3	72 / 116	0.00044 - 1.1	11	N/A	170	n	N	2
	309-00-2	Aldrin	0.000042	J	0.13	NJ	mg/kg	G7B	14 / 84	0.0017 - 0.013	0.13	N/A	0.029	c	Y	1
	319-84-6	alpha-BHC	0.000025	J	0.00093	J	mg/kg	G20A	9 / 94	0.00043 - 0.012	0.00093	N/A	0.077	c	N	2
	319-85-7	beta-BHC	0.00032	J	0.00082	J	mg/kg	G17B	3 / 94	0.0007 - 0.013	0.00082	N/A	0.27	c	N	2,4
	319-86-8	delta-BHC	0.000038	J	0.056	J	mg/kg	G7B	13 / 94	0.00047 - 0.013	0.056	N/A	NA		Y	5
	58-89-9	gamma-BHC	0.000083	J	0.013	NJ	mg/kg	G7B	10 / 93	0.00042 - 0.013	0.013	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.000061	J	1.1	EBJ	mg/kg	G20A	43 / 93	0.0017 - 0.086	1.1	N/A	1.6 [a]	c	N	2
	60-57-1	Dieldrin	0.000072	J	2.4	EB	mg/kg	G6B	44 / 94	0.0032 - 0.017	2.4	N/A	0.030	c	Y	1
	72-54-8	4,4'-DDD	0.000054	J	0.062	J	mg/kg	G2B	13 / 89	0.00088 - 0.023	0.062	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.0037	J	0.012		mg/kg	G4A	6 / 84	0.0032 - 0.023	0.012	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.00011	J	2.0	J	mg/kg	G6B	55 / 94	0.0036 - 0.017	2.0	N/A	1.7	c	Y	1
	959-98-8	alpha-Endosulfan	0.00013	J	0.10	NJ	mg/kg	G7B	11 / 93	0.00042 - 0.013	0.10	N/A	37 [b]	n	N	2
	33213-65-9	beta-Endosulfan	0.0087	J	0.59	EB	mg/kg	G6B	8 / 80	0.0032 - 0.017	0.59	N/A	37 [b]	n	N	2
	1031-07-8	Endosulfan sulfate	0.00014	J	0.022	NJ	mg/kg	G8B	10 / 91	0.00097 - 0.026	0.022	N/A	NA		Y	5
	72-20-8	Endrin	0.0022	J	0.010	J	mg/kg	T15A	3 / 76	0.0032 - 0.017	0.010	N/A	1.8	n	N	2,4
	7421-93-4	Endrin aldehyde	0.000064	J	0.13	J	mg/kg	G24A	25 / 93	0.0032 - 0.026	0.13	N/A	NA		N	4,5
	53494-70-5	Endrin ketone	0.00021	J	0.065	B	mg/kg	G2B	3 / 74	0.00087 - 0.017	0.065	N/A	NA		N	4,5
	76-44-8	Heptachlor	--		0.017	J	mg/kg	G20A	1 / 93	0.00066 - 0.013	0.017	N/A	0.11	c	N	2,4
	1024-57-3	Heptachlor epoxide	0.000044	J	0.0072	NJ	mg/kg	G7B	12 / 91	0.0017 - 0.013	0.0072	N/A	0.053	c	N	2
	72-43-5	Methoxychlor	0.00091	J	0.043	NJ	mg/kg	G2B	10 / 92	0.0038 - 0.13	0.043	N/A	31	n	N	2
	--	Total PCB Aroclors [4]	0.0031		470		mg/kg	Transect PPP	403 / 464	0.0042 - 1.0	470	N/A	0.11	n	Y	1

TABLE 2.26: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB4	7429-90-5	Aluminum	1,340	J	30,000		mg/kg	T2-6-7	107 / 107	N/A	30,000	8,190 - 13,050	7,700	n	Y	1
	7440-36-0	Antimony	0.30	J	11	D	mg/kg	G13B	20 / 117	0.010 - 0.39	11	0.99E - 2.15 J	3.1	n	Y	1
	7440-38-2	Arsenic	0.64	J	148		mg/kg	B-6	91 / 117	0.11 - 0.20	148	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	11	J	1,210	D	mg/kg	G16A	107 / 107	N/A	1,210	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.22	J	5.6	D	mg/kg	G13B	38 / 117	0.0040 - 0.16	5.6	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	0.20	J	38		mg/kg	T2-6-7	63 / 117	0.0020 - 0.19	38	0.6 - 2.2	7.0	n	Y	1
	7440-70-2	Calcium	152	J	23,000		mg/kg	G12B	103 / 107	143 - 148	23,000	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	1.2	J	304	D	mg/kg	G4B	111 / 117	0.29	304	22.7 E - 39.8 E	12,000 [c]	n	N	2
	7440-48-4	Cobalt	1.1	J	25		mg/kg	G24A	86 / 107	0.012 - 0.17	25	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	1.4	J	677	J	mg/kg	T15B	110 / 117	0.36 - 0.36	677	30.2 E - 315 ED	310	n	Y	1
	57-12-5	Cyanide	0.062	J	0.85		mg/kg	G3B	21 / 103	0.0040 - 0.18	0.85	0.37 J - 0.65 J	4.7 [d]	n	N	2
	7439-89-6	Iron	1,580	J	109,000	J	mg/kg	T15B	107 / 107	N/A	109,000	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	0.37		1,245		mg/kg	G17B	117 / 117	N/A	1,245	62.7 E - 270 ED	400	L	Y	1
	7439-95-4	Magnesium	229	J	6,200		mg/kg	T15C	106 / 107	151	6,200	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	8.0		1,800		mg/kg	T2-6-7	107 / 107	N/A	1,800	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.010	J	1.1		mg/kg	T2-6-7	72 / 117	0.0040 - 0.045	1.1	0.18 - 0.26	2.3 [e]	n	N	2
	7440-02-0	Nickel	1.2	J	72		mg/kg	T2-6-7	112 / 117	0.012 - 0.17	72	22.9 - 34.3	150 [f]	n	N	2
	7440-09-7	Potassium	184	J	1,790		mg/kg	T15C	60 / 107	3.5 - 157	1,790	701 - 929.5 E	NA		N	3,5
	7782-49-2	Selenium	0.072	J	29	DN	mg/kg	G13B	25 / 85	0.034 - 0.81	29	0.55 - 0.96 J	39	n	N	2
	7440-22-4	Silver	0.68	J	63	D	mg/kg	G15B	51 / 117	0.0010 - 0.17	63	0.54 - 0.72	39	n	Y	1
	7440-23-5	Sodium	63		457	J	mg/kg	T14A	23 / 107	8.6 - 159	457	266 J - 660	NA		N	3,5
	7440-28-0	Thallium	0.60		5.4	D	mg/kg	G13B	2 / 109	0.0020 - 0.44	5.4	--	0.078	n	N	1,4
	7440-62-2	Vanadium	4.7	J	125	D	mg/kg	G15A	97 / 107	0.72	125	31.1 - 51.9	39	n	Y	1
	7440-66-6	Zinc	4.4	J	3,040	J	mg/kg	T15B	114 / 116	N/A	3,040	114 E - 376 ED	2,300	n	Y	1

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Endosulfan.
c = Screening toxicity value is for Chromium III.
d = Screening toxicity value is for free cyanide (CN-).
e = Screening toxicity value is for mercuric chloride.
f = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.27: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU)	67-64-1	Acetone	0.058		0.40	JD	mg/kg	T1-10-2	8 / 18	0.0024 - 3.0	0.40	N/A	6,100	n	N	2
Bound Brook 5 (BB5)	110-82-7	Cyclohexane	--		0.015		mg/kg	G5C	1 / 10	0.00061 - 3.0	0.015	N/A	700	n	N	2
	156-59-2	cis-1,2-Dichloroethene	0.10		22	J	mg/kg	SS04	2 / 19	0.00029 - 0.032	22	N/A	16	n	Y	1
	156-60-5	trans-1,2-Dichloroethene	0.012		0.97	J	mg/kg	SS04	2 / 19	0.00030 - 0.032	0.97	N/A	15	n	N	2
	100-41-4	Ethylbenzene	--		0.0020	J	mg/kg	SS03	1 / 18	0.00029 - 3.0	0.0020	N/A	5.4	c	N	2
	78-93-3	Methyl ethyl ketone	--		0.0030	J	mg/kg	G6C	1 / 19	0.0031 - 3.0	0.0030	N/A	2,800	n	N	2
	108-10-1	Methyl isobutyl ketone	--		0.0011	J	mg/kg	G3C	1 / 18	0.0012 - 3.0	0.0011	N/A	530	n	N	2
	75-09-2	Methylene chloride	--		1.7	J	mg/kg	SS04	1 / 18	0.00060 - 0.032	1.7	N/A	36	n	N	2
	108-88-3	Toluene	--		0.0050	J	mg/kg	T1-14-3	1 / 17	0.00034 - 3.0	0.0050	N/A	500	n	N	2
	75-69-4	Trichlorofluoromethane	0.0030	J	0.050	JD	mg/kg	T1-1-4	8 / 18	0.00040 - 3.0	0.050	N/A	79	n	N	2
	83-32-9	Acenaphthene	0.012	J	0.84	J	mg/kg	T1-10-2	10 / 21	0.044 - 1.4	0.84	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.016		0.96		mg/kg	SS01	9 / 21	0.037 - 1.4	0.96	N/A	NA		Y	5
	98-86-2	Acetophenone	0.13	J	0.29	J	mg/kg	T1-7-2	5 / 21	0.013 - 1.4	0.29	N/A	780	n	N	2
	120-12-7	Anthracene	0.026		2.3		mg/kg	T1-1-4	12 / 21	0.043 - 1.4	2.3	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.030	J	0.95	J	mg/kg	SS01	6 / 13	0.041 - 0.43	0.95	N/A	780	n	N	2
	56-55-3	Benzo(a)anthracene	0.039	J	9.5		mg/kg	T1-11-9	17 / 21	0.044 - 0.050	9.5	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.020	J	9.7		mg/kg	T1-11-9	19 / 21	0.047	9.7	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.026	J	15		mg/kg	T1-11-9	20 / 21	0.050	15	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.027	J	6.4		mg/kg	T1-11-9	16 / 21	0.044 - 0.36	6.4	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.010	J	4.2		mg/kg	T1-11-9	15 / 21	0.050 - 1.4	4.2	N/A	1.5	c	Y	1
	85-68-7	Butyl benzyl phthalate	0.050	J	25	EB	mg/kg	T16B	19 / 21	1.2	25	N/A	260	c	N	2
	92-52-4	Biphenyl	0.0080	J	0.099	J	mg/kg	SS03	6 / 13	0.040 - 0.43	0.099	N/A	5.1	n	N	2
	117-81-7	bis(2-Ethylhexyl) phthalate	0.23		110	EB	mg/kg	T16C	13 / 21	1.1 - 1.4	110	N/A	35	c	Y	1
	86-74-8	Carbazole	0.038	J	0.33	J	mg/kg	SS04	6 / 13	0.046 - 0.43	0.33	N/A	NA		Y	5
	218-01-9	Chrysene	0.023	J	11		mg/kg	T1-11-9	19 / 21	0.044 - 0.049	11	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.092		1.0	J	mg/kg	T1-10-2	7 / 21	0.046 - 1.4	1.0	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	0.038	J	0.66	J	mg/kg	T1-10-2	13 / 21	0.041 - 1.4	0.66	N/A	7.8	n	N	2
	84-66-2	Diethyl phthalate	0.0066	J	78	E	mg/kg	T1-11-9	3 / 21	0.036 - 1.4	78	N/A	4,900	n	N	2
	131-11-3	Dimethyl phthalate	0.031	J	3.6		mg/kg	T1-11-9	3 / 21	0.025 - 1.4	3.6	N/A	NA		Y	5
	84-74-2	di-n-Butyl phthalate	0.024	J	2.3	B	mg/kg	T16B	8 / 21	0.046 - 1.4	2.3	N/A	610	n	N	2
	117-84-0	di-n-Octyl phthalate	0.027	J	7.8	E	mg/kg	T16C	7 / 21	0.025 - 1.4	7.8	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.024	J	12		mg/kg	T1-11-9	20 / 21	0.41	12	N/A	230	n	N	2
	86-73-7	Fluorene	0.021		0.89	J	mg/kg	T1-10-2	10 / 21	0.045 - 1.4	0.89	N/A	230	n	N	2
	118-74-1	Hexachlorobenzene	0.0070	J	0.014	J	mg/kg	T16C	2 / 21	0.021 - 1.4	0.014	N/A	0.30	c	N	2
	193-39-5	Indeno(1,2,3-c,d)pyrene	0.033	J	6.0		mg/kg	T1-11-9	16 / 21	0.045 - 0.36	6.0	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.022		1.7		mg/kg	T1-7-2	13 / 21	0.044 - 1.4	1.7	N/A	23	n	N	2
	106-44-5	4-Methylphenol	0.0054	J	0.24	J	mg/kg	T1-10-2	5 / 21	0.035 - 2.8	0.24	N/A	610	n	N	2
	91-20-3	Naphthalene	0.017	B	1.2	J	mg/kg	T1-7-2	12 / 21	0.0039 - 1.4	1.2	N/A	3.6	c	N	2
	87-86-5	Pentachlorophenol	0.0010	J	0.0045	J	mg/kg	T16A	2 / 21	0.034 - 7.2	0.0045	N/A	0.89	c	N	2
	85-01-8	Phenanthrene	0.040	J	9.4		mg/kg	T1-10-2	16 / 21	0.043 - 0.35	9.4	N/A	NA		Y	5
	108-95-2	Phenol	0.020	J	0.46		mg/kg	T16B	3 / 21	0.029 - 1.4	0.46	N/A	1,800	n	N	2
	129-00-0	Pyrene	0.023	J	16		mg/kg	T1-11-9	20 / 21	0.28	16	N/A	170	n	N	2
	120-82-1	1,2,4-Trichlorobenzene	0.12	J	3.2		mg/kg	T1-7-2	5 / 14	0.00091 - 3.0	3.2	N/A	6.2	n	N	2
	309-00-2	Aldrin	--		0.00078	J	mg/kg	G4C	1 / 19	0.00024 - 1.5	0.00078	N/A	0.029	c	N	2
	319-84-6	alpha-BHC	0.000029	J	0.000047	J	mg/kg	G1C	2 / 19	0.00022 - 1.5	0.000047	N/A	0.077	c	N	2
	319-85-7	beta-BHC	0.00016	J	0.00031	J	mg/kg	G2C	3 / 19	0.00050 - 1.5	0.00031	N/A	0.27	c	N	2
	58-89-9	gamma-BHC	0.00012	J	0.00040	J	mg/kg	T16C	2 / 19	0.0020 - 1.5	0.00040	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.0014	J	0.55	NJ	mg/kg	SS04	7 / 19	0.0020 - 1.5	0.55	N/A	1.6 [a]	c	N	2
	60-57-1	Dieldrin	0.0035	J	16	J	mg/kg	SS03	9 / 18	0.0043 - 0.014	16	N/A	0.03	c	Y	1
	72-54-8	4,4'-DDD	0.000065	J	0.016		mg/kg	T16C	3 / 18	0.0038 - 2.8	0.016	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.012	NJ	56	DNJ	mg/kg	SS03	5 / 17	0.0038 - 0.014	56	N/A	1.4	c	Y	1
	50-29-3	4,4'-DDT	0.012		0.17	J	mg/kg	G1C	7 / 19	0.0043 - 2.8	0.17	N/A	1.7	c	N	2
	959-98-8	alpha-Endosulfan	--		0.0043	J	mg/kg	G1C	1 / 19	0.00024 - 1.5	0.0043	N/A	37 [b]	n	N	2

TABLE 2.27: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB5	33213-65-9	beta-Endosulfan	0.0026	J	0.0087	J	mg/kg	G2C	2 / 14	0.00055 - 0.014	0.0087	N/A	37 [b]	n	N	2
	1031-07-8	Endosulfan sulfate	0.00010	J	0.0019		mg/kg	G5C	2 / 19	0.00041 - 2.8	0.0019	N/A	NA		Y	5
	7421-93-4	Endrin aldehyde	0.0011	J	5.2	J	mg/kg	SS03	6 / 19	0.00040 - 0.014	5.2	N/A	NA		Y	5
	1024-57-3	Heptachlor epoxide	0.00039	J	12	NJ	mg/kg	SS03	7 / 19	0.0020 - 0.0071	12	N/A	0.053	c	Y	1
	72-43-5	Methoxychlor	0.0011	J	0.0016	J	mg/kg	T16C	2 / 19	0.020 - 2.8	0.0016	N/A	31	n	N	2
		Total PCB Aroclors [4]	0.011		924		mg/kg	SS03	366 / 437	0.040 - 0.72	924	N/A	0.11	n	Y	1
	7429-90-5	Aluminum	2,200		35,800	J	mg/kg	SS01	21 / 21	N/A	35,800	8,190 - 13,050	7,700	n	Y	1
	7440-36-0	Antimony	0.14	J	19		mg/kg	T1-7-2	12 / 21	0.0013 - 0.32	19	0.99E - 2.15 J	3.1	n	Y	1
	7440-38-2	Arsenic	2.8	J	38	J	mg/kg	SS01	21 / 21	N/A	38	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	46	D	1,500		mg/kg	T1-5-6	21 / 21	N/A	1,500	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.25		11	D	mg/kg	G4C	16 / 21	0.16	11	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	1.4		40	J	mg/kg	SS04	16 / 21	0.19	40	0.6 - 2.2	7.0	n	Y	1
	7440-70-2	Calcium	218	J	8,600		mg/kg	T1-7-2	20 / 21	143	8,600	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	7.7	D	78	J	mg/kg	SS04	21 / 21	N/A	78	22.7 E - 39.8 E	12,000 [c]	n	N	2
	7440-48-4	Cobalt	2.1		30	J	mg/kg	SS01	21 / 21	N/A	30	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	12	D	960		mg/kg	T1-7-2	18 / 18	N/A	960	30.2 E - 315 ED	310	n	Y	1
	57-12-5	Cyanide	0.58	B	0.70	BJ	mg/kg	SS04	2 / 13	0.00029 - 0.18	0.70	0.37 J - 0.65 J	4.7 [d]	n	N	2
	7439-89-6	Iron	6,500	J	88,000		mg/kg	T1-5-6	21 / 21	N/A	88,000	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	26		1,000		mg/kg	T1-7-2	21 / 21	N/A	1,000	62.7 E - 270 ED	400	L	Y	1
	7439-95-4	Magnesium	250		5,730	J	mg/kg	SS04	21 / 21	N/A	5,730	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	38	J	1,050	J	mg/kg	T16C	18 / 18	N/A	1,050	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.13		1.5		mg/kg	T1-5-6	19 / 21	0.000070 - 0.045	1.5	0.18 - 0.26	2.3 [e]	n	N	2
	7440-02-0	Nickel	7.2	D	93	J	mg/kg	SS01	21 / 21	N/A	93	22.9 - 34.3	150 [f]	n	N	2
	7440-09-7	Potassium	179	J	1,430	J	mg/kg	T16C	19 / 21	148	1,430	701 - 929.5 E	NA		N	3,5
	7782-49-2	Selenium	1.6		7.9		mg/kg	T1-5-6	14 / 21	0.0011 - 0.81	7.9	0.55 - 0.96 J	39	n	N	2
	7440-22-4	Silver	2.2		14	J	mg/kg	SS04	16 / 21	0.17	14	0.54 - 0.72	39	n	N	2
	7440-23-5	Sodium	80		774	BJ	mg/kg	SS01	15 / 21	148	774	266 J - 660	NA		N	3,5
	7440-28-0	Thallium	--		1.2		mg/kg	T1-5-6	1 / 21	0.0021 - 0.36	1.2	--	0.078	n	N	1,4
	7440-62-2	Vanadium	13	J	88	J	mg/kg	SS01	21 / 21	N/A	88	31.1 - 51.9	39	n	Y	1
	7440-66-6	Zinc	31		1,000		mg/kg	T1-7-2	21 / 21	N/A	1,000	114 E - 376 ED	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Endosulfan.
c = Screening toxicity value is for Chromium III.
d = Screening toxicity value is for free cyanide (CN-).
e = Screening toxicity value is for mercuric chloride.
f = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.28: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU)	67-64-1	Acetone	0.042	B	0.40	JD	mg/kg	T1-10-2	10 / 24	0.0024 - 3.0	0.40	N/A	6,100	n	N	2
Bound Brook 5 (BB5)	110-82-7	Cyclohexane	--		0.015		mg/kg	G5C	1 / 16	0.00061 - 3.0	0.015	N/A	700	n	N	2
	156-59-2	cis-1,2-Dichloroethene	0.10		22	J	mg/kg	SS04	2 / 25	0.00029 - 0.032	22	N/A	16	n	Y	1
	156-60-5	trans-1,2-Dichloroethene	0.012		0.97	J	mg/kg	SS04	2 / 25	0.00030 - 0.032	0.97	N/A	15	n	N	2
	100-41-4	Ethylbenzene	--		0.0020	J	mg/kg	SS03	1 / 24	0.00029 - 3.0	0.0020	N/A	5.4	c	N	2,4
	78-93-3	Methyl ethyl ketone	0.0030	J	0.011	J	mg/kg	G4C	2 / 25	0.0031 - 3.0	0.011	N/A	2,800	n	N	2
	108-10-1	Methyl isobutyl ketone	--		0.0011	J	mg/kg	G3C	1 / 24	0.0012 - 3.0	0.0011	N/A	530	n	N	2,4
	75-09-2	Methylene chloride	--		1.7	J	mg/kg	SS04	1 / 24	0.00060 - 0.032	1.7	N/A	36	n	N	2,4
	108-88-3	Toluene	--		0.0050	J	mg/kg	T1-14-3	1 / 23	0.00034 - 3.0	0.0050	N/A	500	n	N	2,4
	75-69-4	Trichlorofluoromethane	0.0030	J	0.050	JD	mg/kg	T1-1-4	8 / 24	0.00040 - 3.0	0.050	N/A	79	n	N	2
	83-32-9	Acenaphthene	0.00044	J	0.84	J	mg/kg	T1-10-2	13 / 30	0.040 - 1.4	0.84	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.00087	J	0.96		mg/kg	CDE-SS01-00	12 / 30	0.035 - 1.4	0.96	N/A	NA		Y	5
	98-86-2	Acetophenone	0.13	J	0.29	J	mg/kg	T1-7-2	5 / 30	0.012 - 1.4	0.29	N/A	780	n	N	2
	120-12-7	Anthracene	0.0013	J	2.3		mg/kg	T1-1-4	15 / 30	0.039 - 1.4	2.3	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.016	J	0.95	J	mg/kg	CDE-SS01-00	9 / 22	0.038 - 0.43	0.95	N/A	780	n	N	2
	56-55-3	Benzo(a)anthracene	0.014		9.5		mg/kg	T1-11-9	20 / 30	0.040 - 0.061	9.5	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.019	B	9.7		mg/kg	T1-11-9	22 / 30	0.043 - 0.066	9.7	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.024		15		mg/kg	T1-11-9	23 / 30	0.046 - 0.070	15	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.012		6.4		mg/kg	T1-11-9	19 / 30	0.041 - 0.36	6.4	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.010	J	4.2		mg/kg	T1-11-9	18 / 30	0.046 - 1.4	4.2	N/A	1.5	c	Y	1
	85-68-7	Butyl benzyl phthalate	0.050	J	25	EB	mg/kg	CDEOU4-SB-T16B0030	22 / 30	0.022 - 1.2	25	N/A	260	c	N	2
	92-52-4	Biphenyl	0.0069	J	0.099	J	mg/kg	CDE-SS03-00	8 / 22	0.015 - 0.43	0.099	N/A	5.1	n	N	2
	117-81-7	bis(2-Ethylhexyl) phthalate	0.12	J	110	EB	mg/kg	CDEOU4-SB-T16C0030	16 / 30	0.017 - 1.4	110	N/A	35	c	Y	1
	86-74-8	Carbazole	0.019	J	0.33	J	mg/kg	CDE-SS04-00	8 / 22	0.024 - 0.43	0.33	N/A	NA		Y	5
	218-01-9	Chrysene	0.019		11		mg/kg	T1-11-9	22 / 30	0.040 - 0.061	11	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.0037	J	1.0	J	mg/kg	T1-10-2	10 / 30	0.042 - 1.4	1.0	N/A	0.02	c	Y	1
	132-64-9	Dibenzofuran	0.015	J	0.66	J	mg/kg	T1-10-2	15 / 30	0.015 - 1.4	0.66	N/A	7.8	n	N	2
	84-66-2	Diethyl phthalate	0.0066	J	78	E	mg/kg	T1-11-9	4 / 30	0.024 - 1.4	78	N/A	4,900	n	N	2
	131-11-3	Dimethyl phthalate	0.031	J	3.6		mg/kg	T1-11-9	3 / 30	0.023 - 1.4	3.6	N/A	NA		Y	5
	84-74-2	di-n-Butyl phthalate	0.020	J	2.3	B	mg/kg	CDEOU4-SB-T16B0030	12 / 30	0.024 - 1.4	2.3	N/A	610	n	N	2
	117-84-0	di-n-Octyl phthalate	0.027	J	7.8	E	mg/kg	CDEOU4-SB-T16C0030	8 / 30	0.023 - 1.4	7.8	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.023		12		mg/kg	T1-11-9	23 / 30	0.047 - 0.41	12	N/A	230	n	N	2
	86-73-7	Fluorene	0.00076	J	0.89	J	mg/kg	T1-10-2	13 / 30	0.041 - 1.4	0.89	N/A	230	n	N	2
	118-74-1	Hexachlorobenzene	0.0070	J	0.039	J	mg/kg	T16C	3 / 30	0.014 - 1.4	0.039	N/A	0.30	c	N	2
	193-39-5	Indeno(1,2,3-c,d)pyrene	0.011		6.0		mg/kg	T1-11-9	19 / 30	0.041 - 0.36	6.0	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.0014	J	1.7		mg/kg	T1-7-2	16 / 30	0.041 - 1.4	1.7	N/A	23	n	N	2
	106-44-5	4-Methylphenol	0.0054	J	0.24	J	mg/kg	T1-10-2	6 / 30	0.017 - 2.8	0.24	N/A	610	n	N	2
	91-20-3	Naphthalene	0.017	B	1.2	J	mg/kg	T1-7-2	13 / 30	0.00059 - 1.4	1.2	N/A	3.6	c	N	2
	87-86-5	Pentachlorophenol	0.0010	J	0.0045	J	mg/kg	CDEOU4-SB-T16A0030	2 / 30	0.0086 - 7.2	0.0045	N/A	0.89	c	N	2
	85-01-8	Phenanthrene	0.014		9.4		mg/kg	T1-10-2	19 / 30	0.040 - 0.35	9.4	N/A	NA		Y	5
	108-95-2	Phenol	0.018	J	0.46		mg/kg	CDEOU4-SB-T16B0030	4 / 30	0.014 - 1.4	0.46	N/A	1,800	n	N	2
	129-00-0	Pyrene	0.023	J	16		mg/kg	T1-11-9	23 / 30	0.032 - 0.28	16	N/A	170	n	N	2
	95-94-3	1,2,4,5-Tetrachlorobenzene	--		0.012	J	mg/kg	CDEOU4-SB-T16C3061	1 / 26	0.020 - 1.4	0.012	N/A	1.8	n	N	2,4
	120-82-1	1,2,4-Trichlorobenzene	0.12	J	3.2		mg/kg	T1-7-2	5 / 19	0.00091 - 3.0	3.2	N/A	6.2	n	N	2
	309-00-2	Aldrin	--		0.00078	J	mg/kg	G4C	1 / 25	0.00024 - 1.5	0.00078	N/A	0.029	c	N	2,4
	319-84-6	alpha-BHC	0.000029	J	0.000047	J	mg/kg	G1C	2 / 25	0.00022 - 1.5	0.000047	N/A	0.077	c	N	2
	319-85-7	beta-BHC	0.00016	J	0.00031	J	mg/kg	G2C	3 / 25	0.00050 - 1.5	0.00031	N/A	0.27	c	N	2
	58-89-9	gamma-BHC	0.000094	J	0.00040	J	mg/kg	T16C	3 / 25	0.0018 - 1.5	0.00040	N/A	0.52	c	N	2
	57-74-9	Chlordane, total	0.000041	J	0.55	NJ	mg/kg	SS04	10 / 25	0.0020 - 1.5	0.55	N/A	1.6 [a]	c	N	2
	60-57-1	Dieldrin	0.000043	J	16	J	mg/kg	SS03	14 / 24	0.0038 - 0.014	16	N/A	0.030	c	Y	1
	72-54-8	4,4'-DDD	0.000039	J	0.016		mg/kg	T16C	4 / 24	0.0034 - 2.8	0.016	N/A	2.0	c	N	2
	72-55-9	4,4'-DDE	0.012	NJ	56	DNJ	mg/kg	SS03	5 / 23	0.0034 - 0.014	56	N/A	1.4	c	Y	1
	50-29-3	4,4'-DDT	0.00039	J	0.17	J	mg/kg	G1C	9 / 25	0.0038 - 2.8	0.17	N/A	1.7	c	N	2

TABLE 2.28: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB5	959-98-8	alpha-Endosulfan	--		0.0043	J	mg/kg	G1C	1 / 25	0.00024 - 1.5	0.0043	N/A	37 [b]	n	N	2,4
	33213-65-9	beta-Endosulfan	0.00011	J	0.0087	J	mg/kg	G2C	4 / 20	0.00055 - 0.014	0.0087	N/A	37 [b]	n	N	2
	1031-07-8	Endosulfan sulfate	0.00010	J	0.0024	J	mg/kg	G2C	3 / 25	0.00041 - 2.8	0.0024	N/A	NA		Y	5
	7421-93-4	Endrin aldehyde	0.0011	J	5.2	J	mg/kg	SS03	6 / 25	0.00040 - 0.014	5.2	N/A	NA		Y	5
	53494-70-5	Endrin ketone	--		0.00014	J	mg/kg	G5C	1 / 24	0.00045 - 2.8	0.00014	N/A	NA		N	4,5
	1024-57-3	Heptachlor epoxide	0.00014	J	12	NJ	mg/kg	SS03	8 / 25	0.0018 - 0.0071	12	N/A	0.053	c	Y	1
	72-43-5	Methoxychlor	0.00011	J	0.0016	J	mg/kg	T16C	3 / 25	0.018 - 2.8	0.0016	N/A	31	n	N	2
		Total PCB Aroclors [4]	0.0025		924		mg/kg	SS03	561 / 688	0.035 - 0.72	924	N/A	0.11	n	Y	1
	7429-90-5	Aluminum	2,200		35,800	J	mg/kg	SS01	30 / 30	N/A	35,800	8,190 - 13,050	7,700	n	Y	1
	7440-36-0	Antimony	0.14	J	19		mg/kg	T1-7-2	12 / 30	0.0013 - 0.32	19	0.99E - 2.15 J	3.1	n	Y	1
	7440-38-2	Arsenic	1.5	J	38	J	mg/kg	SS01	25 / 30	0.20	38	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	34	D	1,500		mg/kg	T1-5-6	30 / 30	N/A	1,500	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.25		11	D	mg/kg	G4C	20 / 30	0.16	11	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	1.4		40	J	mg/kg	SS04	19 / 30	0.019	40	0.6 - 2.2	7.0	n	Y	1
	7440-70-2	Calcium	168	J	8,600		mg/kg	T1-7-2	26 / 30	143	8,600	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	7.7	D	78	J	mg/kg	SS04	30 / 30	N/A	78	22.7 E - 39.8 E	12,000 [c]	n	N	2
	7440-48-4	Cobalt	2.10		30	J	mg/kg	SS01	30 / 30	N/A	30	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	3.9	J	960		mg/kg	T1-7-2	27 / 27	N/A	960	30.2 E - 315 ED	310	n	Y	1
	57-12-5	Cyanide	0.58	B	0.70	BJ	mg/kg	SS04	2 / 22	0.00029 - 0.18	0.70	0.37 J - 0.65 J	4.7 [d]	n	N	2
	7439-89-6	Iron	6,500	J	88,000		mg/kg	T1-5-6	30 / 30	N/A	88,000	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	3.3		1,000		mg/kg	T1-7-2	30 / 30	N/A	1,000	62.7 E - 270 ED	400	L	Y	1
	7439-95-4	Magnesium	250		5,730	J	mg/kg	SS04	30 / 30	N/A	5,730	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	34	J	1,050	J	mg/kg	T16C	27 / 30	N/A	1,050	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.13		1.5		mg/kg	T1-5-6	21 / 30	0.000070 - 0.045	1.5	0.18 - 0.26	2.3 [e]	n	N	2
	7440-02-0	Nickel	7.2	D	93	J	mg/kg	SS01	30 / 30	N/A	93	22.9 - 34.3	150 [f]	n	N	2
	7440-09-7	Potassium	179	J	1,430	J	mg/kg	T16C	27 / 30	3.5 - 148	1,430	701 - 929.5 E	NA		N	3,5
	7782-49-2	Selenium	0.91	J	7.9		mg/kg	T1-5-6	17 / 30	0.0011 - 0.81	7.9	0.55 - 0.96 J	39	n	N	2
	7440-22-4	Silver	2.2		14	J	mg/kg	SS04	18 / 30	0.037 - 0.17	14	0.54 - 0.72	39	n	N	2
	7440-23-5	Sodium	80		774	BJ	mg/kg	SS01	18 / 30	148	774	266 J - 660	NA		N	3,5
	7440-28-0	Thallium	--		1.2		mg/kg	T1-5-6	1 / 30	0.0021 - 0.36	1.2	--	0.078	n	N	1,4
	7440-62-2	Vanadium	11	J	88	J	mg/kg	SS01	30 / 30	N/A	88	31.1 - 51.9	39	n	Y	1
	7440-66-6	Zinc	25	D	1,000		mg/kg	T1-7-2	30 / 30	N/A	1,000	114 E - 376 ED	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Endosulfan.
c = Screening toxicity value is for Chromium III.
d = Screening toxicity value is for free cyanide (CN-).
e = Screening toxicity value is for mercuric chloride.
f = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.29: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB6
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU)	78-93-3	Methyl ethyl ketone	--		0.0048	J	mg/kg	T17D	1 / 2	0.0029	0.0048	N/A	2,800	n	N	2
Bound Brook 6 (BB6)	83-32-9	Acenaphthene	0.0014	J	0.10	J	mg/kg	T18B	6 / 6	N/A	0.100	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0018	J	0.017		mg/kg	T18B	5 / 6	0.00081	0.017	N/A	NA		Y	5
	98-86-2	Acetophenone	0.0076	J	0.0080	J	mg/kg	T18A	2 / 6	0.046 - 0.05	0.0080	N/A	780	n	N	2
	120-12-7	Anthracene	0.0026	J	0.43		mg/kg	T18B	6 / 6	N/A	0.43	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.0088	J	0.014	J	mg/kg	T18A	2 / 6	0.047 - 0.051	0.014	N/A	780	n	N	2
	56-55-3	Benzo(a)anthracene	0.027	J	2.0	J	mg/kg	T18B	6 / 6	N/A	2.0	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.13	J	1.9		mg/kg	T18B	5 / 6	0.044	1.9	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.060	J	2.3		mg/kg	T18B	6 / 6	N/A	2.3	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.097	J	1.0		mg/kg	T18B	5 / 6	0.069	1.0	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.076	J	0.90		mg/kg	T18B	5 / 6	0.066	0.90	N/A	1.5	c	N	2
	85-68-7	Butyl benzyl phthalate	0.041	J	0.16	J	mg/kg	T18B	4 / 6	0.019 - 0.02	0.160	N/A	260	c	N	2
	92-52-4	Biphenyl	--		0.0038	J	mg/kg	T18A	1 / 6	0.014 - 0.036	0.0038	N/A	5.1	n	N	2
	117-81-7	bis(2-Ethylhexyl) phthalate	0.16	J	6.1	J	mg/kg	T18B	4 / 6	0.015	6.1	N/A	35	c	N	2
	86-74-8	Carbazole	0.0053	J	0.039	J	mg/kg	T18A	2 / 6	0.056 - 0.06	0.039	N/A	NA		Y	5
	218-01-9	Chrysene	0.056	J	1.9	J	mg/kg	T18B	6 / 6	N/A	1.9	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.035		0.30		mg/kg	T18B	5 / 6	0.044	0.30	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	--		0.019	J	mg/kg	T18A	1 / 6	0.014 - 0.22	0.019	N/A	7.8	n	N	2
	117-84-0	di-n-Octyl phthalate	0.055	J	0.16	J	mg/kg	T18B	2 / 6	0.020 - 0.047	0.16	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.024	J	3.5	J	mg/kg	T18B	6 / 6	N/A	3.5	N/A	230	n	N	2
	86-73-7	Fluorene	0.0015	J	0.14	J	mg/kg	T18B	6 / 6	N/A	0.14	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-c,d)pyrene	0.041	J	1.4		mg/kg	T18B	6 / 6	N/A	1.4	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.0026	J	0.020		mg/kg	T18B	6 / 6	N/A	0.020	N/A	23	n	N	2
	91-20-3	Naphthalene	0.0058	B	0.015	B	mg/kg	T18B	3 / 6	0.00048 - 0.0025	0.015	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.026		2.0		mg/kg	T18B	6 / 6	N/A	2.0	N/A	NA		Y	5
	129-00-0	Pyrene	0.19	B	5.4	J	mg/kg	T18B	5 / 6	0.22	5.4	N/A	170	n	N	2
	309-00-2	Aldrin	--		0.0037		mg/kg	T18B	1 / 2	0.00054	0.0037	N/A	0.029	c	N	2
	57-74-9	Chlordane, total	0.0052		0.0080	NJ	mg/kg	T17D	2 / 2	N/A	0.0080	N/A	1.6 [a]	c	N	2
	60-57-1	Dieldrin	--		0.016	NJ	mg/kg	T17D	1 / 1	N/A	0.016	N/A	0.030	c	N	2
	72-55-9	4,4'-DDE	--		0.018	NJ	mg/kg	T18B	1 / 1	N/A	0.018	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.037	J	0.043	NJ	mg/kg	T18B	2 / 2	N/A	0.043	N/A	1.7	c	N	2
	33213-65-9	beta-Endosulfan	--		0.0066	J	mg/kg	T17D	1 / 1	N/A	0.0066	N/A	37 [b]	n	N	2
	53494-70-5	Endrin ketone	--		0.0040	J	mg/kg	T18B	1 / 2	0.00091	0.004	N/A	NA		Y	5
	1024-57-3	Heptachlor epoxide	--		0.0043	NJ	mg/kg	T17D	1 / 1	N/A	0.004	N/A	0.053	c	N	2
	--	Total PCB Aroclors [4]	0.125		62		mg/kg	T17B	6 / 6	N/A	62	N/A	0.11	n	Y	1

TABLE 2.29: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB6
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB6	7429-90-5	Aluminum	8,040	J	16,900	J	mg/kg	T17C	6 / 6	N/A	16,900	8,190 - 13,050	7,700	n	Y	1
	7440-38-2	Arsenic	1.3	J	3.0		mg/kg	T18A	6 / 6	N/A	3.0	7.8 E - 13.55 J	0.390	c	Y	1
	7440-39-3	Barium	76	J	187	J	mg/kg	T17A	6 / 6	N/A	187	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.44	J	0.84	J	mg/kg	T17A	4 / 6	0.0040	0.84	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	1.0		9.4	J	mg/kg	T18B	3 / 6	0.0020 - 0.019	9.4	0.6 - 2.2	7.0	n	Y	1
	7440-70-2	Calcium	812		6,420	J	mg/kg	T18B	6 / 6	N/A	6,420	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	13	J	20	J	mg/kg	T18A	6 / 6	N/A	20	22.7 E - 39.8 E	12,000 [c]	n	N	2
	7440-48-4	Cobalt	2.8		7.4	J	mg/kg	T18A	6 / 6	N/A	7.4	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	4.7	J	36	J	mg/kg	T18B	6 / 6	N/A	36	30.2 E - 315 ED	310	n	N	2
	57-12-5	Cyanide	0.21	J	6.1	J	mg/kg	T18B	4 / 6	0.0040	6.1	0.37 J - 0.65 J	4.7 [d]	n	Y	1
	7439-89-6	Iron	16,500	J	28,600	J	mg/kg	T17B	6 / 6	N/A	28,600	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	32	J	137	J	mg/kg	T18B	6 / 6	N/A	137	62.7 E - 270 ED	400	L	N	2
	7439-95-4	Magnesium	2,420	J	6,450	J	mg/kg	T18B	6 / 6	N/A	6,450	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	110	J	798		mg/kg	T17B	6 / 6	N/A	798	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.048	J	0.19	J	mg/kg	T18B	6 / 6	N/A	0.19	0.18 - 0.26	2.3 [e]	n	N	2
	7440-02-0	Nickel	7.0	J	20	J	mg/kg	T18B	6 / 6	N/A	20	22.9 - 34.3	150 [f]	n	N	2
	7440-09-7	Potassium	741	J	2,100	J	mg/kg	T17B	6 / 6	N/A	2,100	701 - 929.5 E	NA		N	3,5
	7440-22-4	Silver	1.3		2.8	J	mg/kg	T18B	4 / 6	0.0010	2.8	0.54 - 0.72	39	n	N	2
	7440-23-5	Sodium	169	J	245	J	mg/kg	T18A	3 / 6	8.6	245	266 J - 660	NA		N	3,5
	7440-62-2	Vanadium	13	J	24	J	mg/kg	T17C	6 / 6	N/A	24	31.1 - 51.9	39	n	N	2
	7440-66-6	Zinc	23	J	148	J	mg/kg	T18B	6 / 6	N/A	148	114 E - 376 ED	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Endosulfan.
c = Screening toxicity value is for Chromium III.
d = Screening toxicity value is for free cyanide (CN-).
e = Screening toxicity value is for mercuric chloride.
f = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.30: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB6
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Exposure Unit (EU) Bound Brook 6 (BB6)	78-93-3	Methyl ethyl ketone	--		0.0048	J	mg/kg	T17D	1 / 2	0.0029	0.0048	N/A	2,800	n	N	2
	83-32-9	Acenaphthene	0.0014	J	0.17	J	mg/kg	T17D	10 / 12	0.00071 - 0.00075	0.17	N/A	340	n	N	2
	208-96-8	Acenaphthylene	0.0013	J	0.054		mg/kg	T17C	9 / 12	0.00073 - 0.00081	0.054	N/A	NA		Y	5
	98-86-2	Acetophenone	0.0027	J	0.022	J	mg/kg	T17C	4 / 12	0.045 - 0.050	0.022	N/A	780	n	N	2
	120-12-7	Anthracene	0.0026	J	0.71	J	mg/kg	T17D	10 / 12	0.00051 - 0.00054	0.710	N/A	1,700	n	N	2
	100-52-7	Benzaldehyde	0.0061	J	0.11	J	mg/kg	T17D	5 / 12	0.045 - 0.051	0.11	N/A	780	n	N	2
	56-55-3	Benzo(a)anthracene	0.00078	J	2.6	J	mg/kg	T17D	12 / 12	N/A	2.6	N/A	0.15	c	Y	1
	50-32-8	Benzo(a)pyrene	0.094	B	2.0	J	mg/kg	T17D	9 / 12	0.040 - 0.044	2.0	N/A	0.015	c	Y	1
	205-99-2	Benzo(b)fluoranthene	0.060	J	3.6	E	mg/kg	T17D	10 / 12	0.048 - 0.051	3.6	N/A	0.15	c	Y	1
	191-24-2	Benzo(g,h,i)perylene	0.060		1.5	J	mg/kg	T17D	9 / 12	0.062 - 0.069	1.5	N/A	NA		Y	5
	207-08-9	Benzo(k)fluoranthene	0.076	J	3.7	J	mg/kg	T17D	9 / 12	0.060 - 0.066	3.7	N/A	1.5	c	Y	1
	85-68-7	Butyl benzyl phthalate	0.041	J	0.64	J	mg/kg	T17D	6 / 12	0.019 - 0.039	0.64	N/A	260	c	N	2
	92-52-4	Biphenyl	0.004	J	0.041	J	mg/kg	T17C	2 / 12	0.013 - 0.036	0.041	N/A	5.1	n	N	2
	117-81-7	bis(2-Ethylhexyl) phthalate	0.110	J	15	E	mg/kg	T17D	6 / 12	0.015 - 0.094	15	N/A	35	c	N	2
	86-74-8	Carbazole	0.0053	J	0.39		mg/kg	T17C	5 / 12	0.054 - 0.060	0.39	N/A	NA		Y	5
	218-01-9	Chrysene	0.0012	J	2.8		mg/kg	T17C	12 / 12	N/A	2.8	N/A	15	c	N	2
	53-70-3	Dibenzo(a,h)anthracene	0.021	J	0.47	J	mg/kg	T17D	8 / 12	0.040 - 0.044	0.47	N/A	0.015	c	Y	1
	132-64-9	Dibenzofuran	0.0023	J	0.22	J	mg/kg	T17C	3 / 12	0.014 - 0.22	0.22	N/A	7.8	n	N	2
	84-66-2	Diethyl phthalate	--		0.0033	J	mg/kg	T17C	1 / 12	0.021 - 0.042	0.0033	N/A	4,900	n	N	2
	131-11-3	Dimethyl phthalate	--		0.86		mg/kg	T17D	1 / 12	0.020 - 0.043	0.86	N/A	NA		Y	5
	84-74-2	di-n-Butyl phthalate	--		0.41	J	mg/kg	T17D	1 / 12	0.021 - 0.044	0.41	N/A	610	n	N	2
	117-84-0	di-n-Octyl phthalate	0.015	J	0.16	J	mg/kg	T18B	4 / 12	0.020 - 0.047	0.16	N/A	NA		Y	5
	206-44-0	Fluoranthene	0.0010	J	4.3		mg/kg	T17C	12 / 12	N/A	4.3	N/A	230	n	N	2
	86-73-7	Fluorene	0.0015	J	0.22		mg/kg	T17C	10 / 12	0.00057 - 0.00060	0.22	N/A	230	n	N	2
	193-39-5	Indeno(1,2,3-cd)pyrene	0.041	J	1.8	J	mg/kg	T17D	10 / 12	0.034 - 0.036	1.8	N/A	0.15	c	Y	1
	91-57-6	2-Methylnaphthalene	0.0018	J	0.13		mg/kg	T17C	10 / 12	0.00055 - 0.00058	0.13	N/A	23	n	N	2
	106-44-5	4-Methylphenol	--		0.010	J	mg/kg	T17C	1 / 12	0.015 - 0.13	0.010	N/A	610	n	N	2
	91-20-3	Naphthalene	0.0058	B	0.16	B	mg/kg	T17C	6 / 12	0.00044 - 0.0025	0.16	N/A	3.6	c	N	2
	85-01-8	Phenanthrene	0.0013	J	5.4		mg/kg	T17C	12 / 12	N/A	5.4	N/A	NA		Y	5
	129-00-0	Pyrene	0.0031	J	5.5	E	mg/kg	T17D	11 / 12	0.22	5.5	N/A	170	n	N	2
	12672-29-6	Aroclor 1242	--		0.61		mg/kg	T17C	1 / 12	0.0032 - 0.063	0.61	N/A	0.220	c	--	
	11097-69-1	Aroclor 1254	0.016	J	62	E	mg/kg	T17B	11 / 12	0.012 - 0.012	62	N/A	0.11	n	--	
	11096-82-5	Aroclor 1260	0.0067	J	0.16		mg/kg	T17D	8 / 12	0.0074 - 0.065	0.16	N/A	0.220	c	--	
	--	Total PCB Aroclors [4]	0.0227		62		mg/kg	T17B	11 / 12	0.012	62	N/A	0.11	n	Y	1
	309-00-2	Aldrin	--		0.0037		mg/kg	T18B	1 / 2	0.00054	0.0037	N/A	0.029	c	N	2
	5103-71-9	alpha-Chlordane	0.0039	NJ	0.0052	NJ	mg/kg	T18B	2 / 2	N/A	0.0052	N/A	1.6 [a]	c	N	2
	5103-74-2	beta-Chlordane	--		0.0041	NJ	mg/kg	T17D	1 / 2	N/A	0.0041	N/A	1.6 [a]	c	N	2
	57-74-9	Chlordane, total	0.0052		0.0080	NJ	mg/kg	T17D	2 / 2	N/A	0.0080	N/A	1.6 [a]	c	N	2
	60-57-1	Dieldrin	--		0.016	NJ	mg/kg	T17D	1 / 1	N/A	0.016	N/A	0.030	c	N	2
	53494-70-5	Endrin ketone	--		0.0040	J	mg/kg	T18B	1 / 2	0.00091	0.0040	N/A	NA		Y	5
	33213-65-9	beta-Endosulfan	--		0.0066	J	mg/kg	T17D	1 / 1	N/A	0.0066	N/A	37 [b]	n	N	2
	1024-57-3	Heptachlor epoxide	--		0.0043	NJ	mg/kg	T17D	1 / 1	N/A	0.0043	N/A	0.053	c	N	2
	72-55-9	4,4'-DDE	--		0.018	NJ	mg/kg	T18B	1 / 1	N/A	0.018	N/A	1.4	c	N	2
	50-29-3	4,4'-DDT	0.037	J	0.043	NJ	mg/kg	T18B	2 / 2	N/A	0.043	N/A	1.7	c	N	2

TABLE 2.30: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN FLOODPLAIN SOIL EU BB6
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value [2]	Screening Toxicity Value [3]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
EU BB6	7429-90-5	Aluminum	8,040	J	18,600	J	mg/kg	T17B	12 / 12	N/A	18,600	8,190 - 13,050	7,700	n	Y	1
	7440-38-2	Arsenic	0.39	J	6.0	J	mg/kg	T17D	12 / 12	N/A	6.0	7.8 E - 13.55 J	0.39	c	Y	1
	7440-39-3	Barium	71	J	461	J	mg/kg	T17D	12 / 12	N/A	461	142 E - 238	1,500	n	N	2
	7440-41-7	Beryllium	0.44	J	0.84	J	mg/kg	T17A	7 / 12	0.0040	0.84	0.87 - 1.4	16	n	N	2
	7440-43-9	Cadmium	1.0		9.4	J	mg/kg	T18B	5 / 12	0.0020 - 0.019	9.4	0.6 - 2.2	7.0	n	Y	1
	7440-70-2	Calcium	630		6,420	J	mg/kg	T18B	12 / 12	N/A	6,420	3,335 J - 5,670 E	NA		N	3,5
	7440-47-3	Chromium	11	J	33	J	mg/kg	T17D	12 / 12	N/A	33	22.7 E - 39.8 E	12,000 [c]	n	N	2
	7440-48-4	Cobalt	2.8		11	J	mg/kg	T18A	12 / 12	N/A	11	10 E - 16.8 E	2.3	n	Y	1
	7440-50-8	Copper	2.8	J	259	J	mg/kg	T17D	12 / 12	N/A	259	30.2 E - 315 ED	310	n	N	2
	57-12-5	Cyanide	0.071	J	6.1	J	mg/kg	T18B	5 / 12	0.0040	6.1	0.37 J - 0.65 J	4.7 [d]	n	Y	1
	7439-89-6	Iron	16,500	J	40,500	J	mg/kg	T17D	12 / 12	N/A	40,500	20,200 E - 29,800 J	5,500	n	Y	1
	7439-92-1	Lead	13	J	1,340	J	mg/kg	T17D	12 / 12	N/A	1,340	62.7 E - 270 ED	400	L	Y	1
	7439-95-4	Magnesium	2,210		6,450	J	mg/kg	T18B	12 / 12	N/A	6,450	3,470 - 4,670	NA		N	3,5
	7439-96-5	Manganese	56	J	798		mg/kg	T17B	12 / 12	N/A	798	662 ED - 1,650 ED	180	n	Y	1
	7439-97-6	Mercury	0.0073	J	0.69	J	mg/kg	T17D	12 / 12	N/A	0.69	0.18 - 0.26	2.3 [e]	n	N	2
	7440-02-0	Nickel	6.1	J	28	J	mg/kg	T17D	12 / 12	N/A	28	22.9 - 34.3	150 [f]	n	N	2
	7440-09-7	Potassium	613	J	2,100	J	mg/kg	T17B	12 / 12	N/A	2,100	701 - 929.5 E	NA		N	3,5
	7440-22-4	Silver	0.67	J	2.8	J	mg/kg	T18B	8 / 12	0.0010	2.8	0.54 - 0.72	39	n	N	2
	7440-23-5	Sodium	154	J	270	J	mg/kg	T18A	6 / 12	8.6	270	266 J - 660	NA		N	3,5
	7440-62-2	Vanadium	13	J	27	J	mg/kg	T17D	12 / 12	N/A	27	31.1 - 51.9	39	n	N	2
	7440-66-6	Zinc	14	J	657	J	mg/kg	T17D	12 / 12	N/A	657	114 E - 376 ED	2,300	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Background values are concentrations detected in soil samples from the Ambrose Brook floodplain, which was selected as the reference area for floodplain soil within the Study Area (see Appendix B).

[3] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for Resident Soil from April 2012 (USEPA, 2012c) and are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chlordane.
b = Screening toxicity value is for Endosulfan.
c = Screening toxicity value is for Chromium III.
d = Screening toxicity value is for free cyanide (CN-).
e = Screening toxicity value is for mercuric chloride.
f = Screening toxicity value is for nickel, soluble salts.

[4] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
L = USEPA screening level for lead in residential soil

Qualifier Codes:
B = For organics, chemical found in associated blank.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.31: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN PREDATORY FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Predatory Fish Fillet

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value	Screening Toxicity Value [2]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
OU4 Bound Brook	72-54-8	4,4'-DDD	0.004	(J)	0.03	(MI)	mg/kg, wet weight	Area 11 (RM3.41)	3 / 38	0.0036 - 0.0045	0.030	NA	0.013	c	Y	1
Study Area	72-55-9	4,4'-DDE	0.008	(J)	0.06	(MI)	mg/kg, wet weight	Area 11 (RM3.41)	28 / 38	0.0038 - 0.0040	0.060	NA	0.0093	c	Y	1
(excluding Spring Lake)	7421-93-4	Endrin aldehyde	0.005	(J)	0.01	(J)	mg/kg, wet weight	Area 5 (RM4.15)	6 / 38	0.0036 - 0.0045	0.011	NA	NA	n	Y	5
	1024-57-3	Heptachlor epoxide	0.003	(J)	0.04	(J)	mg/kg, wet weight	Area 1 (RM6.54)	21 / 38	0.0038 - 0.0040	0.040	NA	0.00035	c	Y	1
	72-43-5	Methoxychlor	--		0.004	(BJ)	mg/kg, wet weight	Area 5 (RM4.15)	1 / 38	0.0036 - 0.0045	0.0040	NA	0.68	n	N	2,4
	--	Total PCB Aroclors [3]	0.06	(J)	5.3		mg/kg, wet weight	Station 3 (RM6.32)	67 / 67	N/A	5.3	NA	0.0016	c	Y	1
	--	TCDD TEQ (PCBs)	2.9E-06		1.3E-04		mg/kg, wet weight	Station 3 (RM6.32)	7 / 7	N/A	1.3E-04	NA	2.4E-08	c	Y	1
	7429-90-5	Aluminum	3.0		170		mg/kg, wet weight	Area 6 (RM3.52)	32 / 38	2.5 - 3.5	170	NA	140	n	Y	1
	7440-38-2	Arsenic	0.13		0.14		mg/kg, wet weight	Area 6 (RM3.52)	2 / 38	0.070 - 0.15	0.14	NA	0.0021	c	Y	1
	7440-39-3	Barium	0.11		0.58		mg/kg, wet weight	Area 13 (RM2.05)	19 / 38	0.12 - 0.21	0.58	NA	27	n	N	2
	7440-43-9	Cadmium	--		0.18		mg/kg, wet weight	Area 12 (RM3.26)	1 / 38	0.11 - 0.23	0.18	NA	0.14	n	N	1,4
	7440-70-2	Calcium	230		6,500		mg/kg, wet weight	Area 13 (RM2.05)	38 / 38	N/A	6,500	NA	NA		N	3,5
	7440-47-3	Chromium	0.21		2.7		mg/kg, wet weight	Area 13 (RM2.05)	24 / 38	0.18 - 0.36	2.7	NA	200 [a]	n	N	2
	7440-48-4	Cobalt	0.40		0.42		mg/kg, wet weight	Area 13 (RM2.05)	2 / 38	0.18 - 0.36	0.42	NA	0.041	n	Y	1
	7440-50-8	Copper	0.22		3.3		mg/kg, wet weight	Area 1 (RM6.54)	37 / 38	0.32	3.3	NA	5.4	n	N	2
	7439-89-6	Iron	3.2		16		mg/kg, wet weight	Area 5 (RM4.15)	38 / 38	N/A	16	NA	95	n	N	2
	7439-92-1	Lead	0.12		0.19		mg/kg, wet weight	Area 11 (RM3.41)	3 / 38	0.070 - 0.147	0.19	NA	NA		Y	5
	7439-95-4	Magnesium	210		310		mg/kg, wet weight	Area 11 (RM3.41)	38 / 38	N/A	310	NA	NA		N	3,5
	7439-96-5	Manganese	0.14		2.9		mg/kg, wet weight	Area 13 (RM2.05)	38 / 38	N/A	2.9	NA	19	n	N	2
	7439-97-6	Mercury	0.03		0.39		mg/kg, wet weight	Area 13 (RM2.05)	36 / 38	N/A	0.39	NA	0.014 [b]	n	Y	1
	7440-02-0	Nickel	0.90		1.4		mg/kg, wet weight	Area 13 (RM2.05)	2 / 38	0.36 - 0.74	1.4	NA	2.7	n	N	2
	7440-09-7	Potassium	2,700		3,600		mg/kg, wet weight	Area 3 (RM5.17)	38 / 38	N/A	3,600	NA	NA		N	3,5
	7782-49-2	Selenium	0.16		1.1		mg/kg, wet weight	Area 1 (RM6.54)	37 / 38	0.28	1.1	NA	0.68	n	Y	1
	7440-22-4	Silver	0.31		0.34		mg/kg, wet weight	Area 12 (RM3.26)	2 / 38	0.18 - 0.38	0.34	NA	0.68	n	N	2
	7440-23-5	Sodium	340		650		mg/kg, wet weight	Area 2 (RM5.64)	38 / 38	N/A	650	NA	NA		N	3,5
	7440-62-2	Vanadium	--		0.42		mg/kg, wet weight	Area 13 (RM2.05)	1 / 38	0.18 - 0.36	0.42	NA	0.68	n	N	2,4
	7440-66-6	Zinc	8.6		21		mg/kg, wet weight	Area 11 (RM3.41)	38 / 38	N/A	21	NA	41	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for fish ingestion from April 2012 (USEPA, 2012c), which are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chromium III.

b = Screening toxicity value is for methylmercury.

[3] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available

N/A = Not Applicable

Qualifier Codes:

B = For oganics, chemical found in associated blank.

J = Estimated concentration.

MI = Matrix interference.

N = Indicates presumptive evidence of a compound.

W = Sample was weathered; value is estimated.

Rationale Codes:

1 = Maximum concentration exceeds screening toxicity value.

2 = Maximum concentration does not exceed screening toxicity value.

3 = Chemical is an essential nutrient.

4 = Frequency of detection is less than 5%.

5 = No screening toxicity value available.

TABLE 2.32: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN PREDATORY FISH FILLET - SPRING LAKE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Predatory Fish Fillet

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value	Screening Toxicity Value [2]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Spring Lake	72-54-8	4,4'-DDD	--	0.010 (MI)	mg/kg, wet weight	Area 10	1 / 5	0.0038 - 0.0040	0.010	NA	0.013	c	N	2
	72-55-9	4,4'-DDE	0.0040 (MI)	0.020 (MI)	mg/kg, wet weight	Area 10	5 / 5	N/A	0.020	NA	0.0093	c	Y	1
	60-57-1	Dieldrin	--	0.010 (MI)	mg/kg, wet weight	Area 10	1 / 5	0.0038 - 0.0040	0.010	NA	0.0002	c	Y	1
	1024-57-3	Heptachlor epoxide	0.010 (MI)	0.010 (MI)	mg/kg, wet weight	Area 10	2 / 5	0.0038 - 0.0040	0.010	NA	0.00035	c	Y	1
	--	Total PCB Aroclors [3]	0.066	1.3 (W)	mg/kg, wet weight	Area 10	10 / 10	N/A	1.3	NA	0.0016	c	Y	1
	--	TCDD TEQ (PCBs)	--	1.7E-06	mg/kg, wet weight	Station 7	1 / 1	N/A	1.7E-06	NA	2.4E-08	c	Y	1
	7429-90-5	Aluminum	4.1	11	mg/kg, wet weight	Area 10	5 / 5	N/A	11	NA	140	n	N	2
	7440-39-3	Barium	0.25	0.29	mg/kg, wet weight	Area 10	2 / 5	0.19 - 0.22	0.29	NA	27	n	N	2
	7440-70-2	Calcium	180	3,700	mg/kg, wet weight	Area 10	5 / 5	N/A	3,700	NA	NA		N	3,5
	7440-47-3	Chromium	0.55	0.85	mg/kg, wet weight	Area 10	4 / 5	0.32	0.85	NA	200 [a]	n	N	2
	7440-50-8	Copper	0.35	1.9	mg/kg, wet weight	Area 10	4 / 5	0.32	1.9	NA	5.4	n	N	2
	7439-89-6	Iron	2.6	6.0	mg/kg, wet weight	Area 10	5 / 5	N/A	6.0	NA	95	n	N	2
	7439-92-1	Lead	0.20	0.21	mg/kg, wet weight	Area 10	2 / 5	0.13 - 0.14	0.21	NA	NA		Y	5
	7439-95-4	Magnesium	230	310	mg/kg, wet weight	Area 10	5 / 5	N/A	310	NA	NA		N	3,5
	7439-96-5	Manganese	0.26	1.0	mg/kg, wet weight	Area 10	3 / 5	0.13 - 0.14	1.0	NA	19	n	N	2
	7439-97-6	Mercury	0.06	0.24	mg/kg, wet weight	Area 10	5 / 5	N/A	0.24	NA	0.014 [b]	n	Y	1
	7440-09-7	Potassium	3,100	3,400	mg/kg, wet weight	Area 10	5 / 5	N/A	3,400	NA	NA		N	3,5
	7782-49-2	Selenium	0.28	0.40	mg/kg, wet weight	Area 10	5 / 5	N/A	0.40	NA	0.68	n	N	2
	7440-23-5	Sodium	360	520	mg/kg, wet weight	Area 10	5 / 5	N/A	520	NA	NA		N	3,5
	7440-66-6	Zinc	6.6	14	mg/kg, wet weight	Area 10	5 / 5	N/A	14	NA	41	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for fish ingestion from April 2012 (USEPA, 2012c), which are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for Chromium III.
b = Screening toxicity value is for methylmercury.

[3] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable

Qualifier Codes:
MI = Matrix interference.
W = Sample was weathered; value is estimated.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.33: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN BOTTOM-FEEDING FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Bottom-Feeding Fish Fillet

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value	Screening Toxicity Value [2]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
OU4 Bound Brook Study Area (excluding Spring Lake)	5103-71-9	alpha-Chlordane	0.01	(J)	0.31	(J)	mg/kg, wet weight	Area 1 (RM6.54)	17 / 46	0.0036 - 0.0041	0.31	NA	0.009 [a]	c	Y	1
	5103-74-02	gamma-Chlordane	0.005	(J)	0.23	(EJ)	mg/kg, wet weight	Area 1 (RM6.54)	10 / 46	0.0036 - 0.0041	0.23	NA	0.009 [a]	c	Y	1
	72-54-8	4,4'-DDD	0.002	(J)	0.23	(J)	mg/kg, wet weight	Area 1 (RM6.54)	8 / 46	0.0036 - 0.0041	0.23	NA	0.013	c	Y	1
	72-55-9	4,4'-DDE	0.005	(J)	0.31	(EJ)	mg/kg, wet weight	Area 6 (RM3.52)	35 / 46	0.0036 - 0.0041	0.31	NA	0.0093	c	Y	1
	72-20-8	Endrin	--		0.04	(MI)	mg/kg, wet weight	Area 12 (RM 3.26)	1 / 46	0.0036 - 0.0048	0.04	NA	0.041	n	N	2,4
	7421-93-4	Endrin aldehyde	0.06	(J)	0.11	(EJ)	mg/kg, wet weight	Area 5 (RM4.15)	2 / 46	0.0036 - 0.0048	0.11	NA	NA	n	N	4,5
	1024-57-3	Heptachlor epoxide	0.001	(J)	0.11	(EJ)	mg/kg, wet weight	Area 6 (RM3.52)	21 / 46	0.0036 - 0.0041	0.11	NA	0.00035	c	Y	1
	--	Total PCB Aroclors [3]	0.04	(J)	42	(W)	mg/kg, wet weight	Area 12 (RM 3.26)	94 / 94	N/A	42	NA	0.0016	c	Y	1
	--	TCDD TEQ (PCBs)	8.1E-06		8.2E-04		mg/kg, wet weight	Station 2 (RM 6.5)	8 / 8	N/A	8.2E-04	NA	2.4E-08	c	Y	1
	7429-90-5	Aluminum	2.6		250		mg/kg, wet weight	Area 13 (RM2.05)	41 / 46	2.5 - 3.4	250	NA	140	n	Y	1
	7440-38-2	Arsenic	0.11		0.19		mg/kg, wet weight	Area 13 (RM2.05)	2 / 46	0.066 - 0.14	0.19	NA	0.0021	c	N	1,4
	7440-39-3	Barium	0.16		2.2		mg/kg, wet weight	Area 9 (RM6.98)	27 / 46	0.13 - 0.20	2.2	NA	27	n	N	2
	7440-70-2	Calcium	89		4,800		mg/kg, wet weight	Area 9 (RM6.98)	46 / 46	N/A	4,800	NA	NA		N	3,5
	7440-47-3	Chromium	0.21		1.2		mg/kg, wet weight	Area 5 (RM4.15)	35 / 46	0.22 - 0.31	1.2	NA	200 [b]	n	N	2
	7440-48-4	Cobalt	0.34		0.42		mg/kg, wet weight	Area 12 (RM 3.26)	2 / 46	0.16 - 0.36	0.42	NA	0.04	n	N	1,4
	7440-50-8	Copper	0.23		9.1		mg/kg, wet weight	Area 11 (RM 3.41)	46 / 46	N/A	9.1	NA	5.4	n	Y	1
	7439-89-6	Iron	3.4		25		mg/kg, wet weight	Area 9 (RM6.98)	46 / 46	N/A	25	NA	95	n	N	2
	7439-92-1	Lead	0.17		0.22		mg/kg, wet weight	Area 5 (RM4.15)	2 / 46	0.066 - 0.14	0.22	NA	NA		N	4,5
	7439-95-4	Magnesium	130		300		mg/kg, wet weight	Area 9 (RM6.98)	46 / 46	N/A	300	NA	NA		N	3,5
	7439-96-5	Manganese	0.15		4.1		mg/kg, wet weight	Area 9 (RM6.98)	45 / 46	0.10	4.1	NA	19	n	N	2
	7439-97-6	Mercury	0.03		0.20		mg/kg, wet weight	Area 2 (RM5.64)	37 / 46	0.029 - 0.38	0.20	NA	0.014 [c]	n	Y	1
	7440-02-0	Nickel	0.63		0.86		mg/kg, wet weight	Area 3 (RM5.17)	4 / 46	0.32 - 0.71	0.86	NA	2.7	n	N	2
	7440-09-7	Potassium	2,000		4,000		mg/kg, wet weight	Area 3 (RM5.17)	46 / 46	N/A	4,000	NA	NA		N	3,5
	7782-49-2	Selenium	0.18		0.86		mg/kg, wet weight	Area 1 (RM6.54)	43 / 46	0.12 - 0.21	0.86	NA	0.68	n	Y	1
	7440-22-4	Silver	0.34		0.42		mg/kg, wet weight	Area 12 (RM 3.26)	2 / 46	0.16 - 0.36	0.42	NA	0.68	n	N	2,4
	7440-23-5	Sodium	240		550		mg/kg, wet weight	Area 9 (RM6.98)	46 / 46	N/A	550	NA	NA		N	3,5
	7440-62-2	Vanadium	0.31		0.45		mg/kg, wet weight	Area 12 (RM 3.26)	2 / 46	0.16 - 0.36	0.45	NA	0.68	n	N	2,4
	7440-66-6	Zinc	4.0		25		mg/kg, wet weight	Area 9 (RM6.98)	46 / 46	N/A	25	NA	41	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for fish ingestion from April 2012 (USEPA, 2012c), which are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for chlordane.
b = Screening toxicity value is for Chromium III.
c = Screening toxicity value is for methylmercury.

[3] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable

Qualifier Codes:
E = Concentration exceeds calibration range of GC/MS instrument.
J = Estimated concentration.
MI = Matrix interference.
N = Indicates presumptive evidence of a compound.
W = Sample was weathered; value is estimated.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.34: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN BOTTOM-FEEDING FISH FILLET - SPRING LAKE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Bottom-Feeding Fish Fillet

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value	Screening Toxicity Value [2]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
Spring Lake	5103-71-9	alpha-Chlordane	0.06	(MI)	0.25	(MI)	mg/kg, wet weight	Area 10	6 / 6	N/A	0.25	NA	0.009 [a]	c	Y	1
	5103-74-02	gamma-Chlordane	0.03	(MI)	0.16	(MI)	mg/kg, wet weight	Area 10	6 / 6	N/A	0.16	NA	0.009 [a]	c	Y	1
	72-54-8	4,4'-DDD	0.04	(MI)	0.10	(MI)	mg/kg, wet weight	Area 10	3 / 6	0.0038 - 0.0040	0.10	NA	0.013	c	Y	1
	72-55-9	4,4'-DDE	0.03	(MI)	0.11	(MI)	mg/kg, wet weight	Area 10	6 / 6	N/A	0.11	NA	0.0093	c	Y	1
	60-57-1	Dieldrin	0.01	(MI)	0.06	(MI)	mg/kg, wet weight	Area 10	3 / 6	0.0038 - 0.0040	0.06	NA	0.0002	c	Y	1
	1024-57-3	Heptachlor Epoxide	0.01	(MI)	0.05	(MI)	mg/kg, wet weight	Area 10	3 / 6	0.0038 - 0.0040	0.05	NA	0.00035	c	Y	1
	--	Total PCB Aroclors [3]	0.24	(J)	17	(J)	mg/kg, wet weight	Station 7	17 / 17	N/A	17	NA	0.0016	c	Y	1
	--	TCDD TEQ (PCBs)	1.7E-05		4.4E-05		mg/kg, wet weight	Station 7	2 / 2	0.019 - 5.0	4.4E-05	NA	2.4E-08	c	Y	1
	7429-90-5	Aluminum	4.5		8.3		mg/kg, wet weight	Area 10	6 / 6	N/A	8.3	NA	140	n	N	2
	7440-38-2	Arsenic	--		0.16		mg/kg, wet weight	Area 10	1 / 6	0.11 - 0.15	0.16	NA	0.0021	c	Y	1
	7440-39-3	Barium	--		0.32		mg/kg, wet weight	Area 10	1 / 6	0.17 - 0.22	0.32	NA	27	n	N	2
	7440-70-2	Calcium	170		510		mg/kg, wet weight	Area 10	6 / 6	N/A	510	NA	NA		N	3,5
	7440-47-3	Chromium	0.32		0.58		mg/kg, wet weight	Area 10	5 / 6	0.36	0.58	NA	200 [b]	n	N	2
	7440-48-4	Cobalt	0.35		0.40		mg/kg, wet weight	Area 10	2 / 6	0.28 - 0.38	0.40	NA	0.04	n	Y	1
	7440-50-8	Copper	0.27		3.6		mg/kg, wet weight	Area 10	6 / 6	N/A	3.6	NA	5.4	n	N	2
	7439-89-6	Iron	4.0		12		mg/kg, wet weight	Area 10	6 / 6	N/A	12	NA	95	n	N	2
	7439-92-1	Lead	--		0.18		mg/kg, wet weight	Area 10	1 / 6	0.11 - 0.15	0.18	NA	NA		Y	5
	7439-95-4	Magnesium	230		280		mg/kg, wet weight	Area 10	6 / 6	N/A	280	NA	NA		N	3,5
	7439-96-5	Manganese	0.15		0.33		mg/kg, wet weight	Area 10	5 / 6	0.15	0.33	NA	19	n	N	2
	7439-97-6	Mercury	0.09		0.16		mg/kg, wet weight	Area 10	6 / 6	N/A	0.16	NA	0.014 [c]	n	Y	1
	7440-02-0	Nickel	--		1.8		mg/kg, wet weight	Area 10	1 / 6	0.55 - 0.76	1.8	NA	2.7	n	N	2
	7440-09-7	Potassium	2,800		3,900		mg/kg, wet weight	Area 10	6 / 6	N/A	3,900	NA	NA		N	3,5
	7782-49-2	Selenium	0.24		0.40		mg/kg, wet weight	Area 10	6 / 6	N/A	0.40	NA	0.68	n	N	2
	7440-23-5	Sodium	300		410		mg/kg, wet weight	Area 10	6 / 6	N/A	410	NA	NA		N	3,5
	7440-62-2	Vanadium	0.40		0.45		mg/kg, wet weight	Area 10	2 / 6	0.28 - 0.38	0.45	NA	0.68	n	N	2
	7440-66-6	Zinc	8.5		20		mg/kg, wet weight	Area 10	6 / 6	N/A	20	NA	41	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] The relevant screening toxicity values are the USEPA Regional Screening Levels (RSL) for fish ingestion from April 2012 (USEPA, 2012c), which are based on either a cancer (c) risk of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

a = Screening toxicity value is for chlordane.
b = Screening toxicity value is for Chromium III.
c = Screening toxicity value is for methylmercury.

[3] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable

Qualifier Codes:
J = Estimated concentration.
MI = Matrix interference.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum concentration exceeds screening toxicity value.
2 = Maximum concentration does not exceed screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value available.

TABLE 2.35: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN ASIATIC CLAMS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Biota
Exposure Medium: Asiatic Clams

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value	Screening Toxicity Value [2]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
OU4 Bound Brook Study Area	--	Total PCB Aroclors [3]	0.06 (N)	2.76 (J)	mg/kg, wet weight	Station 3, Rep. 2 (RM6.32)	14 / 15	Not applicable	2.76	NA	0.019	c	Y	1
	--	TCDD TEQ (PCBs)	3.1E-06	3.3E-05	mg/kg, wet weight	Station 5, Rep. 3 (RM5.19)	5 / 5	Not applicable	3.3E-05	NA	3E-07	c	Y	1

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Screening toxicity values are the USEPA Regional Screening Levels (RSL) for fish from May 2012 (USEPA, 2012c), adjusted to reflect a shellfish consumption rate equivalent to 8.2% of the default fish consumption rate of 54 g/day (4.4 g/day) (USEPA, 2011). The RSLs are based on either a cancer risk (c) of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

[3] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available
N/A = Not Applicable
Rep. = replicate

Qualifier Codes:
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum detected concentration exceeds screening toxicity value.
2 = Maximum detected concentration is less than screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value is available.

TABLE 2.36: OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN CRAYFISH
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota
Exposure Medium:	Crayfish

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)		Maximum Concentration (Qualifier)		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits [1]	Concentration Used for Screening	Background Value	Screening Toxicity Value [2]	Basis	COPC Flag [Y/N]	Rationale for Selection or Deletion
OU4 Bound Brook Study Area	117-81-7	bis(2-Ethylhexyl)phthalate	0.25	(J)	0.80	(J)	mg/kg, wet weight	Area 4, Rep. 3 (RM4.62)	15 / 15	N/A	0.80	NA	2.8	c	N	2
	84-66-2	Diethyl phthalate	--		0.83	(J)	mg/kg, wet weight	Area 5, Rep. 1 (RM4.15)	1 / 15	2.3 - 5.0	0.83	NA	13,415	n	N	2
	84-74-2	Di-n-butyl phthalate	0.42	(J)	1.9	(JN)	mg/kg, wet weight	Area 3, Rep. 13 (RM5.17)	14 / 15	3.4	1.9	NA	1,707	n	N	2
	78-59-1	Isophorone	--		0.40	(J)	mg/kg, wet weight	Area 9, Rep. 3 (RM6.98)	1 / 15	2.4 - 5.0	0.40	NA	40	c	N	2
	11097-69-1	Aroclor 1254	0.40	(J)	2.4	(J)	mg/kg, wet weight	Area 2, Rep. 3 (RM5.64)	29 / 38	0.13 - 0.40	2.4	NA	0.000	c	--	
	--	Total PCB Aroclors [3]	0.40	(J)	2.4	(J)	mg/kg, wet weight	Area 2, Rep. 3 (RM5.64)	29 / 38	0.13 - 0.40	2.4	NA	0.02	c	Y	1
	7429-90-5	Aluminum	8.2		240		mg/kg, wet weight	Area 9, Rep. 2 (RM6.98)	25 / 38	13 - 130	240	NA	17,073	n	N	2
	7440-36-0	Antimony	--		1.5		mg/kg, wet weight	Area 3, Rep. 14 (RM5.17)	1 / 38	0.23 - 4.6	1.5	NA	6.6	n	N	2,4
	7440-38-2	Arsenic	0.39		0.93		mg/kg, wet weight	Area 3, Rep. 14 (RM5.17)	2 / 38	0.19 - 3.8	0.93	NA	0.03	c	Y	1
	7440-39-3	Barium	0.96		140		mg/kg, wet weight	Area 9, Rep. 2 (RM6.98)	38 / 38	N/A	140	NA	3,293	n	N	2
	7440-43-9	Cadmium	0.23		5.4		mg/kg, wet weight	Area 9, Rep. 2 (RM6.98)	26 / 38	0.26 - 2.6	5.4	NA	17	n	N	2
	7440-70-2	Calcium	650		61,000		mg/kg, wet weight	Area 9, Rep. 2 (RM6.98)	38 / 38	N/A	61,000	NA	NA		N	3,5
	7440-47-3	Chromium	--		0.89		mg/kg, wet weight	Area 3, Rep. 14 (RM5.17)	1 / 38	0.20 - 4.0	0.89	NA	24,390	n	N	2,4
	7440-48-4	Cobalt	0.07		0.68		mg/kg, wet weight	Area 3, Rep. 14 (RM5.17)	7 / 38	0.070 - 1.4	0.68	NA	5.0	n	N	2
	7440-50-8	Copper	3.9		70		mg/kg, wet weight	Area 2, Rep. 3 (RM5.64)	38 / 38	N/A	70	NA	659	n	N	2
	7439-89-6	Iron	7.8		710		mg/kg, wet weight	Area 9, Rep. 2 (RM6.98)	38 / 38	N/A	710	NA	11,585	n	N	2
	7439-92-1	Lead	0.27	(J)	6.5		mg/kg, wet weight	Area 9, Rep. 2 (RM6.98)	32 / 38	0.26 - 2.6	6.5	NA	NA		Y	5
	7439-95-4	Magnesium	27		700		mg/kg, wet weight	Area 9, Rep. 2 (RM6.98)	38 / 38	N/A	700	NA	NA		N	3,5
	7439-96-5	Manganese	2.5		260		mg/kg, wet weight	Area 2, Rep. 11 (RM5.64)	38 / 38	N/A	260	NA	2,317	n	N	2
	7439-97-6	Mercury	0.02		0.04		mg/kg, wet weight	Area 9, Rep. 14 (RM6.98)	10 / 38	0.015 - 0.020	0.04	NA	1.7	n	N	2
	7440-02-0	Nickel	0.23		0.42		mg/kg, wet weight	Area 3, Rep. 14 (RM5.17)	4 / 38	0.11 - 2.2	0.42	NA	329	n	N	2
	7440-09-7	Potassium	390		3,100		mg/kg, wet weight	Area 2, Rep. 10 (RM5.64)	38 / 38	N/A	3,100	NA	NA		N	3,5
	7782-49-2	Selenium	0.44		1.4		mg/kg, wet weight	Area 3, Rep. 17 (RM5.17)	21 / 38	0.50 - 5.0	1.4	NA	83	n	N	2
	7440-22-4	Silver	0.19		2.5		mg/kg, wet weight	Area 2, Rep. 3 (RM5.64)	32 / 38	0.035 - 1.4	2.5	NA	83	n	N	2
	7440-23-5	Sodium	300		2,300		mg/kg, wet weight	Area 3, Rep. 19 (RM5.17)	38 / 38	N/A	2,300	NA	NA		N	3,5
	7440-62-2	Vanadium	0.10		1.1		mg/kg, wet weight	Area 9, Rep. 2 (RM6.98)	17 / 38	0.070 - 1.4	1.1	NA	83	n	N	2
	7440-66-6	Zinc	2.2		39		mg/kg, wet weight	Area 3, Rep. 14 (RM5.17)	38 / 38	N/A	39	NA	5,000	n	N	2

Notes

[1] Detection limits are equivalent to sample reporting limits.

[2] Screening toxicity values are the USEPA Regional Screening Levels (RSL) for fish from May 2012 (USEPA, 2012c), adjusted to reflect a shellfish consumption rate equivalent to 8.2% of the default fish consumption rate of 54 g/day (4.4 g/day) (USEPA, 2011). The RSLs are based on either a cancer risk (c) of one in a million (i.e., 10^{-6} cancer risk level) or a non-cancer (n) hazard quotient (HQ) of 1. Consistent with USEPA, Region 2 guidance, RSLs based on non-cancer effects were reduced by a factor of 10 to represent a target HQ of 0.1. Where a cancer risk-based RSL was greater than the resultant non-cancer 0.1 HQ-based RSL, the applicable screening toxicity value is the non-cancer based level.

[3] Selection of PCB Aroclors as a COPC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample. For crayfish samples, only Aroclor 1254 was detected.

NA = Not Available
N/A = Not Applicable
Rep. = replicate

Qualifier Codes:
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Rationale Codes:
1 = Maximum detected concentration exceeds screening toxicity value.
2 = Maximum detected concentration is less than screening toxicity value.
3 = Chemical is an essential nutrient.
4 = Frequency of detection is less than 5%.
5 = No screening toxicity value is available.

TABLE 3.1: EXPOSURE POINT CONCENTRATION SUMMARY FOR SURFACE WATER
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit:	Bound Brook Study Area
Exposure Medium:	Surface Water

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	µg/L	7.3	N/A	8.8	8.8	µg/L	Maximum detected concentration	Data set consists of greater than 70% non-detected observations.
	Trichloroethene	µg/L	3.1	N/A	3.7 (J)	3.7	µg/L	Maximum detected concentration	Data set consists of greater than 70% non-detected observations.
	Total PCB Congeners	µg/L	0.079	0.11 (G)	0.26	0.11	µg/L	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00
	Arsenic	µg/L	3.5	3.9 (N)	4.7 (J)	3.9	µg/L	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00
	Cyanide	µg/L	9.7	11 (N)	12 (J)	11	µg/L	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00
	Manganese	µg/L	174	208 (N)	277 (J)	208	µg/L	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:

J = Estimated concentration.

Data Distribution Codes:

G = Gamma

N = Normal

TABLE 3.2: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU GB
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Benzo(a)anthracene	mg/kg	0.37	0.44 (NP)	0.74	0.44	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
Green Brook (GB)	Benzo(a)pyrene	mg/kg	0.38	0.45 (NP)	0.77	0.45	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	0.60	0.71 (NP)	1.2	0.71	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.37	N/A	0.37	0.37	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dibenzo(a,h)anthracene	mg/kg	0.13	N/A	0.13 (J)	0.13	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Indeno(1,2,3-cd)pyrene	mg/kg	0.23	0.27 (NP)	0.44	0.27	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.36	0.42 (NP)	0.72	0.42	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	5,610	9,961 (N)	11,400	9,961	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	1.7	2.1 (N)	2.6 (J)	2.1	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	6.4	7.6 (N)	9.2 (D)	7.6	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	15,743	19,016 (N)	25,000 (D)	19,016	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	171	237 (N)	299 (J)	237	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	20	46 (NP)	54 (J)	46	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
D = Sample dilution was performed.
J = Estimated concentration.

Data Distribution Codes:
N = Normal
NP = Nonparametric

TABLE 3.3: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU GB
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Benzo(a)anthracene	mg/kg	1.7	0.48 (NP)	1.7	0.48	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
Green Brook (GB)	Benzo(a)pyrene	mg/kg	1.5	0.43 (NP)	1.5	0.43	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	2.1	0.64 (NP)	2.1	0.64	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.43	N/A	0.68	0.68	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dibenzo(a,h)anthracene	mg/kg	0.18	N/A	0.26	0.26	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.39	0.28 (NP)	0.87	0.28	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.97	0.73 (NP)	3.0	0.73	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg	0.074	N/A	0.16	0.16	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Aluminum	mg/kg	7,697	8,452 (N)	11,900	8,452	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	4.1	2.2 (NP)	4.1 (D)	2.2	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	5.8	6.3 (N)	9.2 (D)	6.3	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	14,299	15,929 (G)	27,000	15,929	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	133	161 (G)	299 (J)	161	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	19	22 (G)	54 (J)	22	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
D = Sample dilution was performed.
J = Estimated concentration.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.4: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU BB1
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.24	1.5 (NP)	3.1	1.5	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 1 (BB1)	Benzidine	mg/kg	15	N/A	15 (J)	15	mg/kg	Maximum detected concentration.	Data set consists of one sample.
	Benzo(a)anthracene	mg/kg	1.8	3.4 (NP)	8.3	3.4	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	2.0	4.2 (NP)	13	4.2	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	2.4	4.4 (NP)	11	4.4	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	1.2	2.7 (NP)	9.0	2.7	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	1.6	3.0 (NP)	9.1	3.0	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.13	0.11 (NP)	0.29 (J)	0.11	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.34	0.75 (NP)	2.4	0.75	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-cd)pyrene	mg/kg	1.2	2.5 (NP)	7.5	2.5	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	p-Isopropyltoluene	mg/kg	0.0010	N/A	0.0010 (J)	0.0010	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Phenanthrene	mg/kg	2.1	5.0 (NP)	17	5.0	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	delta-BHC	mg/kg	0.0020	N/A	0.0020 (J)	0.0020	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endrin aldehyde	mg/kg	0.0040	N/A	0.0067 (J)	0.0067	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endrin ketone	mg/kg	0.011	N/A	0.020 (J)	0.020	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Total PCB Aroclors	mg/kg	1.3	6.4 (NP)	11	6.4	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	10,455	22,417 (NP)	72,500	22,417	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	3.9	8.2 (NP)	23	8.2	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	12	22 (NP)	46 (J)	22	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg	68	112 (G)	829 (J)	112	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	28,844	75,038 (NP)	281,000	75,038	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	312	710 (NP)	2,410 (J)	710	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	19	33 (NP)	77 (J)	33	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
J = Estimated concentration.

Data Distribution Codes:
G = Gamma
NP = Nonparametric

TABLE 3.5: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU BB1
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.13	0.48 (NP)	3.1	0.48	mg/kg	97.5% KM (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 1 (BB1)	Benzidine	mg/kg	15	N/A	15 (J)	15	mg/kg	Maximum detected concentration.	Data set consists of one sample.
	Benzo(a)anthracene	mg/kg	8.3	2.2 (NP)	8.3	2.2	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	1.5	2.5 (NP)	13	2.5	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	2.0	2.9 (NP)	11	2.9	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.89	1.6 (NP)	9.0	1.6	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	1.2	1.9 (NP)	9.1	1.9	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.14	N/A	0.34 (J)	0.34	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dibenzo(a,h)anthracene	mg/kg	0.26	0.29 (NP)	2.4	0.29	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-c,d)pyrene	mg/kg	1.0	1.6 (NP)	7.5	1.6	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	p-Isopropyltoluene	mg/kg	0.0010	N/A	0.0010 (J)	0.0010	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Phenanthrene	mg/kg	1.6	2.9 (NP)	17	2.9	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin aldehyde	mg/kg	0.0043	N/A	0.0068 (J)	0.0068	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endrin ketone	mg/kg	0.0092	N/A	0.020 (J)	0.020	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Total PCB Aroclors	mg/kg	0.83	2.3 (NP)	11	2.3	mg/kg	97.5% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	9,728	16,181 (NP)	72,500	16,181	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	3.0	5.2 (NP)	23	5.2	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	2.7	2.6 (NP)	25	2.6	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	14	34 (NP)	230 (D)	34	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg	193	1,005 (NP)	6,550 (D)	1,005	mg/kg	97.5% Chebyshev (Mean, Sd) UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.
	Iron	mg/kg	24,360	47,227 (NP)	281,000	47,227	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	223	368 (NP)	2,410 (J)	368	mg/kg	95% BCA Bootstrap UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.
	Vanadium	mg/kg	16	19 (ND)	77 (J)	19	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable

Qualifier Codes:
D = Sample dilution was performed.
J = Estimated concentration.

Data Distribution Codes:
LG = Lognormal
ND = Not Discernible
NP = Nonparametric

TABLE 3.6: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU BB2
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.013	0.017 (NP)	0.024 (J)	0.17	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 2 (BB2)	Benzidine	mg/kg	18	N/A	19	19	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Benzo(a)anthracene	mg/kg	1.7	2.1 (NP)	3.4 (J)	2.1	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	1.9	2.4 (NP)	3.5 (J)	2.4	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	2.9	3.7 (NP)	5.7 (J)	3.7	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	1.3	1.6 (NP)	2.4 (J)	1.6	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	1.8	2.4 (NP)	4.5 (J)	2.4	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	bis(2-Ethylhexyl) phthalate	mg/kg	17	26 (N)	47 (J)	26	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.13	N/A	0.18 (J)	0.18	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dibenzo(a,h)anthracene	mg/kg	0.44	0.62 (NP)	1.0	0.62	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	di-n-Octylphthalate	mg/kg	5.2	24 (G)	25	24	mg/kg	95% Adjusted Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-cd)pyrene	mg/kg	1.6	2.1 (NP)	3.1 (J)	2.1	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	1.1	1.4 (NP)	2.0	1.4	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin ketone	mg/kg	0.0059	N/A	0.0059 (J)	0.0059	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Total PCB Aroclors	mg/kg	2.6	3.5 (N)	4.7	3.5	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	13,779	17,251 (N)	22,300 (J)	17,251	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	4.4	7.4 (G)	13	7.4	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	16	30 (G)	68	30	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	9.3	12 (N)	21	12	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	23,227	28,480 (N)	36,100 (J)	28,480	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	301	402 (N)	642 (J)	402	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	25	33 (N)	51	33	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
J = Estimated concentration.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.7: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU BB2
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.014	0.0084 (NP)	0.024 (J)	0.0084	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 2 (BB2)	Benzidine	mg/kg	18	N/A	19	19	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Benzo(a)anthracene	mg/kg	0.86	2.4 (NP)	3.4 (J)	2.4	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	1.3	1.3 (NP)	4.8	1.3	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	1.5	4.2 (NP)	5.7 (J)	4.2	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.66	1.7 (NP)	2.4 (J)	1.7	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	1.0	2.7 (NP)	4.5 (J)	2.7	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	bis-(2-Ethylhexyl) phthalate	mg/kg	20	20 (NP)	130 (E)	20	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.13	N/A	0.18 (J)	.0.18	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dibenzo(a,h)anthracene	mg/kg	0.31	0.23 (NP)	1.0	0.23	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	di-n-Octylphthalate	mg/kg	4.9	3.4 (NP)	25	3.4	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.80	2.3 (NP)	3.1 (J)	2.3	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.47	1.5 (NP)	2.0	1.5	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dieldrin	mg/kg	0.051	N/A	0.085 (NJ)	0.085	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Total PCB Aroclors	mg/kg	1.9	4.3 (NP)	4.7	4.3	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	12,310	14,053 (N)	23,800 (J)	14,053	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	3.9	3.5 (NP)	13	3.5	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	9.8	22 (NP)	68	22	mg/kg	97.5% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	6.4	7.9 (G)	21	7.9	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	16,846	19,951 (G)	36,100 (J)	19,951	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	172	377 (NP)	791 (J)	377	mg/kg	97.5% Chebyshev (Mean, Sd) UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.
	Vanadium	mg/kg	20	23 (N)	51	23	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
E = For organics, concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes:
G = Gamma
LG = Lognormal
N = Normal
NP = Nonparametric

TABLE 3.8: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.11	0.65 (NP)	0.60 (J)	0.60	mg/kg	Maximum detected concentration.	Recommended UCL exceeds maximum detected concentration.
Bound Brook 3 (BB3)	Benzidine	mg/kg	30	50 (NP)	81 (J)	50	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)anthracene	mg/kg	2.5	4.8 (NP)	8.3	4.8	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	2.4	6.8 (NP)	6.4	6.4	mg/kg	Maximum detected concentration.	Recommended UCL exceeds maximum detected concentration.
	Benzo(b)fluoranthene	mg/kg	3.7	4.5 (NP)	7.7 (J)	4.5	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	1.5	1.9 (NP)	3.1	1.9	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	1.5	2.9 (NP)	5.2 (J)	2.9	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	bis-(2-Ethylhexyl) phthalate	mg/kg	10	19 (NP)	38 (B)	19	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.26	0.25 (NP)	0.36	0.25	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.39	0.53 (NP)	0.86 (J)	0.53	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	di-n-Octylphthalate	mg/kg	5.1	25 (NP)	35	25	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-cd)pyrene	mg/kg	1.8	2.2 (NP)	3.4 (J)	2.2	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	2.8	6.1 (NP)	14	6.1	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dieldrin	mg/kg	0.25	N/A	0.30 (J)	0.30	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endrin aldehyde	mg/kg	0.013	N/A	0.018 (NJ)	0.018	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endrin ketone	mg/kg	0.010	N/A	0.010 (J)	0.010	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Total PCB Aroclors	mg/kg	3.5	6.5 (NP)	25	6.5	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	9,304	12,182 (G)	22,900	12,182	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	4.4	6.4 (G)	12	6.4	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	6.8	13 (NP)	16	13	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	9.5	21 (NP)	45 (J)	21	mg/kg	95% Chebyshev (Mean, Sd) UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.
	Iron	mg/kg	15,854	18,935 (N)	30,300	18,935	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	187	352 (NP)	500	352	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	22	29 (G)	52	29	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable

Qualifier Codes:
B = For organics, chemical found in associated blank.
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes:
G = Gamma
LG = Lognormal
N = Normal
NP = Nonparametric

TABLE 3.9: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.059	0.11 (NP)	0.60 (J)	0.11	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 3 (BB3)	Benzidine	mg/kg	30	50 (NP)	81 (J)	50	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)anthracene	mg/kg	1.8	4.1 (NP)	8.3	4.1	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	2.0	3.9 (NP)	6.4	3.9	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	3.0	6.1 (NP)	9.6 (EX)	6.1	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	1.3	1.1 (NP)	3.5	1.1	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	1.4	1.4 (NP)	9.0 (EX)	1.4	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	bis-(2-Ethylhexyl) phthalate	mg/kg	9.4	6.0 (NP)	38 (B)	6.0	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.24	N/A	0.36	0.36	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dibenzo(a,h)anthracene	mg/kg	0.38	0.31 (NP)	1.7	0.31	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	di-n-Octylphthalate	mg/kg	5.1	N/A	35	35	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Indeno(1,2,3-c,d)pyrene	mg/kg	1.7	3.3 (NP)	5.9	3.3	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	2.0	2.0 (NP)	14	2.0	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	alpha-BHC	mg/kg	0.029	0.022 (NP)	0.17	0.022	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dieldrin	mg/kg	0.24	N/A	0.48 (JN)	0.48	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endrin aldehyde	mg/kg	0.057	N/A	0.19 (PE)	0.19	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Heptachlor epoxide	mg/kg	0.52	N/A	1.2 (JN)	1.2	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Total PCB Aroclors	mg/kg	4.0	7.2 (NP)	39	7.2	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	8,863	10,605 (G)	26,900	10,605	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	3.4	4.9 (NP)	12	4.9	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	6.5	5.3 (NP)	17	5.3	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	7.7	13 (NP)	45 (J)	13	mg/kg	95% Chebyshev (Mean, Sd) UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.
	Iron	mg/kg	12,885	14,911 (G)	30,300	14,991	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	105	185 (NP)	500	185	mg/kg	95% Chebyshev (Mean, Sd) UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.
	Vanadium	mg/kg	20	28 (NP)	52	28	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable

Qualifier Codes:
B = For organics, chemical found in associated blank.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.
N = Chemical was tentatively identified.
P = Observed >25% difference between the two GC columns.
X = Detected concentrations of this chemical were not chromatographically resolved

Data Distribution Codes:
G = Gamma
LG = Lognormal
NP = Nonparametric

TABLE 3.10: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.0077	0.010 (NP)	0.026 (J)	0.010	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 4 (BB4)	Benzidine	mg/kg	19	N/A	20	20	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Benzo(a)anthracene	mg/kg	1.3	1.7 (N)	2.9	1.7	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	1.2	1.6 (N)	2.6	1.6	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	1.8	2.3 (N)	4.2	2.3	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.86	1.5 (NP)	1.9	1.5	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.13	0.13 (NP)	0.22 (J)	0.13	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.16	0.22 (NP)	0.46	0.22	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	di-n-Octylphthalate	mg/kg	0.97	2.5 (NP)	4.0	2.5	mg/kg	97.5% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.93	1.2 (N)	2.2	1.2	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	p-Isopropyltouene	mg/kg	0.080	N/A	0.080 (J)	0.080	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Phenanthrene	mg/kg	1.3	1.6 (N)	3.0	1.6	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Endosulfan sulfate	mg/kg	0.013	N/A	0.013 (NJ)	0.013	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endrin aldehyde	mg/kg	0.014	0.019 (NP)	0.027 (JN)	0.019	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin ketone	mg/kg	0.011	N/A	0.013 (J)	0.013	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Total PCB Aroclors	mg/kg	4.8	8.4 (NP)	39	8.4	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	7,070	7,999 (N)	11,000	7,999	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	2.6	5.8 (NP)	12	5.8	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	3.1	6.4 (NP)	12	6.4	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	5.6	6.7 (G)	12	6.7	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	17,710	20,874 (N)	28,000	20,874	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	490	1,339 (NP)	3,060 (J)	1,339	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	14	18 (ND)	46	18	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes:
G = Gamma
N = Normal
ND = Not Discernible
NP = Nonparametric

TABLE 3.11: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.0064	0.0069 (NP)	0.026 (J)	0.0069	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 4 (BB4)	Benzidine	mg/kg	19	N/A	20	20	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Benzo(a)anthracene	mg/kg	1.1	1.3 (N)	2.9	1.3	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	0.99	1.2 (NP)	2.6	1.2	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	1.4	2.4 (NP)	4.2	2.4	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.62	1.6 (NP)	1.9	1.6	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.12	0.10 (NP)	0.22 (J)	0.10	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.14	0.17 (NP)	0.46	0.17	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	di-n-Octylphthalate	mg/kg	0.76	1.6 (NP)	4.0	1.6	mg/kg	97.5% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.74	1.2 (NP)	2.2	1.2	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	p-Isopropyltouene	mg/kg	0.080	N/A	0.080 (J)	0.080	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Phenanthrene	mg/kg	0.99	1.2 (N)	3.0	1.2	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Dieldrin	mg/kg	0.07	0.061 (NP)	0.12 (JN)	0.061	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin aldehyde	mg/kg	0.016	0.015 (NP)	0.027 (JN)	0.015	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin ketone	mg/kg	0.011	N/A	0.013 (J)	0.013	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Heptachlor epoxide	mg/kg	0.086	0.076 (NP)	0.14 (JN)	0.076	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg	4.5	6.9 (NP)	39	6.9	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	6,717	7,312 (N)	11,000	7,312	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	2.2	4.1 (NP)	12	4.1	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	2.8	4.7 (NP)	12	4.7	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	5.3	5.9 (G)	12	5.9	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	16,593	18,593 (N)	28,000	18,593	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	328	818 (NP)	3,060 (J)	818	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	14	17 (ND)	46	17	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes:
G = Gamma
N = Normal
ND = Not Discernible
NP = Nonparametric

TABLE 3.12: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	cis-1,2-Dichloroethene	mg/kg	5.0	29 (NP)	61 (E)	29	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 5 (BB5)	Vinyl chloride	mg/kg	0.15	N/A	0.35 (J)	0.35	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Acenaphthylene	mg/kg	0.0057	0.0065 (NP)	0.020 (J)	0.0065	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzidine	mg/kg	11	13 (N)	14	13	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)anthracene	mg/kg	0.91	1.5 (G)	6.5 (J)	1.5	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	0.90	1.9 (NP)	5.5 (J)	1.9	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	1.5	2.5 (G)	8.7 (E)	2.5	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.58	1.0 (NP)	2.3	1.0	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	0.48	0.99 (NP)	2.5	0.99	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	bis(2-Ethylhexyl) phthalate	mg/kg	71	136 (G)	300 (J)	136	mg/kg	95% Adjusted Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.14	N/A	0.20 (J)	0.20	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dibenzo(a,h)anthracene	mg/kg	0.17	0.25 (NP)	1.0	0.25	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	1,3-Dichlorobenzene	mg/kg	0.018	N/A	0.025 (J)	0.025	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	di-n-Octylphthalate	mg/kg	5.9	13 (NP)	42 (E)	13	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.71	1.1 (G)	4.0 (J)	1.1	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.60	0.98 (G)	1.6 (J)	0.98	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Dieldrin	mg/kg	0.50	0.50 (NP)	2.0 (JN)	0.50	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	4,4'-DDT	mg/kg	0.70	0.67 (NP)	1.8 (J)	0.67	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin aldehyde	mg/kg	0.10	0.071 (NP)	0.25	0.071	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin ketone	mg/kg	0.011	N/A	0.020 (J)	0.020	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Heptachlor epoxide	mg/kg	0.25	0.27 (NP)	1.3 (JN)	0.27	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg	12	29 (NP)	235	29	mg/kg	97.5% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	9,667	11,003 (N)	19,100 (J)	11,003	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Antimony	mg/kg	2.4	2.0 (NP)	3.5	2.0	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	4.9	8.4 (NP)	13	8.4	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	13	25 (NP)	35 (J)	25	mg/kg	97.5% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	7.5	8.9 (N)	15	8.9	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	27,385	33,518 (G)	75,600	33,518	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	336	433 (G)	1,100	433	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	24	29 (G)	58	29	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
E = For organics, concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.13: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	cis-1,2-Dichloroethene	mg/kg	3.7	23 (NP)	61 (E)	23	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 5 (BB5)	Vinyl chloride	mg/kg	0.14	N/A	0.35 (J)	0.35	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Acenaphthylene	mg/kg	0.0061	0.0059 (NP)	0.020 (J)	0.0059	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzidine	mg/kg	11	13 (N)	14	13	mg/kg	95% Student's (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)anthracene	mg/kg	0.86	1.7 (NP)	6.5 (J)	1.7	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	0.85	1.6 (NP)	5.5 (J)	1.6	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	1.5	2.7 (NP)	8.7 (E)	2.7	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.57	1.5 (NP)	2.3	1.5	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	0.54	0.97 (NP)	2.5	0.97	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	bis(2-Ethylhexyl) phthalate	mg/kg	86	162 (NP)	350 (E)	162	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.14	N/A	0.20 (J)	0.20	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dibenzo(a,h)anthracene	mg/kg	0.16	0.21 (NP)	1.0	0.21	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	1,3-Dichlorobenzene	mg/kg	0.013	N/A	0.025 (J)	0.025	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	di-n-Octylphthalate	mg/kg	5.8	11 (NP)	42 (E)	11	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.70	1.3 (NP)	4.0 (J)	1.3	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.56	0.94 (NP)	1.6 (J)	0.94	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	gamma-BHC	mg/kg	0.18	N/A	0.80 (J)	0.80	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dieldrin	mg/kg	0.79	0.73 (NP)	4.0 (JN)	0.73	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	4,4'-DDE	mg/kg	0.53	0.69 (NP)	5.1 (E)	0.69	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	4,4'-DDT	mg/kg	0.62	0.54 (NP)	1.8 (J)	0.54	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin	mg/kg	0.41	0.30 (NP)	2.4 (NJ)	0.30	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin aldehyde	mg/kg	0.34	N/A	1.8 (NJ)	1.8	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endrin ketone	mg/kg	0.011	N/A	0.020 (J)	0.020	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Heptachlor epoxide	mg/kg	0.45	0.36 (NP)	1.6 (JN)	0.36	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg	11	24 (NP)	235	24	mg/kg	97.5% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	9,546	10,950 (G)	22,000 (J)	10,950	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Antimony	mg/kg	2.4	N/A	3.5	3.5	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Arsenic	mg/kg	4.3	7.2 (NP)	13	7.2	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	16	26 (NP)	86 (J)	26	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	7.2	8.5 (G)	15	8.5	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	26,835	31,922 (G)	75,600	31,922	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	294	375 (G)	1,100	375	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	23	27 (G)	58	27	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
E = For organics, concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes:
G = Gamma
NP = Nonparametric

TABLE 3.14: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU BB6
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.044	0.037 (NP)	0.10 (J)	0.037	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 6 (BB6)	Benzidine	mg/kg	9.9	N/A	10 (J)	10	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Benzo(a)anthracene	mg/kg	0.27	0.31 (NP)	1.4 (J)	0.31	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	0.29	0.35 (NP)	1.5 (J)	0.35	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	0.42	0.78 (NP)	2.9	0.78	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.26	0.29 (NP)	1.5 (J)	0.29	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.066	0.060 (NP)	0.13 (J)	0.060	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.24	0.27 (NP)	1.2 (J)	0.27	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.21	0.24 (NP)	1.2 (J)	0.24	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg	0.22	N/A	0.46	0.46	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Aluminum	mg/kg	8,355	9,503 (G)	22,200 (J)	9,503	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	3.3	4.1 (G)	8.7 (J)	4.1	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	10	19 (NP)	70 (J)	19	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	7.6	7.1 (NP)	19 (J)	7.1	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	12,273	13,796 (ND)	28,500 (J)	13,796	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Lead	mg/kg	122	N/A	769 (J)	122	mg/kg	Arithmetic average concentration.	Per USEPA Adult Lead Model guidance.
	Manganese	mg/kg	213	363 (NP)	1,125	363	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Thallium	mg/kg	0.077	0.071 (NP)	0.16 (J)	0.071	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	21	25 (G)	54 (J)	25	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
J = Estimated concentration.

Data Distribution Codes:
G = Gamma
ND = Not Discernible
NP = Nonparametric

TABLE 3.15: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU BB6
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	All Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.043	N/A	0.22	0.22	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
Bound Brook 6 (BB6)	Benzidine	mg/kg	9.9	N/A	10 (J)	10	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Benzo(a)anthracene	mg/kg	0.31	0.21 (NP)	2.3	0.21	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	0.32	0.22 (NP)	2.1	0.22	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	0.45	0.46 (NP)	2.9	0.46	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.27	0.17 (NP)	1.5 (J)	0.17	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.075	N/A	0.35 (J)	0.35	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.28	0.18 (NP)	1.8	0.18	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.32	0.25 (NP)	4.3	0.25	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin aldehyde	mg/kg	0.0034	N/A	0.0058 (NJ)	0.0058	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Total PCB Aroclors	mg/kg	0.23	N/A	0.81	0.81	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Aluminum	mg/kg	7,803	8,329 (G)	22,200 (J)	8,329	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	2.9	3.9 (NP)	12 (D)	3.9	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	9.6	8.4 (NP)	70 (J)	8.4	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	6.9	6.7 (NP)	19 (J)	6.7	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	13,239	14,117 (G)	28,600 (J)	14,117	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Lead	mg/kg	78	N/A	769 (J)	78	mg/kg	Arithmetic average concentration.	Per USEPA Adult Lead Model guidance.
	Manganese	mg/kg	160	230 (NP)	1,125	230	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Thallium	mg/kg	0.072	0.056 (NP)	0.16 (J)	0.056	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	19	21 (NP)	54 (J)	21	mg/kg	95% BCA Bootstrap UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
D = Sample dilution was performed.
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes:
G = Gamma
LG = Lognormal
NP = Nonparametric

TABLE 3.16: EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT EU SL
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Sediment, Dry Weight
Exposure Medium:	Surface Sediment and All Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.0036	N/A	0.0036 (J)	0.0036	mg/kg	Maximum detected concentration.	Data set consists of three samples.
Spring Lake (SL)	Benzo(a)anthracene	mg/kg	1.9	N/A	3.9	3.9	mg/kg	Maximum detected concentration.	Data set consists of three samples.
	Benzo(a)pyrene	mg/kg	2.5	N/A	5.8	5.8	mg/kg	Maximum detected concentration.	Data set consists of three samples.
	Benzo(b)fluoranthene	mg/kg	1.3	N/A	5.4	5.4	mg/kg	Maximum detected concentration.	Data set consists of three samples.
	Benzo(g,h,i)perylene	mg/kg	1.6	N/A	3.5	3.5	mg/kg	Maximum detected concentration.	Data set consists of three samples.
	Benzo(k)fluoranthene	mg/kg	2.3	N/A	5.2	5.2	mg/kg	Maximum detected concentration.	Data set consists of three samples.
	Carbazole	mg/kg	0.069	N/A	0.069 (J)	0.069	mg/kg	Maximum detected concentration.	Data set consists of one sample.
	Dibenzo(a,h)anthracene	mg/kg	0.68	N/A	1.3	1.3	mg/kg	Maximum detected concentration.	Data set consists of three samples.
	Indeno(1,2,3-c,d)pyrene	mg/kg	1.5	N/A	3.2	3.2	mg/kg	Maximum detected concentration.	Data set consists of three samples.
	p-Isopropyltouene	mg/kg	0.010	N/A	0.010	0.010	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Phenanthrene	mg/kg	2.0	N/A	4.1	4.1	mg/kg	Maximum detected concentration.	Data set consists of three samples.
	Aluminum	mg/kg	7,497	N/A	9,800	9,800	mg/kg	Maximum detected concentration.	Data set consists of three samples.
	Arsenic	mg/kg	2.2	N/A	3.3	3.3	mg/kg	Maximum detected concentration.	Data set consists of three samples.
	Cobalt	mg/kg	5.5	N/A	8.0	8.0	mg/kg	Maximum detected concentration.	Data set consists of three samples.
	Iron	mg/kg	14,967	N/A	19,000	19,000	mg/kg	Maximum detected concentration.	Data set consists of three samples.
	Manganese	mg/kg	156	N/A	220	220	mg/kg	Maximum detected concentration.	Data set consists of three samples.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:

J = Estimated concentration.

TABLE 3.17: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU GE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weigh
Exposure Medium:	Surface Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Benzo(a)anthracene	mg/kg	0.69	0.87 (NP)	1.6	0.87	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
Green Brook (GB)	Benzo(a)pyrene	mg/kg	0.71	0.93 (N)	1.5	0.93	mg/kg	Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	1.1	1.4 (N)	2.0	1.4	mg/kg	Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.43	0.51 (NP)	0.77	0.51	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.21	N/A	0.29	0.29	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dibenzo(a,h)anthracene	mg/kg	0.19	0.18 (NP)	0.25	0.18	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-cd)pyrene	mg/kg	0.45	0.54 (NP)	0.83	0.54	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.80	1.8 (NP)	3.0	1.8	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg	0.062	0.074 (NP)	0.13	0.074	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	19,802	24,854 (N)	36,900 (J)	24,854	mg/kg	Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	5.8	7.3 (N)	13 (J)	7.3	mg/kg	Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	11	13 (N)	21 (J)	13	mg/kg	Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	26,271	32,795 (N)	49,500 (J)	32,795	mg/kg	Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	562	710 (N)	1,150 (J)	710	mg/kg	Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Mercury	mg/kg	0.73	1.4 (G)	4.5 (D)	1.4	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	43	54 (N)	80 (J)	54	mg/kg	Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
D = Sample dilution was performed.
J = Estimated concentration.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.18: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU GB
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.16	N/A	0.20 (J)	0.20	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
Green Brook (GB)	Benzo(a)anthracene	mg/kg	0.81	0.75 (NP)	1.7	0.75	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	0.84	0.78 (NP)	2.1	0.78	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	1.2	1.1 (NP)	2.9	1.1	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.48	0.45 (NP)	0.89	0.45	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.17	N/A	0.29	0.29	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dibenzo(a,h)anthracene	mg/kg	0.22	N/A	0.32	0.32	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Indeno(1,2,3-cd)pyrene	mg/kg	0.53	0.48 (NP)	1.2	0.48	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.91	0.86 (NP)	3.0	0.86	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg	0.059	0.053 (NP)	0.13	0.053	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	18,565	21,631 (N)	36,900 (J)	21,631	mg/kg	Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	4.7	5.7 (N)	13 (J)	5.7	mg/kg	Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	10	12 (G)	23 (D)	12	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	24,952	30,098 (G)	54,000 (D)	30,098	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	487	641 (G)	1,600 (D)	641	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Mercury	mg/kg	0.82	2.2 (NP)	4.6 (D)	2.2	mg/kg	97.5% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	40	48 (G)	80 (J)	48	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
D = Sample dilution was performed.
J = Estimated concentration.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.19: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU BB1
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.015	0.022 (G)	0.067	0.022	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 1 (BB1)	Benzo(a)anthracene	mg/kg	0.52	0.77 (G)	2.4	0.77	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	0.60	0.88 (G)	2.6 (J)	0.88	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	0.72	1.0 (G)	2.7 (J)	1.0	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.35	0.50 (G)	1.8 (J)	0.50	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	0.60	0.89 (G)	2.8 (J)	0.89	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.046	0.081 (NP)	0.18 (J)	0.081	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.12	0.18 (G)	0.61 (J)	0.18	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Dimethyl phthalate	mg/kg	0.087	N/A	0.13 (J)	0.13	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	di-n-Octylphthalate	mg/kg	0.028	N/A	0.12 (J)	0.12	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Indeno(1,2,3-cd)pyrene	mg/kg	0.32	0.46 (G)	1.6 (J)	0.46	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.44	0.65 (G)	2.0	0.65	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin aldehyde	mg/kg	0.0061	N/A	0.0061 (NJ)	0.0061	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Total PCB Aroclors	mg/kg	0.42	0.86 (NP)	3.7	0.86	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	12,631	14,155 (G)	27,050	14,155	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	6.6	8.2 (G)	21	8.2	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	1.9	1.8 (NP)	5.6 (J)	1.8	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	11	13 (N)	28	13	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	21,791	25,735 (ND)	73,750	25,735	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	584	737 (G)	1,960 (J)	737	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	38	47 (G)	152	47	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable

Qualifier Codes:
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes:
G = Gamma
N = Normal
ND = Non Discernible
NP = Nonparametric

TABLE 3.20: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU BB1
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.022	0.037 (NP)	0.20	0.037	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 1 (BB1)	Benzo(a)anthracene	mg/kg	0.56	1.0 (NP)	4.6	1.0	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	0.59	1.1 (NP)	4.9	1.1	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	0.70	1.2 (NP)	5.7	1.2	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.36	0.61 (NP)	2.5 (J)	0.61	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	0.59	1.1 (NP)	4.5	1.1	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.051	0.046 (NP)	0.21 (J)	0.046	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.13	0.22 (NP)	0.87 (J)	0.22	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dimethyl phthalate	mg/kg	2.4	N/A	9.2 (E)	9.2	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	di-n-Octyl phthalate	mg/kg	0.028	N/A	0.12 (J)	0.12	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Indeno(1,2,3-cd)pyrene	mg/kg	0.33	0.57 (NP)	2.2 (J)	0.57	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.48	0.89 (NP)	4.0	0.89	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin aldehyde	mg/kg	0.0061	N/A	0.0061 (NJ)	0.0061	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Total PCB Aroclors	mg/kg	0.39	0.55 (NP)	3.7	0.55	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	12,337	13,313 (N)	27,050	13,313	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	5.7	8.6 (NP)	23	8.6	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	10	12 (G)	32 (J)	12	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	20,109	22,328 (G)	73,750	22,328	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	449	554 (G)	1,960 (J)	554	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	36	43 (NP)	152	43	mg/kg	95% BCA Bootstrap UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
B = For organics, chemical found in associated blank.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.21: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU BB2
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.019	N/A	0.024	0.024	mg/kg	Maximum detected concentration.	Data set consists of two samples.
Bound Brook 2 (BB2)	Benzo(a)anthracene	mg/kg	0.26	N/A	0.29	0.29	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Benzo(a)pyrene	mg/kg	0.29	N/A	0.33	0.33	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Benzo(b)fluoranthene	mg/kg	0.39	N/A	0.41	0.41	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Benzo(g,h,i)perylene	mg/kg	0.21	N/A	0.25	0.25	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Carbazole	mg/kg	0.024	N/A	0.025 (J)	0.025	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Dibenzo(a,h)anthracene	mg/kg	0.070	N/A	0.077	0.077	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Indeno(1,2,3-cd)pyrene	mg/kg	0.20	N/A	0.23	0.23	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Phenanthrene	mg/kg	0.27	N/A	0.29	0.29	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Endosulfan sulfate	mg/kg	0.0055	N/A	0.0055	0.0055	mg/kg	Maximum detected concentration.	Data set consists of one sample.
	Total PCB Aroclors	mg/kg	0.75	N/A	0.75	0.75	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Aluminum	mg/kg	10,840	N/A	13,100	13,100	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Arsenic	mg/kg	9.4	N/A	12 (J)	12	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Cobalt	mg/kg	5.4	N/A	5.6 (J)	5.6	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Iron	mg/kg	14,100	N/A	15,800	15,800	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Manganese	mg/kg	383	N/A	492 (J)	492	mg/kg	Maximum detected concentration.	Data set consists of two samples.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:

J = Estimated concentration.

TABLE 3.22: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU BB2
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.019	N/A	0.024	0.024	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
Bound Brook 2 (BB2)	Benzo(a)anthracene	mg/kg	0.13	N/A	0.29	0.29	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Benzo(a)pyrene	mg/kg	0.29	N/A	0.33	0.33	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Benzo(b)fluoranthene	mg/kg	0.26	N/A	0.41	0.41	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Benzo(g,h,i)perylene	mg/kg	0.14	N/A	0.25	0.25	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Carbazole	mg/kg	0.024	N/A	0.025 (J)	0.025	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Dibenzo(a,h)anthracene	mg/kg	0.070	N/A	0.077	0.077	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Indeno(1,2,3-cd)pyrene	mg/kg	0.13	N/A	0.23	0.23	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Phenanthrene	mg/kg	0.13	N/A	0.29	0.29	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Endosulfan sulfate	mg/kg	0.0055	N/A	0.0055	0.0055	mg/kg	Maximum detected concentration.	Data set consists of one sample.
	Total PCB Aroclors	mg/kg	0.75	N/A	0.75	0.75	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Aluminum	mg/kg	9,998	N/A	13,100	13,100	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Arsenic	mg/kg	6.3	N/A	12 (J)	12	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Cobalt	mg/kg	5.2	N/A	5.6 (J)	5.6	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Iron	mg/kg	48,800	N/A	15,800	15,800	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).
	Manganese	mg/kg	302	N/A	492 (J)	492	mg/kg	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:

J = Estimated concentration.

TABLE 3.23: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.041	0.14 (NP)	0.30	0.14	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 3 (BB3)	Benzo(a)anthracene	mg/kg	1.3	2.0 (G)	4.9	2.0	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	1.4	2.1 (G)	4.5	2.1	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	1.8	2.7 (G)	6.6	2.7	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.94	1.6 (NP)	2.8	1.6	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	1.1	2.0 (NP)	5.3	2.0	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	bis-(2-Ethylhexyl) phthalate	mg/kg	13	N/A	54 (J)	54	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Carbazole	mg/kg	0.13	0.28 (NP)	0.76	0.28	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.38	0.45 (NP)	1.1	0.45	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	di-n-Octylphthalate	mg/kg	0.34	N/A	0.55 (J)	0.55	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Indeno(1,2,3-cd)pyrene	mg/kg	0.95	1.4 (G)	3.3 (J)	1.4	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	1.3	2.1 (G)	7.6 (E)	2.1	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin aldehyde	mg/kg	0.0093	N/A	0.0098 (NJ)	0.0098	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endrin ketone	mg/kg	0.0049	N/A	0.0058 (NJ)	0.0058	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Total PCB Aroclors	mg/kg	3.0	3.6 (NP)	14	3.6	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	9,164	10,474 (G)	21,400	10,474	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Antimony	mg/kg	16	15 (NP)	42	15	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	11	21 (NP)	39	21	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	5.9	5.6 (NP)	14	5.6	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	9.4	12 (G)	34	12	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg	659	2,815 (NP)	12,000	2,815	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	53,860	119,008 (NP)	282,000	119,008	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Lead	mg/kg	1,180	N/A	9,950	1,180	mg/kg	Arithmetic average concentration.	Per USEPA ALM and IEUBK Model for Lead in Children guidance.
	Manganese	mg/kg	529	700 (G)	1,390 (J)	700	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Mercury	mg/kg	1.3	2.1 (G)	5.7 (J)	2.1	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Nickel	mg/kg	43	92 (NP)	235	92	mg/kg	95% Chebyshev (Mean, Sd) UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.
	Thallium	mg/kg	2.2	N/A	4.0	4.0	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Vanadium	mg/kg	26	28 (NP)	40	28	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Zinc	mg/kg	670	1,460 (NP)	3,680	1,460	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
E = For organics, concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes:
G = Gamma
NP = Nonparametric

TABLE 3.24: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU BB3
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weigh
Exposure Medium:	All Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.054	0.12 (NP)	0.43	0.12	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 3 (BB3)	Benzo(a)anthracene	mg/kg	1.7	2.6 (G)	8.4	2.6	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	1.9	3.3 (NP)	8.4	3.3	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	2.1	3.5 (NP)	8.3 (J)	3.5	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	1.2	1.9 (NP)	5.7 (J)	1.9	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	1.7	3.1 (NP)	9.9	3.1	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	bis(2-Ethylhexyl) phthalate	mg/kg	95	N/A	880 (E)	880	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Carbazole	mg/kg	0.17	0.37 (NP)	1.1 (J)	0.37	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.42	0.66 (NP)	1.9 (J)	0.66	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	di-n-Octyl phthalate	mg/kg	0.34	N/A	0.55 (J)	0.55	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Indeno(1,2,3-cd)pyrene	mg/kg	1.1	1.8 (NP)	4.4 (J)	1.8	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	1.7	2.7 (G)	11	2.7	mg/kg	95% Adjusted Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin aldehyde	mg/kg	0.0093	N/A	0.0098 (NJ)	0.0098	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endrin ketone	mg/kg	0.0049	N/A	0.0058 (NJ)	0.0058	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Total PCB Aroclors	mg/kg	4.1	5.0 (NP)	31	5.0	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	10,181	11,398 (G)	28,400	11,398	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Antimony	mg/kg	69	110 (NP)	792 (J)	110	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	10	17 (NP)	39	17	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	6.1	5.0 (NP)	18	5.0	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	10	12 (G)	34	12	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg	479	1,748 (NP)	12,000	1,748	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	51,722	96,380 (NP)	282,000	96,380	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Lead	mg/kg	1,370	N/A	21,300	1,370	mg/kg	Arithmetic average concentration.	Per USEPA ALM and IEUBK Model for Lead in Children guidance.
	Manganese	mg/kg	556	707 (G)	3,300 (J)	707	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Mercury	mg/kg	1.1	2.4 (NP)	5.7 (J)	2.4	mg/kg	97.5% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Nickel	mg/kg	50	108 (NP)	496 (J)	108	mg/kg	95% Chebyshev (Mean, Sd) UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.
	Thallium	mg/kg	1.7	N/A	4.0	4.0	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Vanadium	mg/kg	26	28 (NP)	53 (J)	28	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Zinc	mg/kg	669	1,315 (NP)	3,680	1,315	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
E = For organics, concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes
G = Gamma
NP = Nonparametric

TABLE 3.25: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weigh
Exposure Medium:	Surface Soil

Exposure Poin	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.19	N/A	0.67	0.67	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
Bound Brook 4 (BB4)	Benzo(a)anthracene	mg/kg	0.81	1.3 (NP)	6.4	1.3	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	0.91	1.4 (NP)	6.2	1.4	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	1.4	2.3 (NP)	9.9	2.3	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.75	1.1 (NP)	3.6	1.1	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	0.49	0.52 (NP)	2.2	0.52	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.12	N/A	0.25 (J)	0.25	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dibenzo(a,h)anthracene	mg/kg	0.39	N/A	1.6 (J)	1.6	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	di-n-Octylphthalate	mg/kg	0.48	N/A	1.2 (J)	1.2	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Indeno(1,2,3-cd)pyrene	mg/kg	0.75	0.79 (NP)	3.7 (J)	0.79	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.77	1.1 (NP)	5.7	1.1	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aldrin	mg/kg	204	N/A	0.041 (E)	0.041	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	delta-BHC	mg/kg	0.0092	N/A	0.056 (J)	0.056	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dieldrin	mg/kg	0.38	0.35 (NP)	2.4 (EB)	0.35	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	4,4'-DDT	mg/kg	0.34	0.52 (NP)	2.0 (J)	0.52	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endosulfan sulfate	mg/kg	0.0061	N/A	0.022 (NJ)	0.022	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endrin aldehyde	mg/kg	0.024	0.015 (NP)	0.13 (J)	0.015	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin ketone	mg/kg	0.041	N/A	0.065 (B)	0.065	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Total PCB Aroclors	mg/kg	8.9	13 (NP)	80	13	mg/kg	97.5% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	9,760	10,974 (N)	30,000	10,974	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Antimony	mg/kg	2.2	N/A	4.0	4.0	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Arsenic	mg/kg	9.6	10 (NP)	33	10.32	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	9.1	9.1 (NP)	38	9.1	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	7.9	8.6 (NP)	24	8.6	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg	86	134 (NP)	520	134	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	15,143	17,742 (G)	75,900 (J)	17,742	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Lead	mg/kg	198	N/A	1,245	198	mg/kg	Arithmetic average concentration.	Per USEPA ALM and IEUBK Model for Lead in Children guidance.
	Manganese	mg/kg	481	599 (G)	1,800	599	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Silver	mg/kg	7.8	8.1 (NP)	63 (D)	8.1	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	37	40 (N)	95	40	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.26: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU BB4
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.12	N/A	0.67	0.67	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
Bound Brook 4 (BB4)	Benzo(a)anthracene	mg/kg	0.60	0.54 (NP)	6.4	0.54	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	0.76	0.60 (NP)	6.2	0.60	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	1.0	0.93 (NP)	9.9	0.93	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.55	0.46 (NP)	3.6	0.46	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	0.40	0.48 (NP)	2.2	0.48	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.077	N/A	0.25 (J)	0.25	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dibenzo(a,h)anthracene	mg/kg	0.23	N/A	1.6 (J)	1.6	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	di-n-Octyl phthalate	mg/kg	0.44	N/A	1.2 (J)	1.2	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Indeno(1,2,3-cd)pyrene	mg/kg	0.56	0.45 (NP)	3.7 (J)	0.45	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.56	0.78 (NP)	5.7	0.78	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aldrin	mg/kg	0.013	N/A	0.013 (NJ)	0.013	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	delta-BHC	mg/kg	0.0078	N/A	0.056 (J)	0.056	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Dieldrin	mg/kg	0.33	0.22 (NP)	2.4 (EB)	0.22	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	4,4'-DDT	mg/kg	0.28	0.23 (NP)	2.0 (J)	0.23	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endosulfan sulfate	mg/kg	0.0039	N/A	0.022 (NJ)	0.022	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Total PCB Aroclors	mg/kg	13	21 (NP)	470	21	mg/kg	97.5% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	8,426	9,362 (G)	30,000	9,362	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Antimony	mg/kg	2.8	N/A	11 (D)	11	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Arsenic	mg/kg	11	15 (NP)	148	15	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	7.9	5.4 (NP)	38	5.4	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	7.3	7.0 (NP)	25	7.0	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg	62	95 (NP)	677 (J)	95	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	13,973	15,940 (G)	109,000 (J)	15,940	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Lead	mg/kg	129	N/A	1,245	129	mg/kg	Arithmetic average concentration.	Per USEPA ALM and IEUBK Model for Lead in Children guidance.
	Manganese	mg/kg	339	514 (NP)	1,800	514	mg/kg	95% Chebyshev (Mean, Sd) UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.
	Silver	mg/kg	6.9	4.4 (NP)	63 (D)	4.4	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	32	33 (NP)	125 (D)	33	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Zinc	mg/kg	137	256 (NP)	3,040 (J)	256	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.

Notes
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes:
G = Gamma
NP = Nonparametric

TABLE 3.27: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	cis-1,2-Dichloroethene	mg/kg	11	N/A	22 (J)	22	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
Bound Brook 5 (BB5)	Acenaphthylene	mg/kg	0.32	0.32 (NP)	0.96	0.32	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)anthracene	mg/kg	1.8	3.8 (NP)	9.5	3.8	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	1.6	3.6 (NP)	9.7	3.7	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	2.1	5.4 (NP)	15	5.4	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	1.4	2.6 (NP)	6.4	2.6	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	1.2	2.1 (NP)	4.2	2.1	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	bis(2-Ethylhexyl) phthalate	mg/kg	20	68 (NP)	110 (EB)	68	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.15	0.15 (NP)	0.33 (J)	0.15	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.48	0.44 (NP)	1.0 (J)	0.44	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dimethyl phthalate	mg/kg	0.32	N/A	3.6	3.6	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	di-n-Octylphthalate	mg/kg	1.6	1.3 (NP)	7.8 (E)	1.3	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-cd)pyrene	mg/kg	1.2	2.4 (NP)	6.0	2.4	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	2.3	4.4 (NP)	9.4	4.4	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dieldrin	mg/kg	1.8	10 (NP)	16 (J)	10	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	4,4'-DDE	mg/kg	12	N/A	56 (DNJ)	56	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endosulfan sulfate	mg/kg	0.0010	N/A	0.0019	0.0019	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Endrin aldehyde	mg/kg	0.93	0.80 (NP)	5.2 (J)	0.80	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Heptachlor epoxide	mg/kg	1.78	1.8 (NP)	12 (NJ)	1.8	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg	22	41 (NP)	924	41	mg/kg	97.5% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	12,730	17,129 (G)	35,800 (J)	17,129	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Antimony	mg/kg	4.1	4.6 (NP)	19	4.6	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	15	20 (G)	38 (J)	20	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	13	15 (NP)	40 (J)	15	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	11	14 (N)	30 (J)	14	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg	139	230 (G)	960	230	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	25,709	34,064 (G)	88,000	34,064	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Lead	mg/kg	257	N/A	1,000	257	mg/kg	Arithmetic average concentration.	Per USEPA ALM and IEUBK Model for Lead in Children guidance.
	Manganese	mg/kg	386	493 (N)	1,050 (J)	493	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	43	51 (N)	88 (J)	51	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.28: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU BB5
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weigh
Exposure Medium:	All Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	cis-1,2-Dichloroethene	mg/kg	11	N/A	22 (J)	22	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detecte observations.
Bound Brook 5 (BB5)	Acenaphthylene	mg/kg	0.24	0.21 (NP)	0.96	0.21	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)anthracene	mg/kg	1.6	1.8 (NP)	9.5	1.8	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	1.4	2.7 (NP)	9.7	2.7	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	1.9	4.0 (NP)	15	4.0	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	1.2	1.3 (NP)	6.4	1.3	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	1.1	1.0 (NP)	4.2	1.0	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	bis(2-Ethylhexyl) phthalate	mg/kg	21	53 (NP)	110 (EB)	53	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.13	0.10 (NP)	0.33 (J)	0.10	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.36	0.27 (NP)	1.0 (J)	0.27	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dimethyl phthalate	mg/kg	1.4	N/A	3.6	3.6	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detecte observations.
	di-n-Octyl phthalate	mg/kg	1.7	N/A	7.8 (E)	7.8	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detecte observations.
	Indeno(1,2,3-cd)pyrene	mg/kg	1.1	1.2 (NP)	6.0	1.2	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	2.0	2.2 (NP)	9.4	2.2	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dieldrin	mg/kg	1.2	7.4 (NP)	16 (J)	7.4	mg/kg	99% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	4,4'-DDE	mg/kg	0.87	N/A	56 (DNJ)	56	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detecte observations.
	Endosulfan sulfate	mg/kg	0.0010	N/A	0.0024 (J)	0.0024	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detecte observations.
	Endrin aldehyde	mg/kg	0.93	N/A	5.2 (J)	5.2	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detecte observations.
	Heptachlor epoxide	mg/kg	1.6	1.3 (NP)	12 (NJ)	1.3	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg	21	33 (NP)	924	33	mg/kg	97.55% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Aluminum	mg/kg	12,733	15,920 (G)	35,800 (J)	15,920	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Antimony	mg/kg	4.1	2.9 (NP)	19	2.9	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	14	15 (NP)	38 (J)	15	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	13	12 (NP)	40 (J)	12	mg/kg	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	10	13 (G)	30 (J)	13	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg	107	170 (G)	960	170	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	22,511	28,425 (G)	88,000	28,425	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Lead	mg/kg	194	N/A	1,000	194	mg/kg	Arithmetic average concentration.	Per USEPA ALM and IEUBK Model for Lead in Children guidance.
	Manganese	mg/kg	332	533 (NP)	1,050 (J)	533	mg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Vanadium	mg/kg	36	44 (NP)	88 (J)	44	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable

Qualifier Codes:
B = For organics, chemical found in associated blank.
D = Sample dilution was performed.
E = For organics, concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.
N = Chemical was tentatively identified.

Data Distribution Codes
G = Gamma
NP = Nonparametric

TABLE 3.29: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU BB6
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	Surface Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.0073	0.011 (NP)	0.017	0.011	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 6 (BB6)	Benzo(a)anthracene	mg/kg	0.56	2.1 (G)	2.0 (J)	2.0	mg/kg	Maximum detected concentration.	Recommended UCL exceeds the maximum detected concentration.
	Benzo(a)pyrene	mg/kg	0.66	1.1 (NP)	1.9	1.1	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	0.69	2.3 (NP)	2.3	2.3	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.42	0.68 (NP)	1.0	0.68	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.022	0.039 (NP)	0.039 (J)	0.039	mg/kg	95% KM (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.13	0.20 (NP)	0.30	0.20	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	di-n-Octylphthalate	mg/kg	0.11	0.12 (NP)	0.16 (J)	0.12	mg/kg	Maximum detected concentration.	Recommended UCL exceeds the maximum detected concentration.
	Indeno(1,2,3-cd)pyrene	mg/kg	0.43	1.44 (G)	1.4	1.4	mg/kg	Maximum detected concentration.	Recommended UCL exceeds the maximum detected concentration.
	Phenanthrene	mg/kg	0.47	2.2 (NP)	2.0	2.0	mg/kg	Maximum detected concentration.	Recommended UCL exceeds the maximum detected concentration.
	Endrin ketone	mg/kg	0.0040	N/A	0.0040 (J)	0.0040	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Total PCB Aroclors	mg/kg	19	310 (G)	62	62	mg/kg	Maximum detected concentration.	Recommended UCL exceeds the maximum detected concentration.
	Aluminum	mg/kg	13,273	16,170 (N)	16,900 (J)	16,170	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	2.0	2.5 (N)	3.0	2.5	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	4.8	6.1 (NP)	9.4 (J)	6.1	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	5.8	7.3 (NP)	7.4 (J)	7.3	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Cyanide	mg/kg	2.0	3.4 (NP)	6.1 (J)	3.4	mg/kg	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	20,583	25,158 (NP)	28,600 (J)	25,158	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Manganese	mg/kg	401	617 (N)	798	617	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
J = Estimated concentration.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.30: EXPOSURE POINT CONCENTRATION SUMMARY - FLOODPLAIN SOIL EU BB6
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Floodplain Soil, Dry Weight
Exposure Medium:	All Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Acenaphthylene	mg/kg	0.012	0.029 (NP)	0.054	0.029	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
Bound Brook 6 (BB6)	Benzo(a)anthracene	mg/kg	0.66	2.2 (G)	2.6 (J)	2.2	mg/kg	95% Adjusted Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(a)pyrene	mg/kg	0.80	1.6 (NP)	2.0 (J)	1.6	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(b)fluoranthene	mg/kg	1.1	2.5 (NP)	3.6 (E)	2.5	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(g,h,i)perylene	mg/kg	0.52	0.66 (NP)	1.5 (J)	0.66	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Benzo(k)fluoranthene	mg/kg	0.83	2.0 (NP)	3.7 (J)	2.0	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Carbazole	mg/kg	0.11	0.12 (NP)	0.39	0.12	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dibenzo(a,h)anthracene	mg/kg	0.18	0.21 (NP)	0.47 (J)	0.21	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Dimethyl phthalate	mg/kg	0.86	N/A	0.86	0.86	mg/kg	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	di-n-Octyl phthalate	mg/kg	0.065	0.059 (NP)	0.16 (J)	0.059	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Indeno(1,2,3-cd)pyrene	mg/kg	0.54	1.2 (NP)	1.8 (J)	1.2	mg/kg	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Phenanthrene	mg/kg	0.91	3.5 (G)	5.4	3.5	mg/kg	95% Adjusted Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin ketone	mg/kg	0.0040	N/A	0.0040 (J)	0.0040	mg/kg	Maximum detected concentration.	Data set consists of two samples.
	Total PCB Aroclors	mg/kg	11	73 (NP)	62	62	mg/kg	Maximum detected concentration.	Recommended UCL exceeds the maximum detected concentration.
	Aluminum	mg/kg	12,772	14,514 (N)	18,600 (J)	14,514	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg	2.1	2.9 (G)	6.0 (J)	2.9	mg/kg	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Cadmium	mg/kg	4.7	4.0 (NP)	9.4 (J)	4.0	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Cobalt	mg/kg	6.1	7.3 (N)	11 (J)	7.3	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Cyanide	mg/kg	1.6	1.7 (NP)	6.1 (J)	1.7	mg/kg	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Iron	mg/kg	24,417	28,144 (N)	40,500 (J)	28,144	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Lead	mg/kg	171	N/A	1,340 (J)	171	mg/kg	Arithmetic average concentration.	Per USEPA ALM and IEUBK Model for Lead in Children guidance.
	Manganese	mg/kg	429	555 (N)	798	555	mg/kg	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
E = For organics, concentration exceeds calibration range of GC/MS intrument.
J = Estimated concentration.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.31A: EXPOSURE POINT CONCENTRATION SUMMARY - PREDATOR FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Predatory Fish Fillet

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	4,4'-DDD	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
BB6	4,4'-DDE	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Endrin aldehyde	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Heptachlor epoxide	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Total PCB Aroclors	mg/kg, wet weight	0.16	0.23 (N)	2.5 (JN)	0.23	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	TCDD TEQ (PCBs)	mg/kg, wet weight	2.9E-06	N/A	2.9E-06	2.9E-06	mg/kg, wet weight	Maximum detected concentration.	Data set consists of one sample.
	Aluminum	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Arsenic	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Cobalt	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Lead	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Mercury	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Selenium	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.

Notes
Fish fillet data from Location A9 were applied to EU BB6
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable

Qualifier Codes:
J = Estimated concentration.
N = Indicates presumptive evidence of a compound

Data Distribution Codes:
N = Normal

TABLE 3.31B: EXPOSURE POINT CONCENTRATION SUMMARY - PREDATOR FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Predatory Fish Fillet

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	4,4'-DDD	mg/kg, wet weight	0.0036	N/A	0.0036 (J)	0.0036	mg/kg, wet weight	Maximum detected concentration.	Data set consists of three samples.
BB5	4,4'-DDE	mg/kg, wet weight	0.025	N/A	0.055 (J)	0.055	mg/kg, wet weight	Maximum detected concentration.	Data set consists of three samples.
	Endrin aldehyde	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Heptachlor epoxide	mg/kg, wet weight	0.018	N/A	0.040 (J)	0.040	mg/kg, wet weight	Maximum detected concentration.	Data set consists of three samples.
	Total PCB Aroclors	mg/kg, wet weight	2.2	3.4 (G)	5.3	3.4	mg/kg, wet weight	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	TCDD TEQ (PCBs)	mg/kg, wet weight	7.7E-05	N/A	1.3E-04	1.3E-04	mg/kg, wet weight	Maximum detected concentration.	Data set consists of two samples.
	Aluminum	mg/kg, wet weight	7.9	N/A	12	12	mg/kg, wet weight	Maximum detected concentration.	Data set consists of three samples.
	Arsenic	mg/kg, wet weight	0.13	N/A	0.13	0.13	mg/kg, wet weight	Maximum detected concentration.	Data set consists of three samples.
	Cobalt	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Lead	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Mercury	mg/kg, wet weight	0.063	N/A	0.090	0.090	mg/kg, wet weight	Maximum detected concentration.	Data set consists of three samples.
	Selenium	mg/kg, wet weight	0.76	N/A	1.1	1.1	mg/kg, wet weight	Maximum detected concentration.	Data set consists of three samples.

Notes
Fish fillet data from Locations A1 and S3 were combined and applied to EU BB5.
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable
ND = Not Detected.

Qualifier Codes:
J = Estimated concentration.

Data Distribution Codes:
G = Gamma

TABLE 3.31C: EXPOSURE POINT CONCENTRATION SUMMARY - PREDATOR FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Predatory Fish Fillet

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	4,4'-DDD	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
BB4 and BB3	4,4'-DDE	mg/kg, wet weight	0.027	0.040 (N)	0.050 (J)	0.040	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin aldehyde	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Heptachlor epoxide	mg/kg, wet weight	0.019	0.026 (N)	0.030 (J)	0.026	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg, wet weight	1.7	2.4 (G)	5.0 (JW)	2.4	mg/kg, wet weight	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	TCDD TEQ (PCBs)	mg/kg, wet weight	2.0E-05	N/A	2.5E-05	2.5E-05	mg/kg, wet weight	Maximum detected concentration.	Data set consists of two samples.
	Aluminum	mg/kg, wet weight	3.9	4.2 (NP)	4.6	4.2	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Cobalt	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Lead	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Mercury	mg/kg, wet weight	0.068	0.095 (N)	0.11	0.095	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Selenium	mg/kg, wet weight	0.50	0.58 (N)	0.57	0.57	mg/kg, wet weight	Maximum detected concentration.	Recommended UCL exceeds maximum detected concentration.

Notes
Fish fillet data from Locations A2 and A3 were combined and applied to the following EUs: BB4 and BB3.
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable

Qualifier Codes:
J = Estimated concentration.
W = Sample was weathered; value is estimated.

Data Distribution Codes:
G = Gamma
N = Normal

TABLE 3.31D: EXPOSURE POINT CONCENTRATION SUMMARY - PREDATOR FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Predatory Fish Fillet

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	4,4'-DDD	mg/kg, wet weight	0.010	N/A	0.010 (J)	0.010	mg/kg, wet weight	Maximum detected concentration.	Data set consists of more than 70% non-detected values.
BB2	4,4'-DDE	mg/kg, wet weight	0.016	0.016 (NP)	0.032 (J)	0.016	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin aldehyde	mg/kg, wet weight	0.0070	0.0065 (NP)	0.011 (J)	0.0065	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Heptachlor epoxide	mg/kg, wet weight	0.012	0.014 (NP)	0.027 (J)	0.014	mg/kg, wet weight	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg, wet weight	1.1	1.3 (N)	2.3 (JW)	1.3	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	TCDD TEQ (PCBs)	mg/kg, wet weight	8.5E-06	N/A	8.5E-06	8.5E-06	mg/kg, wet weight	Maximum detected concentration.	Data set consists of one sample.
	Aluminum	mg/kg, wet weight	19	86 (NP)	170	86	mg/kg, wet weight	97.5% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg, wet weight	0.14	N/A	0.14	0.14	mg/kg, wet weight	Maximum detected concentration.	Data set consists of more than 70% non-detected values.
	Cobalt	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Lead	mg/kg, wet weight	0.13	N/A	0.13	0.13	mg/kg, wet weight	Arithmetic average concentration	Per USEPA ALM and IEUBK Model for Lead in Children guidance.
	Mercury	mg/kg, wet weight	0.12	0.15 (NP)	0.25	0.15	mg/kg, wet weight	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Selenium	mg/kg, wet weight	0.42	0.50 (NP)	0.95	0.50	mg/kg, wet weight	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
Fish fillet data from Locations A4 and A5 were combined and applied to EU BB2
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable

Qualifier Codes:
J = Estimated concentration.
W = Sample was weathered; value is estimated.

Data Distribution Codes:
N = Normal
NP = Nonparametric

TABLE 3.31E: EXPOSURE POINT CONCENTRATION SUMMARY - PREDATOR FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Predatory Fish Fillet

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	4,4'-DDD	mg/kg, wet weight	0.030	N/A	0.030 (MI)	0.030	mg/kg, wet weight	Maximum detected concentration.	Data set consists of more than 70% non-detected values.
BB1 and GB	4,4'-DDE	mg/kg, wet weight	0.019	0.023 (NP)	0.060 (MI)	0.023	mg/kg, wet weight	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Endrin aldehyde	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Heptachlor epoxide	mg/kg, wet weight	0.010	N/A	0.010 (MI)	0.010	mg/kg, wet weight	Maximum detected concentration.	Data set consists of more than 70% non-detected values.
	Total PCB Aroclors	mg/kg, wet weight	0.91	1.2 (G)	2.9 (W)	1.2	mg/kg, wet weight	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	TCDD TEQ (PCBs)	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Aluminum	mg/kg, wet weight	7.3	8.5 (NP)	15	8.5	mg/kg, wet weight	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Arsenic	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Cobalt	mg/kg, wet weight	0.41	N/A	0.42	0.42	mg/kg, wet weight	Maximum detected concentration.	Data set consists of more than 70% non-detected values.
	Lead	mg/kg, wet weight	0.19	N/A	0.19	0.19	mg/kg, wet weight	Arithmetic average concentration	Per USEPA ALM and IEUBK Model for Lead in Children guidance.
	Mercury	mg/kg, wet weight	0.13	0.18 (G)	0.39	0.18	mg/kg, wet weight	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Selenium	mg/kg, wet weight	0.36	0.40 (N)	0.51	0.40	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
Fish fillet data from Locations A11, A12, and A13 were combined and applied to the following EUs: BB1 and GB.
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable

Qualifier Codes:
MI = Matrix interference.
W = Sample was weathered; value is estimated.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.32: EXPOSURE POINT CONCENTRATION SUMMARY - PREDATOR FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Predatory Fish Fillet

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Spring Lake	4,4'-DDE	mg/kg, wet weight	0.010	0.016 (N)	0.020 (MI)	0.016	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Dieldrin	mg/kg, wet weight	0.010	N/A	0.010 (MI)	0.010	mg/kg, wet weight	Maximum detected concentration.	Data set consists of more than 70% non-detected values.
	Heptachlor epoxide	mg/kg, wet weight	0.010	N/A	0.010 (MI)	0.010	mg/kg, wet weight	Maximum detected concentration.	ProUCL output indicates N/A (number of distinct detected values is not adequate).
	Total PCB Aroclors	mg/kg, wet weight	0.30	0.81 (NP)	1.3 (W)	0.81	mg/kg, wet weight	95% Chebyshev (Mean, Sd) UCL	See Section 4.10.4 of ProUCL v.4.1.00 Technical Guide.
	TCDD TEQ (PCBs)	mg/kg, wet weight	1.7E-06	N/A	1.7E-06	1.7E-06	mg/kg, wet weight	Maximum detected concentration.	Data set consists of only one sample.
	Lead	mg/kg, wet weight	0.20	N/A	0.21	0.20	mg/kg, wet weight	Arithmetic average concentration	Per USEPA ALM and IEUBK Model for Lead in Children guidance.
	Mercury	mg/kg, wet weight	0.13	0.32 (G)	0.24	0.24	mg/kg, wet weight	Maximum detected concentration.	Recommended UCL exceeds maximum detected concentration.

Notes
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable

Qualifier Codes:
MI = Matrix interference.
W = Sample was weathered; value is estimated.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.33A: EXPOSURE POINT CONCENTRATION SUMMARY - BOTTOM-BOTTOM-FEEDING FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Bottom-Feeding Fish Fillet

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	alpha-Chlordane	mg/kg, wet weight	0.035	0.050 (NP)	0.078 (J)	0.050	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
BB6	gamma-Chlordane	mg/kg, wet weight	0.015	0.020 (NP)	0.027 (J)	0.020	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	4,4'-DDD	mg/kg, wet weight	0.0045	0.0058 (NP)	0.0076 (J)	0.0058	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	4,4'-DDE	mg/kg, wet weight	0.023	0.036 (NP)	0.048 (J)	0.036	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Heptachlor epoxide	mg/kg, wet weight	0.0076	0.023 (G)	21 (J)	0.023	mg/kg, wet weight	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg, wet weight	1.0	6.2 (NP)	6.3 (JW)	6.2	mg/kg, wet weight	99% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	TCDD TEQ (PCBs)	mg/kg, wet weight	8.1E-06	N/A	8.1E-06	8.1E-06	mg/kg, wet weight	Maximum detected concentration.	Data set consists of one sample.
	Aluminum	mg/kg, wet weight	5.1	7.0 (N)	9.0	7.0	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg, wet weight	1.3	2.1 (N)	3.1	2.1	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Mercury	mg/kg, wet weight	0.060	0.073 (NP)	0.10	0.073	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Selenium	mg/kg, wet weight	0.33	0.35 (NP)	0.38	0.35	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
Fish fillet data from Location A9 were applied to EU BB6.
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not applicable

Qualifier Codes:
J = Estimated concentration.
W = Sample was weathered; value is estimated.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.33B: EXPOSURE POINT CONCENTRATION SUMMARY - BOTTOM-FEEDING FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Bottom-Feeding Fish Fillet

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	alpha-Chlordane	mg/kg, wet weight	0.17	0.45 (NP)	0.31 (J)	0.31	mg/kg, wet weight	Maximum detected concentration	Recommended UCL exceeds maximum detected concentration.
BB5	gamma-Chlordane	mg/kg, wet weight	0.14	0.18 (NP)	0.23 (EJ)	0.18	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	4,4'-DDD	mg/kg, wet weight	0.16	0.18 (NP)	0.23 (J)	0.18	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	4,4'-DDE	mg/kg, wet weight	0.090	0.14 (N)	0.15 (EJ)	0.14	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Heptachlor epoxide	mg/kg, wet weight	0.029	0.037 (NP)	0.050 (J)	0.037	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg, wet weight	9.7	13 (G)	28 (JN)	13	mg/kg, wet weight	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	TCDD TEQ (PCBs)	mg/kg, wet weight	5.0E-04	N/A	8.2E-04	8.2E-04	mg/kg, wet weight	Maximum detected concentration.	Data set consists of three samples.
	Aluminum	mg/kg, wet weight	22	112 (NP)	92	112	mg/kg, wet weight	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg, wet weight	1.2	1.8 (N)	2.6	1.8	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Mercury	mg/kg, wet weight	0.046	0.062 (NP)	0.050	0.050	mg/kg, wet weight	Maximum detected concentration	Recommended UCL exceeds maximum detected concentration.
	Selenium	mg/kg, wet weight	0.59	0.75 (N)	0.86	0.75	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
Fish fillet data from Locations A1 and S3 were combined and applied to EU BB5
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not applicable

Qualifier Codes:
E = Concentration exceeds calibration range of GC/MS instrument.
J = Estimated concentration.
N = Indicates presumptive evidence of a compound.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.33C: EXPOSURE POINT CONCENTRATION SUMMARY - BOTTOM-BOTTOM-FEEDING FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Bottom-Feeding Fish Fillet

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	alpha-Chlordane	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
BB4 and BB3	gamma-Chlordane	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	4,4'-DDD	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	4,4'-DDE	mg/kg, wet weight	0.069	0.083 (N)	0.088 (EJ)	0.083	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Heptachlor epoxide	mg/kg, wet weight	0.036	0.048 (N)	0.053 (J)	0.048	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg, wet weight	3.3	4.3 (G)	8.4 (JW)	4.3	mg/kg, wet weight	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	TCDD TEQ (PCBs)	mg/kg, wet weight	7.0E-05	N/A	7.6E-05	7.6E-05	mg/kg, wet weight	Maximum detected concentration.	Data set consists of one sample.
	Aluminum	mg/kg, wet weight	3.2	3.3 (NP)	3.6	3.3	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg, wet weight	1.1	3.6 (NP)	4.0	3.6	mg/kg, wet weight	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Mercury	mg/kg, wet weight	0.13	0.17 (G)	0.20	0.17	mg/kg, wet weight	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Selenium	mg/kg, wet weight	0.36	0.42 (N)	0.46	0.42	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
Fish fillet data from Locations A2 and A3 were combined and applied to the following EUs: BB4 and BB3
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not applicable

Qualifier Codes:
E = Concentration exceeds calibration range of GC/MS instrument
J = Estimated concentration.
W = Sample was weathered; value is estimated.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.33D: EXPOSURE POINT CONCENTRATION SUMMARY - BOTTOM-BOTTOM-FEEDING FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Bottom-Feeding Fish Fillet

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	alpha-Chlordane	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
BB2	gamma-Chlordane	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	4,4'-DDD	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	4,4'-DDE	mg/kg, wet weight	0.15	0.15 (NP)	0.31 (EJ)	0.15	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Heptachlor epoxide	mg/kg, wet weight	0.060	0.070 (NP)	0.11 (EJ)	0.070	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg, wet weight	8.0	12 (G)	26 (JW)	12	mg/kg, wet weight	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	TCDD TEQ (PCBs)	mg/kg, wet weight	1.5E-04	N/A	2.1E-04	2.1E-04	mg/kg, wet weight	Maximum detected concentration.	Data set consists of one sample.
	Aluminum	mg/kg, wet weight	7.2	10 (NP)	21	10	mg/kg, wet weight	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg, wet weight	0.89	1.5 (G)	2.4	1.5	mg/kg, wet weight	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Mercury	mg/kg, wet weight	0.073	0.077 (NP)	0.090	0.077	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Selenium	mg/kg, wet weight	0.49	0.57 (NP)	0.59	0.57	mg/kg, wet weight	95% Kaplan-Meier (Chebyshev) UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
Fish fillet data from Locations A4 and A5 were combined and applied to EU BB2
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not applicable

Qualifier Codes:
E = Concentration exceeds calibration range of GC/MS instrument
J = Estimated concentration.
W = Sample was weathered; value is estimated.

Data Distribution Codes:
G = Gamma
NP = Nonparametric

TABLE 3.33E: EXPOSURE POINT CONCENTRATION SUMMARY - BOTTOM-BOTTOM-FEEDING FISH FILLET
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Bottom-Feeding Fish Fillet

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	alpha-Chlordane	mg/kg, wet weight	0.048	0.047 (NP)	0.12	0.047	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
BB1 and GB	gamma-Chlordane	mg/kg, wet weight	0.015	N/A	0.020 (MI)	0.020	mg/kg, wet weight	Maximum detected concentration	Data set consists of more than 70% non-detected values.
	4,4'-DDD	mg/kg, wet weight	0.004	N/A	0.004 (MI)	0.004	mg/kg, wet weight	Maximum detected concentration	Data set consists of more than 70% non-detected values.
	4,4'-DDE	mg/kg, wet weight	0.039	0.049 (NP)	0.15 (MI)	0.049	mg/kg, wet weight	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Heptachlor epoxide	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Total PCB Aroclors	mg/kg, wet weight	7.4	18 (NP)	42 (W)	18	mg/kg, wet weight	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	TCDD TEQ (PCBs)	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Aluminum	mg/kg, wet weight	21	74 (NP)	250	74	mg/kg, wet weight	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Copper	mg/kg, wet weight	1.2	3.0 (NP)	9.1	3.0	mg/kg, wet weight	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v4.1.00.
	Mercury	mg/kg, wet weight	0.057	0.064 (NP)	0.096	0.064	mg/kg, wet weight	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.
	Selenium	mg/kg, wet weight	0.38	0.42 (NP)	0.60	0.42	mg/kg, wet weight	95% Kaplan-Meier (percentile bootstrap) UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
Fish fillet data from Locations A11, A12, and A13 were combined and applied to the following EUs: BB1 and GB
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not applicable

Qualifier Codes:
MI = Matrix interference.
W = Sample was weathered; value is estimated.

Data Distribution Codes:
NP = Nonparametric

TABLE 3.34: EXPOSURE POINT CONCENTRATION SUMMARY - BOTTOM-BOTTOM-FEEDING FISH FILLET - SPRING LAKE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota, Wet Weight
Exposure Medium:	Bottom-Feeding Fish Fillet

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Spring Lake	alpha-Chlordane	mg/kg, wet weight	0.10	0.23 (NP)	0.25 (MI)	0.23	mg/kg, wet weight	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v.4.1.00.
	gamma-Chlordane	mg/kg, wet weight	0.060	0.15 (NP)	0.16 (MI)	0.15	mg/kg, wet weight	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v.4.1.00.
	4,4'-DDD	mg/kg, wet weight	0.060	0.073 (NP)	0.10 (MI)	0.073	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	4,4'-DDE	mg/kg, wet weight	0.048	0.082 (G)	0.11 (MI)	0.082	mg/kg, wet weight	95% Approximate Gamma UCL	Potential UCL to use from ProUCL v4.1.00.
	Dieldrin	mg/kg, wet weight	0.027	0.027 (NP)	0.060 (MI)	0.027	mg/kg, wet weight	95% Kaplan-Meier (BCA) UCL	Potential UCL to use from ProUCL v4.1.00.
	Heptachlor epoxide	mg/kg, wet weight	0.023	0.32 (NP)	0.050 (MI)	0.032	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v4.1.00.
	Total PCB Aroclors	mg/kg, wet weight	2.2	6.4 (NP)	17 (J)	6.4	mg/kg, wet weight	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v.4.1.00.
	TCDD TEQ (PCBs)	mg/kg, wet weight	3.1E-05	N/A	4.4E-05	4.4E-05	mg/kg, wet weight	Maximum detected concentration.	Data set consists of two samples.
	Arsenic	mg/kg, wet weight	0.16	N/A	0.16	0.16	mg/kg, wet weight	Maximum detected concentration	Data set consists of more than 70% non-detected values.
	Cobalt	mg/kg, wet weight	0.38	0.38 (NP)	0.40	0.38	mg/kg, wet weight	95% Kaplan-Meier (t) UCL	Potential UCL to use from ProUCL v.4.1.00.
	Lead	mg/kg, wet weight	0.18	N/A	0.18	0.18	mg/kg, wet weight	Arithmetic average concentration	Per USEPA ALM and IEUBK Model for Lead in Children guidance.
	Mercury	mg/kg, wet weight	0.12	0.14 (N)	0.16	0.14	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.

Notes
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not applicable

Qualifier Codes:
J = Estimated concentration.
MI = Matrix interference.

Data Distribution Codes:
G = Gamma
N = Normal
NP = Nonparametric

TABLE 3.35A: EXPOSURE POINT CONCENTRATION SUMMARY - ASIATIC CLAMS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota
Exposure Medium:	Asiatic Clams

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Total PCB Aroclors	mg/kg, wet weight	0.087	N/A	0.11 (N)	0.11	mg/kg, wet weight	Maximum detected concentration.	Data set consists of three samples.
BB6	TCDD TEQ (PCBs)	mg/kg, wet weight	3.1E-06	N/A	3.1E-06	3.1E-06	mg/kg, wet weight	Maximum detected concentration.	Data set consists of one sample.

Notes
Asiatic clam data from Location A1 (*i.e.* , Station 1) were applied to EU BB6.
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not applicable

Qualifier Codes:
N = Indicates presumptive evidence of a compound.

TABLE 3.35B: EXPOSURE POINT CONCENTRATION SUMMARY - ASIATIC CLAMS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota
Exposure Medium:	Asiatic Clams

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Total PCB Aroclors	mg/kg, wet weight	1.81	2.05 (N)	2.76 (J)	2.05	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
BB5, BB4, BB3, BB2, BB1, GB, and SL	TCDD TEQ (PCBs)	mg/kg, wet weight	3.3E-05	N/A	3.3E-05	3.3E-05	mg/kg, wet weight	Maximum detected concentration.	ProUCL output indicates N/A (number of detected data is not adequate enough).

Notes

Asiatic clam data from Locations A2, A3, A4, and A5 (*i.e.* , Stations 2 through 5) were combined and applied to the following EUs: BB5, BB4, BB3, BB2, BB1, GB, and SL.

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not applicable

Qualifier Codes:
J = Estimated concentration.

Data Distribution Codes:
N = Normal

TABLE 3.36A: EXPOSURE POINT CONCENTRATION SUMMARY - CRAYFISH
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota
Exposure Medium:	Crayfish

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Total PCB Aroclors	mg/kg, wet weight	2.2	N/A	2.2 (J)	2.2	mg/kg, wet weight	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
BB6	Arsenic	mg/kg, wet weight	ND	N/A	ND	N/A	mg/kg, wet weight	--	Chemical was not detected in data subset.
	Lead	mg/kg, wet weight	1.5	N/A	6.5	1.5	mg/kg, wet weight	Arithmetic average concentration.	Per USEPA ALM and IEUBK Model for Lead in Children guidance.

Notes
Asiatic clam data from Location A9 were applied to EU BB6.
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.
N/A = Not Applicable
ND = Not Detected

Qualifier Codes:
J = Estimated concentration.

TABLE 3.36B: EXPOSURE POINT CONCENTRATION SUMMARY - CRAYFISH
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Medium:	Biota
Exposure Medium:	Crayfish

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Exposure Unit (EU)	Total PCB Aroclors	mg/kg, wet weight	1.3	1.5 (N)	2.4 (J)	1.5	mg/kg, wet weight	95% Student's-t UCL	Potential UCL to use from ProUCL v4.1.00.
BB5, BB4, BB3, BB2, BB1, GB, and SL	Arsenic	mg/kg, wet weight	0.66	N/A	0.93	0.93	mg/kg, wet weight	Maximum detected concentration.	Data set consists of greater than 70% non-detected observations.
	Lead	mg/kg, wet weight	0.79	N/A	1.4	0.79	mg/kg, wet weight	Arithmetic average concentration.	Per USEPA ALM and IEUBK Model for Lead in Children guidance.

Notes

Crayfish data from Locations A1, A2, A3, A4, and A5 were combined and applied to the following EUs: BB5, BB4, BB3, BB2, BB1, GB, and SL.

[1] The arithmetic mean of detected concentrations only is presented.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) was calculated using ProUCL version 4.1.00.

N/A = Not Applicable

Qualifier Codes:
J = Estimated concentration.

Data Distribution Codes:
N = Normal

TABLE 4.1.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Exposure Equation/ Model Name (1)
Dermal	Recreationist / Sportsman / Angler	Adult	OU4 Bound Brook Study Area	C_w	Chemical Concentration in Surface Water	Chemical-specific	mg/L	See Table 3.1	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT
				FA	Fraction Absorbed Water	Chemical-specific	unitless	See Appendix D	
				Kp	Permeability Coefficient	Chemical-specific	cm/hour	See Appendix D	where for organic chemicals:
				SA	Skin Surface Area Available for Contact	6,200	cm^2	USEPA, 2011	
				τ-event	Lag time per event	Chemical-specific	hours/event	See Appendix D	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				t-event	Event Duration	2	hours/event	(2)	If t-event < t*, then: DA_{event} = 2FA x Kp x C_w x CF x SQRT{(6 x τ-event x t-event)/pi}
				t*	Time to reach steady-state = 2.4 xτ-event	Chemical-specific	hours	See Appendix D	or
				B	Ratio of permeability coefficient of a chemical through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	unitless	See Appendix D	If t-event > t*, then: DA_{event} = FA x Kp x C_w x CF x {(t-event/(1 + B)) + 2 x τ-event x ((1 + (3 x B) + (3 x B x B))/(1 + $B)^2$)}
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	50	days/year	(3)	and where for inorganic chemicals:
				ED	Exposure Duration	30	years	(2)	
				CF	Volumetric Conversion Factor for Water	0.001	L/cm^3	--	DA_{event} = Kp x C_w x t-event x CF
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	10,950	days	- -	
				AT-C	Averaging Time (Cancer)	25,550	days	- -	
Dermal	Recreationist / Sportsman / Angler	Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_w	Chemical Concentration in Surface Water	Chemical-specific	mg/L	See Table 3.1	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT
				FA	Fraction Absorbed Water	Chemical-specific	unitless	See Appendix D	
				Kp	Permeability Coefficient	Chemical-specific	cm/hour	See Appendix D	where for organic chemicals:
				SA	Skin Surface Area Available for Contact	5,000	cm^2	USEPA, 2011	
				τ-event	Lag time per event	Chemical-specific	hours/event	See Appendix D	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				t-event	Event Duration	2	hours/event	(2)	If t-event < t*, then: DA_{event} = 2FA x Kp x C_w x CF x SQRT{(6 x τ-event x t-event)/pi}
				t*	Time to reach steady-state = 2.4 xτ-event	Chemical-specific	hours	See Appendix D	or
				B	Ratio of permeability coefficient of a chemical through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	unitless	See Appendix D	If t-event > t*, then: DA_{event} = FA x Kp x C_w x CF x {(t-event/(1 + B)) + 2 x τ-event x ((1 + (3 x B) + (3 x B x B))/(1 + $B)^2$)}
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	50	days/year	(3)	and where for inorganic chemicals:
				ED	Exposure Duration	12	years	(2)	
				CF	Volumetric Conversion Factor for Water	0.001	L/cm^3	--	DA_{event} = Kp x C_w x t-event x CF
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	4,380	days	- -	
				AT-C	Averaging Time (Cancer)	25,550	days	- -	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 2 days per week during the warmer half of the year (2 days/week x 25 weeks = 50 days).
Skin surface areas available for contact were calculated by assuming exposed areas are limited to the face (1/2 head), forearms (1/2 arms), lower legs (1/2 legs), hands, and feet (Tables 7-2 and 7-3; USEPA, 2011

TABLE 4.1.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Exposure Equation/ Model Name (1)
Dermal	Recreationist / Sportsman / Angler	Adult	OU4 Bound Brook Study Area	C_w	Chemical Concentration in Surface Water	Chemical-specific	mg/L	See Table 3.1	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT
				FA	Fraction Absorbed Water	Chemical-specific	unitless	See Appendix D	
				Kp	Permeability Coefficient	Chemical-specific	cm/hour	See Appendix D	where for organic chemicals:
				SA	Skin Surface Area Available for Contact	6,200	cm^2	USEPA, 2011	
				τ-event	Lag time per event	Chemical-specific	hours/event	See Appendix D	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				t-event	Event Duration	2	hours/event	(2)	If t-event < t*, then: DA_{event} = 2FA x Kp x C_w x CF x SQRT{(6 x τ-event x t-event)/pi}
				t*	Time to reach steady-state = 2.4 x τ-event	Chemical-specific	hours	See Appendix D	or
				B	Ratio of permeability coefficient of a chemical through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	unitless	See Appendix D	If t-event > t*, then: DA_{event} = FA x Kp x C_w x CF x {(t-event/(1 + B)) + 2 x τ-event x ((1 + (3 x B) + (3 x B x B))/(1 + $B)^2$)}
				EV	Event Frequency	1	events/day	USEPA, 2002	
				EF	Exposure Frequency	25	days/year	(3)	and where for inorganic chemicals:
				ED	Exposure Duration	9	years	USEPA, 1989	
				CF	Volumetric Conversion Factor for Water	0.001	L/cm^3	--	DA_{event} = Kp x C_w x t-event x CF
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	- -	
				AT-C	Averaging Time (Cancer)	25,550	days	- -	
Dermal	Recreationist / Sportsman / Angler	Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_w	Chemical Concentration in Surface Water	Chemical-specific	mg/L	See Table 3.1	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT
				FA	Fraction Absorbed Water	Chemical-specific	unitless	See Appendix D	
				Kp	Permeability Coefficient	Chemical-specific	cm/hour	See Appendix D	where for organic chemicals:
				SA	Skin Surface Area Available for Contact	5,000	cm^2	USEPA, 2011	
				τ-event	Lag time per event	Chemical-specific	hours/event	See Appendix D	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				t-event	Event Duration	2	hours/event	(2)	If t-event < t*, then: DA_{event} = 2FA x Kp x C_w x CF x SQRT{(6 x τ-event x t-event)/pi}
				t*	Time to reach steady-state = 2.4 x τ-event	Chemical-specific	hours	See Appendix D	or
				B	Ratio of permeability coefficient of a chemical through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	unitless	See Appendix D	If t-event > t*, then: DA_{event} = FA x Kp x C_w x CF x {(t-event/(1 + B)) + 2 x τ-event x ((1 + (3 x B) + (3 x B x B))/(1 + $B)^2$)}
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	25	days/year	(3)	and where for inorganic chemicals:
				ED	Exposure Duration	9	years	USEPA, 1989	
				CF	Volumetric Conversion Factor for Water	0.001	L/cm^3	--	DA_{event} = Kp x C_w x t-event x CF
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	- -	
				AT-C	Averaging Time (Cancer)	25,550	days	- -	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 1 day per week during the warmer half of the year (1 day/week x 25 weeks = 25 days).
Skin surface areas available for contact were calculated by assuming exposed areas are limited to the face (1/2 head), forearms (1/2 arms), lower legs (1/2 legs), hands, and feet (Tables 7-2 and 7-3; USEPA, 2011

TABLE 4.2.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Exposure Equation/ Model Name (1)
Dermal	Outdoor Worker	Adult	OU4 Bound Brook Study Area	C_w	Chemical Concentration in Surface Water	Chemical-specific	mg/L	See Table 3.1	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT
				FA	Fraction Absorbed Water	Chemical-specific	unitless	See Appendix D	
				Kp	Permeability Coefficient	Chemical-specific	cm/hour	See Appendix D	where for organic chemicals:
				SA	Skin Surface Area Available for Contact	3,300	cm^2	USEPA, 2002b	
				τ-event	Lag time per event	Chemical-specific	hours/event	See Appendix D	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				t-event	Event Duration	8	hours/event	(2)	If t-event < t*, then: DA_{event} = 2FA x Kp x C_w x CF x SQRT{(6 x τ-event x t-event)/pi}
				t*	Time to reach steady-state = 2.4 xτ-event	Chemical-specific	hours	See Appendix D	or
				B	Ratio of permeability coefficient of a chemical through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	unitless	See Appendix D	If t-event > t*, then: DA_{event} = FA x Kp x C_w x CF x {(t-event/(1 + B)) + 2 x τ-event x ((1 + (3 x B) + (3 x B x B))/(1 + B)^2)}
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	60	days/year	(3)	and where for inorganic chemicals:
				ED	Exposure Duration	1	years	USEPA, 2002b	
				CF	Volumetric Conversion Factor for Water	0.001	L/cm^3	--	DA_{event} = Kp x C_w x t-event x CF
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	- -	
				AT-C	Averaging Time (Cancer)	25,550	days	- -	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment.
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 5 days per week for three work months (5 days/week x 4 weeks/month x 3 months = 60 days).

TABLE 4.2.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Exposure Equation/ Model Name (1)
Dermal	Outdoor Worker	Adult	OU4 Bound Brook Study Area	C_w	Chemical Concentration in Surface Water	Chemical-specific	mg/L	See Table 3.1	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT
				FA	Fraction Absorbed Water	Chemical-specific	unitless	See Appendix D	
				Kp	Permeability Coefficient	Chemical-specific	cm/hour	See Appendix D	where for organic chemicals:
				SA	Skin Surface Area Available for Contact	3,300	cm^2	USEPA, 2002b	
				τ-event	Lag time per event	Chemical-specific	hours/event	See Appendix D	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				t-event	Event Duration	6	hours/event	(2)	If t-event < t*, then: DA_{event} = 2FA x Kp x C_w x CF x SQRT{(6 x τ-event x t-event)/pi}
				t*	Time to reach steady-state = 2.4 x τ-event	Chemical-specific	hours	See Appendix D	or
				B	Ratio of permeability coefficient of a chemical through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	unitless	See Appendix D	If t-event > t*, then: DA_{event} = FA x Kp x C_w x CF x {(t-event/(1 + B)) + 2 x τ-event x ((1 + (3 x B) + (3 x B x B))/$(1 + B)^2$)}
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	20	days/year	(3)	and where for inorganic chemicals:
				ED	Exposure Duration	1	years	USEPA, 2002b	
				CF	Volumetric Conversion Factor for Water	0.001	L/cm^3	--	DA_{event} = Kp x C_w x t-event x CF
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	- -	
				AT-C	Averaging Time (Cancer)	25,550	days	- -	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment.
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 5 days per week for one work month (5 days/week x 4 weeks/month x 1 month = 20 days).

TABLE 4.3.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Surface Sediment

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Recreationist / Sportsman / Angler	Adult	OU4 Bound Brook Study Area	C_{sed}	Chemical Concentration in Sediment	Chemical-specific	mg/kg	See Tables 3.2 - 3.16	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{sed} x CF x IR-Sed x FI x EF x ED x 1/BW x 1/AT
				IR-Sed	Ingestion Rate of Sediment	100	mg/day	USEPA, 2002	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	50	days/year	(3)	
				ED	Exposure Duration	30	years	USEPA, 2002	
				BW	Body Weight	70	kg	USEPA, 2002	
				AT-N	Averaging Time (Non-Cancer)	10,950	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_{sed}	Chemical Concentration in Sediment	Chemical-specific	mg/kg	See Tables 3.2 - 3.16	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{sed} x CF x IR-Sed x FI x EF x ED x 1/BW x 1/AT
				IR-Sed	Ingestion Rate of Sediment	200	mg/day	USEPA, 2002	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	50	days/year	(3)	
				ED	Exposure Duration	12	years	USEPA, 2002	
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	4,380	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

TABLE 4.3.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Surface Sediment

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Dermal	Recreationist / Sportsman / Angler	Adult	OU4 Bound Brook Study Area	C_{sed}	Chemical Concentration in Sediment	Chemical-specific	mg/kg	See Tables 3.2 - 3.16	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	6,200	cm^2	USEPA, 2011	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Sediment to Skin Adherence Factor	0.5	mg/cm^2-event	USEPA, 2002b	C_{sed} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	50	days/year	(3)	
				ED	Exposure Duration	30	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	10,950	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_{sed}	Chemical Concentration in Sediment	Chemical-specific	mg/kg	See Tables 3.2 - 3.16	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	5,000	cm^2	USEPA, 2011	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Sediment to Skin Adherence Factor	0.5	mg/cm^2-event	USEPA, 2002b	C_{sed} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	50	days/year	(3)	
				ED	Exposure Duration	12	years	USEPA, 2002b	
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	4,380	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessmen
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 2 days per week during the warmer half of the year (2 days/week x 25 weeks = 50 days
Skin surface areas available for contact were calculated by assuming exposed areas are limited to the face (1/2 head), forearms (1/2 arms), lower legs (1/2 legs), hands, and feet (Tables 7-2 and 7-3; USEPA, 2011
Sediment to skin adherence factor was calculated using the body-part specific adherence factors for Adults, Clamming (Table 7-4; USEPA, 2011) and weighting each AF by the percent of the total exposed skin SA each body part compris

TABLE 4.3.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Surface Sediment

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Recreationist / Sportsman / Angler	Adult	OU4 Bound Brook Study Area	C_{sed}	Chemical Concentration in Sediment	Chemical-specific	mg/kg	See Tables 3.2 - 3.16	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{sed} x CF x IR-Sed x FI x EF x ED x 1/BW x 1/AT
				IR-Sed	Ingestion Rate of Sediment	100	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	25	days/year	(3)	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_{sed}	Chemical Concentration in Sediment	Chemical-specific	mg/kg	See Tables 3.2 - 3.16	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{sed} x CF x IR-Sed x FI x EF x ED x 1/BW x 1/AT
				IR-Sed	Ingestion Rate of Sediment	200	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	25	days/year	(3)	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

TABLE 4.3.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Surface Sediment

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Dermal	Recreationist / Sportsman / Angler	Adult	OU4 Bound Brook Study Area	C_{sed}	Chemical Concentration in Sediment	Chemical-specific	mg/kg	See Tables 3.2 - 3.16	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	6,200	cm^2	USEPA, 2011	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Sediment to Skin Adherence Factor	0.5	mg/cm^2-event	USEPA, 2002b	C_{sed} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	25	days/year	(3)	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_{sed}	Chemical Concentration in Sediment	Chemical-specific	mg/kg	See Tables 3.2 - 3.16	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	5,000	cm^2	USEPA, 2011	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Sediment to Skin Adherence Factor	0.5	mg/cm^2-event	USEPA, 2002b	C_{sed} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	25	days/year	(3)	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessmen
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 1 day per week during the warmer half of the year (1 day/week x 25 weeks = 25 days
Skin surface areas available for contact were calculated by assuming exposed areas are limited to the face (1/2 head), forearms (1/2 arms), lower legs (1/2 legs), hands, and feet (Tables 7-2 and 7-3; USEPA, 201
Sediment to skin adherence factor was calculated using the body-part specific adherence factors for Adults, Clamming (Table 7-4; USEPA, 2011) and weighting each AF by the percent of the total exposed skin SA each body part compris

TABLE 4.4.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: All Sediment

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Outdoor Worker	Adult	OU4 Bound Brook Study Area	C_{sed}	Chemical Concentration in Sediment	Chemical-specific	mg/kg	See Tables 3.2 - 3.16	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{sed} x CF x IR-Sed x FI x EF x ED x 1/BW x 1/AT
				IR-Sed	Ingestion Rate of Sediment	330	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	60	days/year	(3)	
				ED	Exposure Duration	1	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
Dermal	Outdoor Worker	Adult	OU4 Bound Brook Study Area	C_{sed}	Chemical Concentration in Sediment	Chemical-specific	mg/kg	See Tables 3.2 - 3.16	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	3,300	cm^2	USEPA, 2002b	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Sediment to Skin Adherence Factor	0.5	mg/cm^2-event	USEPA, 2011	C_{sed} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	60	days/year	(3)	
				ED	Exposure Duration	1	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessmen
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 5 days per week for three work months (5 days/week x 4 weeks/month x 3 months = 60 days
Sediment to skin adherence factor was calculated using the body-part specific adherence factors for Adults, Clamming (Table 7-4; USEPA, 2011) and weighting each AF by the percent of the total exposed skin SA each body part compris

TABLE 4.4.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: All Sediment

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Outdoor Worker	Adult	OU4 Bound Brook Study Area	C_{sed}	Chemical Concentration in Sediment	Chemical-specific	mg/kg	See Tables 3.2 - 3.16	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{sed} x CF x IR-Sed x FI x EF x ED x 1/BW x 1/AT
				IR-Sed	Ingestion Rate of Sediment	330	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	20	days/year	(3)	
				ED	Exposure Duration	1	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
Dermal	Outdoor Worker	Adult	OU4 Bound Brook Study Area	C_{sed}	Chemical Concentration in Sediment	Chemical-specific	mg/kg	See Tables 3.2 - 3.16	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	3,300	cm^2	USEPA, 2002b	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Sediment to Skin Adherence Factor	0.3	mg/cm^2-event	USEPA, 2002b	C_{sed} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	20	days/year	(3)	
				ED	Exposure Duration	1	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessmen
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 5 days per week for one work month (5 days/week x 4 weeks/month x 1 month = 20 days).
Sediment to skin adherence factor was calculated using the body-part specific adherence factors for Adults, Clamming (Table 7-4; USEPA, 2011) and weighting each AF by the percent of the total exposed skin SA each body part compris

TABLE 4.5.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Surface Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Recreationist / Sportsman / Angler	Adult	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	100	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	50	days/year	(3)	
				ED	Exposure Duration	30	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	10,950	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	200	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	50	days/year	(3)	
				ED	Exposure Duration	12	years	USEPA, 2002b	
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	4,380	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

TABLE 4.5.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Surface Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Dermal	Recreationist / Sportsman / Angler	Adult	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	6,200	cm^2	USEPA, 2011	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Soil to Skin Adherence Factor	0.07	mg/cm^2-event	USEPA, 2002b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	50	days/year	(3)	
				ED	Exposure Duration	30	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	10,950	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	5,000	cm^2	USEPA, 2011	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Soil to Skin Adherence Factor	0.2	mg/cm^2-event	USEPA, 2002b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	50	days/year	(3)	
				ED	Exposure Duration	12	years	USEPA, 2002b	
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	4,380	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessmen
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 2 days per week during the warmer half of the year (2 days/week x 25 weeks = 50 days).
Skin surface areas available for contact were calculated by assuming exposed areas are limited to the face (1/2 head), forearms (1/2 arms), lower legs (1/2 legs), hands, and feet (Tables 7-2 and 7-3; USEPA, 201

TABLE 4.5.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Surface Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Recreationist / Sportsman / Angler	Adult	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	100	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	25	days/year	(3)	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	200	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	25	days/year	(3)	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

TABLE 4.5.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Surface Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Dermal	Recreationist / Sportsman / Angler	Adult	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	6,200	cm^2	USEPA, 2011	event) =
				AF	Soil to Skin Adherence Factor	0.01	mg/cm^2-event	USEPA, 2004b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	25	days/year	(3)	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	5,000	cm^2	USEPA, 2011	event) =
				AF	Soil to Skin Adherence Factor	0.04	mg/cm^2-event	USEPA, 2004b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	25	days/year	(3)	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessmen
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 1 day per week during the warmer half of the year (1 day/week x 25 weeks = 25 days
Skin surface areas available for contact were calculated by assuming exposed areas are limited to the face (1/2 head), forearms (1/2 arms), lower legs (1/2 legs), hands, and feet (Tables 7-2 and 7-3; USEPA, 201

TABLE 4.6.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Outdoor Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation	Recreationist / Sportsman / Angler	Adult	OU4 Bound Brook Study Area	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) = CA x ET x EF x ED x 1/AT
				ET	Exposure Time	2	hours/day	(2)	
				EF	Exposure Frequency	50	days/year	(3)	
				ED	Exposure Duration	30	years	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	262,800	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) = CA x ET x EF x ED x 1/AT
				ET	Exposure Time	2	hours/day	(2)	
				EF	Exposure Frequency	50	days/year	(3)	
				ED	Exposure Duration	12	years	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	105,120	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment.
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 2 days per week during the warmer half of the year (2 days/week x 25 weeks = 50 days).

TABLE 4.6.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Outdoor Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation	Recreationist / Sportsman / Angler	Adult	OU4 Bound Brook Study Area	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) = CA x ET x EF x ED x 1/AT
				ET	Exposure Time	2	hours/day	(2)	
				EF	Exposure Frequency	25	days/year	(3)	
				ED	Exposure Duration	9	years	USEPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	78,840	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) = CA x ET x EF x ED x 1/AT
				ET	Exposure Time	2	hours/day	(2)	
				EF	Exposure Frequency	25	days/year	(3)	
				ED	Exposure Duration	9	years	USEPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	78,840	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment.
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 1 day per week during the warmer half of the year (1 day/week x 25 weeks = 25 days).

TABLE 4.7.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: All Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Outdoor Worker	Adult	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	330	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	60	days/year	(3)	
				ED	Exposure Duration	1	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
Dermal	Outdoor Worker	Adult	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	3,300	cm^2	USEPA, 2002b	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Soil to Skin Adherence Factor	0.3	mg/cm^2-event	USEPA, 2002b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	60	days/year	(3)	
				ED	Exposure Duration	1	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 5 days per week for three work months (5 days/week x 4 weeks/month x 3 months = 60 days)

TABLE 4.7.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: All Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Outdoor Worker	Adult	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	330	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	20	days/year	(3)	
				ED	Exposure Duration	1	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
Dermal	Outdoor Worker	Adult	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	3,300	cm^2	USEPA, 2002b	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Soil to Skin Adherence Factor	0.1	mg/cm^2-event	USEPA, 2004b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	20	days/year	(3)	
				ED	Exposure Duration	1	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 5 days per week for one work month (5 days/week x 4 weeks/month x 1 month = 20 days).

TABLE 4.8.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Outdoor Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation	Outdoor Worker	Adult	OU4 Bound Brook Study Area	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) = CA x ET x EF x ED x 1/AT
				ET	Exposure Time	8	hours/day	(2)	
				EF	Exposure Frequency	5	days/week	(2)	
				ED	Exposure Duration	12	weeks	(3)	
				AT-N	Averaging Time (Non-Cancer)	1,968	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment.
(2) Professional judgment.
(3) Professional judgment; exposure duration assumes 4 weeks per month for three work months (4 weeks/month x 3 months = 12 weeks).

TABLE 4.8.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Outdoor Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation	Outdoor Worker	Adult	OU4 Bound Brook Study Area	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) =
				ET	Exposure Time	6	hours/day	(2)	CA x ET x EF x ED x 1/AT
				EF	Exposure Frequency	5	days/week	(2)	
				ED	Exposure Duration	4	weeks	(3)	
				AT-N	Averaging Time (Non-Cancer)	624	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment.
(2) Professional judgment.
(3) Professional judgment; exposure duration assumes one work month (4 weeks/month x 1 month = 4 weeks).

TABLE 4.9.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: All Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Resident	Adult	Residence	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	100	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	30/24*	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	10,950	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Child (0-6 years old)	Residence	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	200	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	6	years	USEPA, 2002b	
				BW	Body Weight	15	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

TABLE 4.9.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: All Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Dermal	Resident	Adult	Residence	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	5,700	cm^2	USEPA, 2002b	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Soil to Skin Adherence Factor	0.07	mg/cm^2-event	USEPA, 2002b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	30/24*	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	10,950	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Child (0-6 years old)	Residence	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	2,800	cm^2	USEPA, 2002b	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Soil to Skin Adherence Factor	0.2	mg/cm^2-event	USEPA, 2002b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	6	years	USEPA, 2002b	
				BW	Body Weight	15	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment
(2) Professional judgment.
* Non-cancer hazard quotients for adult residents are computed based on an ED of 30 years as an adult. Cancer risks for adult residents are computed based on an ED of 30 years, assuming 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

TABLE 4.9.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - Central Tendency Exposure
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: All Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Resident	Adult	Residence	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	100	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Child (0-6 years old)	Residence	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	200	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	6	years	USEPA, 2002b	
				BW	Body Weight	15	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

TABLE 4.9.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - Central Tendency Exposure
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: All Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Dermal	Resident	Adult	Residence	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	5,700	cm^2	USEPA, 2002b	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Soil to Skin Adherence Factor	0.01	mg/cm^2-event	USEPA, 2004b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Child (0-6 years old)	Residence	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	2,800	cm^2	USEPA, 2002b	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Soil to Skin Adherence Factor	0.04	mg/cm^2-event	USEPA, 2004b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	6	years	USEPA, 2002b	
				BW	Body Weight	15	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment
(2) Professional judgment.

TABLE 4.10.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Outdoor Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation	Resident	Adult	Residence	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) =
				ET	Exposure Time	24	hours/day	(2)	CA x ET x EF x ED x 1/AT
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	30/24*	years	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	262,800	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	
		Child (0-6 years old)	Residence	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) =
				ET	Exposure Time	24	hours/day	(2)	CA x ET x EF x ED x 1/AT
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	6	years	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	52,560	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment.
(2) Professional judgment.
* Non-cancer hazard quotients for adult residents are computed based on an ED of 30 years as an adult. Cancer risks for adult residents are computed based on an ED of 30 years, assuming 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

TABLE 4.10.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Outdoor Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation	Resident	Adult	Residence	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) =
				ET	Exposure Time	24	hours/day	(2)	CA x ET x EF x ED x 1/AT
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	9	years	USEPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	78,840	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	
		Child (0-6 years old)	Residence	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) =
				ET	Exposure Time	24	hours/day	(2)	CA x ET x EF x ED x 1/AT
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	6	years	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	52,560	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment.
(2) Professional judgment.

TABLE 4.11.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Surface Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Commercial/ Industrial Worker	Adult	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	100	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	225	days/year	USEPA, 2002b	
				ED	Exposure Duration	25	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	9,125	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
Dermal	Commercial/ Industrial Worker	Adult	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	3,300	cm^2	USEPA, 2002b	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Soil to Skin Adherence Factor	0.2	mg/cm^2-event	USEPA, 2002b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	225	days/year	USEPA, 2002b	
				ED	Exposure Duration	25	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	9,125	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessmen
(2) Professional judgment.

TABLE 4.11.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Surface Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Commercial/ Industrial Worker	Adult	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	100	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	225	days/year	USEPA, 2002b	
				ED	Exposure Duration	6.6	years	USEPA, 1997c	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	2,409	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
Dermal	Commercial/ Industrial Worker	Adult	OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	3,300	cm^2	USEPA, 2002b	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Soil to Skin Adherence Factor	0.02	mg/cm^2-event	USEPA, 2004b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	225	days/year	USEPA, 2002b	
				ED	Exposure Duration	6.6	years	USEPA, 1997c	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	2,409	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessmen
(2) Professional judgment.

TABLE 4.12.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Outdoor Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation	Commercial/ Industrial Worker	Adult	OU4 Bound Brook Study Area	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) = CA x ET x EF x ED x 1/AT
				ET	Exposure Time	8	hours/day	(2)	
				EF	Exposure Frequency	225	days/year	USEPA, 2002b	
				ED	Exposure Duration	25	years	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	219,000	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment.
(2) Professional judgment.

TABLE 4.12.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Outdoor Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation	Commercial/ Industrial Worker	Adult	OU4 Bound Brook Study Area	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) = CA x ET x EF x ED x 1/AT
				ET	Exposure Time	6	hours/day	(2)	
				EF	Exposure Frequency	225	days/year	USEPA, 2002b	
				ED	Exposure Duration	6.6	years	USEPA, 1997c	
				AT-N	Averaging Time (Non-Cancer)	57,816	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment.
(2) Professional judgment.

TABLE 4.13.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: All Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Construction/Utility Worker	Adult	Excavation at OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	330	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	60	days/year	(3)	
				ED	Exposure Duration	1	years	(2)	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
Dermal	Construction/Utility Worker	Adult	Excavation at OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	3,300	cm^2	USEPA, 2002b	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Soil to Skin Adherence Factor	0.3	mg/cm^2-event	USEPA, 2002b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	60	days/year	(3)	
				ED	Exposure Duration	1	years	(2)	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 5 days per week for three work months (5 days/week x 4 weeks/month x 3 months = 60 days)

TABLE 4.13.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: All Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Construction/Utility Worker	Adult	Excavation at OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{soil} x CF x IR-S x FI x EF x ED x 1/BW x 1/AT
				IR-S	Ingestion Rate of Soil	330	mg/day	USEPA, 2002b	
				FI	Fraction Ingested	1	unitless	(2)	
				EF	Exposure Frequency	20	days/year	(3)	
				ED	Exposure Duration	1	years	(2)	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
Dermal	Construction/Utility Worker	Adult	Excavation at OU4 Bound Brook Study Area	C_{soil}	Chemical Concentration in Soil	Chemical-specific	mg/kg	See Tables 3.17 - 3.30	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA, 2004b	DA_{event} x EF x ED x EV x SA x 1/BW x 1/AT
				CF	Conversion Factor	1.00E-06	kg/mg	- -	where:
				SA	Skin Surface Area Available for Contact	3,300	cm^2	USEPA, 2002b	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				AF	Soil to Skin Adherence Factor	0.1	mg/cm^2-event	USEPA, 2004b	C_{soil} x CF x AF x ABS-d
				ABS-d	Dermal Absorption Fraction	Chemical-specific	unitless	USEPA, 2004b	
				EV	Event Frequency	1	events/day	USEPA, 2002b	
				EF	Exposure Frequency	20	days/year	(3)	
				ED	Exposure Duration	1	years	(2)	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment
(2) Professional judgment.
(3) Professional judgment; exposure frequency assumes 5 days per week for one work month (5 days/week x 4 weeks/month x 1 month = 20 days

TABLE 4.14.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Outdoor Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation	Construction/Utility Worker	Adult	Excavation at OU4 Bound Brook Study Area	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) = CA x ET x EF x ED x 1/AT
				ET	Exposure Time	8	hours/day	(2)	
				EF	Exposure Frequency	5	days/week	(2)	
				ED	Exposure Duration	12	weeks	(3)	
				AT-N	Averaging Time (Non-Cancer)	1,968	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment.
(2) Professional judgment.
(3) Professional judgment; exposure duration assumes 4 weeks per month for three work months (4 weeks/month x 3 months = 12 weeks).

TABLE 4.14.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Floodplain Soil
Exposure Medium: Outdoor Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation	Construction/Utility Worker	Adult	Excavation at OU4 Bound Brook Study Area	CA	Chemical Concentration in Air	Chemical-specific	$\mu g/m^3$	See Appendix D	Exposure Concentration (EC) ($\mu g/m^3$) = CA x ET x EF x ED x 1/AT
				ET	Exposure Time	6	hours/day	(2)	
				EF	Exposure Frequency	5	days/week	(2)	
				ED	Exposure Duration	4	weeks	(3)	
				AT-N	Averaging Time (Non-Cancer)	624	hours	USEPA, 2009a	
				AT-C	Averaging Time (Cancer)	613,200	hours	USEPA, 2009a	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessment.
(2) Professional judgment.
(3) Professional judgment; exposure duration assumes one work month (4 weeks/month x 1 month = 4 weeks).

TABLE 4.15.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Biota
Exposure Medium: Fish Fillet

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Angler	Adult	OU4 Bound Brook Study Area	C_{fish}	Chemical Concentration in Fish Fillet	Chemical-specific	mg/kg	See Table 3.31 - 3.34	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{fish} x CF x IR-F x FI x (1-CL) x EF x ED x 1/BW x 1/AT
				IR-F	Ingestion Rate of Fish	23,200	mg/day	Burger, 2002	
				FI	Fraction Ingested	1	unitless	(2)	
				CL	Cooking Loss	0	unitless	(2)	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	30/24*	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	10,950	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_{fish}	Chemical Concentration in Fish Fillet	Chemical-specific	mg/kg	See Table 3.31 - 3.34	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{fish} x CF x IR-F x FI x (1-CL) x EF x ED x 1/BW x 1/AT
				IR-F	Ingestion Rate of Fish	15,500	mg/day	USEPA, 1997c	
				FI	Fraction Ingested	1	unitless	(2)	
				CL	Cooking Loss	0	unitless	(2)	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	12	years	USEPA, 2002b	
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	4,380	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Child (0-6 years old)	OU4 Bound Brook Study Area	C_{fish}	Chemical Concentration in Fish Fillet	Chemical-specific	mg/kg	See Table 3.31 - 3.34	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{fish} x CF x IR-F x FI x (1-CL) x EF x ED x 1/BW x 1/AT
				IR-F	Ingestion Rate of Fish	7,750	mg/day	USEPA, 1997c	
				FI	Fraction Ingested	1	unitless	(2)	
				CL	Cooking Loss	0	unitless	(2)	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	6	years	USEPA, 2002b	
				BW	Body Weight	15	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessmen
(2) Professional judgment.
* Non-cancer hazard quotients for adult anglers are computed based on an ED of 30 years as an adult. Cancer risks for adult anglers are computed based on an ED of 30 years, assuming 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.
The adolescent ingestion rate is equivalent to 2/3 the ingestion rate of the adult. The child ingestion rate is equivalent to 1/3 the ingestion rate of the adu

TABLE 4.15.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Biota
Exposure Medium: Fish Fillet

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Angler	Adult	OU4 Bound Brook Study Area	C_{fish}	Chemical Concentration in Fish Fillet	Chemical-specific	mg/kg	See Table 3.31 - 3.34	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{fish} x CF x IR-F x FI x (1-CL) x EF x ED x 1/BW x 1/AT
				IR-F	Ingestion Rate of Fish	23,200	mg/day	Burger, 2002	
				FI	Fraction Ingested	1	unitless	(2)	
				CL	Cooking Loss	Chemical-specific	unitless		
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_{fish}	Chemical Concentration in Fish Fillet	Chemical-specific	mg/kg	See Table 3.31 - 3.34	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{fish} x CF x IR-F x FI x (1-CL) x EF x ED x 1/BW x 1/AT
				IR-F	Ingestion Rate of Fish	15,500	mg/day	USEPA, 1997c	
				FI	Fraction Ingested	1	unitless	(2)	
				CL	Cooking Loss	Chemical-specific	unitless		
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Child (0-6 years old)	OU4 Bound Brook Study Area	C_{fish}	Chemical Concentration in Fish Fillet	Chemical-specific	mg/kg	See Table 3.31 - 3.34	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{fish} x CF x IR-F x FI x (1-CL) x EF x ED x 1/BW x 1/AT
				IR-F	Ingestion Rate of Fish	7,750	mg/day	USEPA, 1997c	
				FI	Fraction Ingested	1	unitless	(2)	
				CL	Cooking Loss	Chemical-specific	unitless		
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	6	years	USEPA, 2002b	
				BW	Body Weight	15	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessmen
(2) Professional judgment.
The adolescent ingestion rate is equivalent to 2/3 the ingestion rate of the adult. The child ingestion rate is equivalent to 1/3 the ingestion rate of the adu

TABLE 4.16.RME: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - REASONABLE MAXIMUM EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Biota
Exposure Medium: Invertebrates

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Angler	Adult	OU4 Bound Brook Study Area	C_{inv}	Chemical Concentration in Clams/Crayfish	Chemical-specific	mg/kg	See Table 3.35 and 3.36	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{inv} x CF x IR-Inv x FI x (1-CL) x EF x ED x 1/BW x 1/AT
				IR-Inv	Ingestion Rate of Clams/Crayfish	1,900	mg/day	USEPA, 2011	
				FI	Fraction Ingested	1	unitless	(2)	
				CL	Cooking Loss	0	unitless	(2)	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	30/24*	years	USEPA, 2002b	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	10,950	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_{inv}	Chemical Concentration in Clams/Crayfish	Chemical-specific	mg/kg	See Table 3.35 and 3.36	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{inv} x CF x IR-Inv x FI x (1-CL) x EF x ED x 1/BW x 1/AT
				IR-Inv	Ingestion Rate of Clams/Crayfish	1,250	mg/day	USEPA, 1997c	
				FI	Fraction Ingested	1	unitless	(2)	
				CL	Cooking Loss	0	unitless	(2)	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	12	years	USEPA, 2002b	
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	4,380	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Child (0-6 years old)	OU4 Bound Brook Study Area	C_{inv}	Chemical Concentration in Clams/Crayfish	Chemical-specific	mg/kg	See Table 3.35 and 3.36	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{inv} x CF x IR-Inv x FI x (1-CL) x EF x ED x 1/BW x 1/AT
				IR-Inv	Ingestion Rate of Clams/Crayfish	625	mg/day	USEPA, 1997c	
				FI	Fraction Ingested	1	unitless	(2)	
				CL	Cooking Loss	0	unitless	(2)	
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	6	years	USEPA, 2002b	
				BW	Body Weight	15	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessmen
(2) Professional judgment.
* Non-cancer hazard quotients for adult anglers are computed based on an ED of 30 years as an adult. Cancer risks for adult anglers are computed based on an ED of 30 years, assuming 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.
The adolescent ingestion rate is equivalent to 2/3 the ingestion rate of the adult. The child ingestion rate is equivalent to 1/3 the ingestion rate of the adu

TABLE 4.16.CTE: VALUES USED FOR DAILY EXPOSURE CALCULATIONS - CENTRAL TENDENCY EXPOSURE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Medium: Biota
Exposure Medium: Invertebrates

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Angler	Adult	OU4 Bound Brook Study Area	C_{inv}	Chemical Concentration in Clams/Crayfish	Chemical-specific	mg/kg	See Table 3.35 and 3.36	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{inv} x CF x IR-Inv x FI x (1-CL) x EF x ED x 1/BW x 1/AT
				IR-Inv	Ingestion Rate of Clams/Crayfish	1,900	mg/day	USEPA, 2011	
				FI	Fraction Ingested	1	unitless	(2)	
				CL	Cooking Loss	Chemical-specific	unitless		
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	9	years	USEPA, 1989	
				BW	Body Weight	70	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Adolescent (7-18 years old)	OU4 Bound Brook Study Area	C_{inv}	Chemical Concentration in Clams/Crayfish	Chemical-specific	mg/kg	See Table 3.35 and 3.36	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{inv} x CF x IR-Inv x FI x (1-CL) x EF x ED x 1/BW x 1/AT
				IR-Inv	Ingestion Rate of Clams/Crayfish	1,250	mg/day	USEPA, 1997c	
				FI	Fraction Ingested	1	unitless	(2)	
				CL	Cooking Loss	Chemical-specific	unitless		
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	9	years	USEPA, 2002b	
				BW	Body Weight	49	kg	USEPA, 2011	
				AT-N	Averaging Time (Non-Cancer)	3,285	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	
		Child (0-6 years old)	OU4 Bound Brook Study Area	C_{inv}	Chemical Concentration in Clams/Crayfish	Chemical-specific	mg/kg	See Table 3.35 and 3.36	Chronic Daily Intake (CDI) (mg/kg-day) =
				CF	Conversion Factor	1.00E-06	kg/mg	- -	C_{inv} x CF x IR-Inv x FI x (1-CL) x EF x ED x 1/BW x 1/AT
				IR-Inv	Ingestion Rate of Clams/Crayfish	625	mg/day	USEPA, 1997	
				FI	Fraction Ingested	1	unitless	(2)	
				CL	Cooking Loss	Chemical-specific	unitless		
				EF	Exposure Frequency	350	days/year	USEPA, 2002b	
				ED	Exposure Duration	6	years	USEPA, 2002b	
				BW	Body Weight	15	kg	USEPA, 2002b	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	USEPA, 1989	
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 1989	

Notes
(1) Information regarding modeled intake development can be found in Section 4.2, Exposure Assessmen
(2) Professional judgment.
The adolescent ingestion rate is equivalent to 2/3 the ingestion rate of the adult. The child ingestion rate is equivalent to 1/3 the ingestion rate of the adu

TABLE 4.17.RME: AGE-ADJUSTED EXPOSURE FACTORS USED TO CALCULATE INTAKE/EXPOSURE FOR MUTAGENIC CHEMICALS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Medium:	Surface Water
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

					Age-Adjusted Intake/Dose Calculations for Cancer		
Age (years)	Exposure Duration (ED) (years)	Exposure Frequency (EF) (days/year)	Body Weight (BW) (kg)	Skin Surface Area (SA) available for Dermal Contact (cm^2)	Age-Adjusted Dermally Absorbed Dose (DAD) (mg/kg-day)	Age Group	Average DAD (mg/kg-day)
6-7	1	50	31.8	3,900	8.6E-06		
7-8	1	50	31.8	3,900	8.6E-06		
8-9	1	50	31.8	3,900	8.6E-06		
9-10	1	50	31.8	3,900	8.6E-06		
10-11	1	50	31.8	3,900	8.6E-06		
11-12	1	50	56.8	5,700	7.1E-06		
12-13	1	50	56.8	5,700	7.1E-06		
13-14	1	50	56.8	5,700	7.1E-06		
14-15	1	50	56.8	5,700	7.1E-06		
15-16	1	50	56.8	5,700	7.1E-06	7 to <16 years Average	7.9E-06
16-17	1	50	71.6	6,400	6.3E-06		
17-18	1	50	71.6	6,400	6.3E-06	16 to <18 years Average	6.3E-06

Notes

DAD (mg/kg-day) = DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT

Where: DA_{event} (mg/cm^2-event)= chemical-specific; calculated per equations in RAGS Part D Table 4.1
Event Frequency (EV) = 1 event/day
Averaging Time (AT) = 25,550 days

TABLE 4.17.CTE: AGE-ADJUSTED EXPOSURE FACTORS USED TO CALCULATE INTAKE/EXPOSURE FOR MUTAGENIC CHEMICALS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Medium:	Surface Water
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

					Age-Adjusted Intake/Dose Calculations for Cancer		
Age (years)	Exposure Duration (ED) (years)	Exposure Frequency (EF) (days/year)	Body Weight (BW) (kg)	Skin Surface Area (SA) available for Dermal Contact (cm^2)	Age-Adjusted Dermally Absorbed Dose (DAD) (cm^2-event/kg-day)	Age Group	Average DAD (cm^2-event/kg-day)
6-7	1	25	31.8	3,900	--		
7-8	1	25	31.8	3,900	--		
8-9	1	25	31.8	3,900	--		
9-10	1	25	31.8	3,900	4.3E-06		
10-11	1	25	31.8	3,900	4.3E-06		
11-12	1	25	56.8	5,700	3.5E-06		
12-13	1	25	56.8	5,700	3.5E-06		
13-14	1	25	56.8	5,700	3.5E-06		
14-15	1	25	56.8	5,700	3.5E-06		
15-16	1	25	56.8	5,700	3.5E-06	7 to <16 years Average	3.8E-06
16-17	1	25	71.6	6,400	3.1E-06		
17-18	1	25	71.6	6,400	3.1E-06	16 to <18 years Average	3.1E-06

Notes

DAD (mg/kg-day) = DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT

Where: DA_{event} (mg/cm^2-event)= chemical-specific; calculated per equation in RAGS Part D Table 4.1
Event Frequency (EV) = 1 event/day
Averaging Time (AT) = 25,550 days

TABLE 4.18.RME: AGE-ADJUSTED EXPOSURE FACTORS USED TO CALCULATE INTAKE/EXPOSURE FOR MUTAGENIC CHEMICALS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Medium:	Surface Sediment
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

						Age-Adjusted Intake/Dose Calculations for Cancer				
Age (years)	Exposure Duration (ED) (years)	Exposure Frequency (EF) (days/year)	Body Weight (BW) (kg)	Ingestion Rate of Sediment (IR-Sed) (mg/day)	Skin Surface Area (SA) available for Dermal Contact (cm^2)	Age-Adjusted Chronic Daily Intake (CDI) (mg/kg-day)	Age-Adjusted Dermally Absorbed Dose (DAD) (cm^2-event/kg-day)	Age Group	Average CDI (mg/kg-day)	Average DAD (cm^2-event/kg-day)
6-7	1	50	31.8	200	3,900	1.2E-02	2.4E-01			
7-8	1	50	31.8	200	3,900	1.2E-02	2.4E-01			
8-9	1	50	31.8	200	3,900	1.2E-02	2.4E-01			
9-10	1	50	31.8	200	3,900	1.2E-02	2.4E-01			
10-11	1	50	31.8	200	3,900	1.2E-02	2.4E-01			
11-12	1	50	56.8	200	5,700	6.9E-03	2.0E-01			
12-13	1	50	56.8	200	5,700	6.9E-03	2.0E-01			
13-14	1	50	56.8	200	5,700	6.9E-03	2.0E-01			
14-15	1	50	56.8	200	5,700	6.9E-03	2.0E-01			
15-16	1	50	56.8	200	5,700	6.9E-03	2.0E-01	7 to <16 years Average	9.6E-03	2.2E-01
16-17	1	50	71.6	200	6,400	5.5E-03	1.7E-01			
17-18	1	50	71.6	200	6,400	5.5E-03	1.7E-01	16 to <18 years Average	5.5E-03	1.7E-01

Notes

CDI (mg/kg-day) = IR-Sed x FI x EF x ED x 1/BW x 1/AT

DAD (cm^2-event/kg-day) = SA x EV x EF x ED x 1/BW x 1/AT

Where: Fraction Ingested (FI) = 1 (unitless)
Event Frequency (EV) = 1 event/day
Averaging Time (AT) = 25,550 days

TABLE 4.18.CTE: AGE-ADJUSTED EXPOSURE FACTORS USED TO CALCULATE INTAKE/EXPOSURE FOR MUTAGENIC CHEMICALS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Medium:	Surface Sediment
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

						Age-Adjusted Intake/Dose Calculations for Cancer				
Age (years)	Exposure Duration (ED) (years)	Exposure Frequency (EF) (days/year)	Body Weight (BW) (kg)	Ingestion Rate of Sediment (IR-Sed) (mg/day)	Skin Surface Area (SA) available for Dermal Contact (cm^2)	Age-Adjusted Chronic Daily Intake (CDI) (mg/kg-day)	Age-Adjusted Dermally Absorbed Dose (DAD) (cm^2-event/kg-day)	Age Group	Average CDI (mg/kg-day)	Average DAD (cm^2-event/kg-day)
6-7	1	25	31.8	200	3,900	--	--			
7-8	1	25	31.8	200	3,900	--	--			
8-9	1	25	31.8	200	3,900	--	--			
9-10	1	25	31.8	200	3,900	6.2E-03	1.2E-01			
10-11	1	25	31.8	200	3,900	6.2E-03	1.2E-01			
11-12	1	25	56.8	200	5,700	3.4E-03	9.8E-02			
12-13	1	25	56.8	200	5,700	3.4E-03	9.8E-02			
13-14	1	25	56.8	200	5,700	3.4E-03	9.8E-02			
14-15	1	25	56.8	200	5,700	3.4E-03	9.8E-02			
15-16	1	25	56.8	200	5,700	3.4E-03	9.8E-02	7 to <16 years Average	4.2E-03	1.0E-01
16-17	1	25	71.6	200	6,400	2.7E-03	8.7E-02			
17-18	1	25	71.6	200	6,400	2.7E-03	8.7E-02	16 to <18 years Average	2.7E-03	8.7E-02

Notes

CDI (mg/kg-day) = IR-Sed x FI x EF x ED x 1/BW x 1/AT

DAD (cm^2-event/kg-day) = SA x EV x EF x ED x 1/BW x 1/AT

Where: Fraction Ingested (FI) = 1 (unitless)
Event Frequency (EV) = 1 event/day
Averaging Time (AT) = 25,550 days

TABLE 4.19.RME: AGE-ADJUSTED EXPOSURE FACTORS USED TO CALCULATE INTAKE/EXPOSURE FOR MUTAGENIC CHEMICALS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Medium:	Surface Soil
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

						Age-Adjusted Intake/Dose Calculations for Cancer				
Age (years)	Exposure Duration (ED) (years)	Exposure Frequency (EF) (days/year)	Body Weight (BW) (kg)	Ingestion Rate of Soil (IR-S) (mg/day)	Skin Surface Area (SA) available for Dermal Contact (cm^2)	Age-Adjusted Chronic Daily Intake (CDI) (mg/kg-day)	Age-Adjusted Dermally Absorbed Dose (DAD) (cm^2-event/kg-day)	Age Group	Average CDI (mg/kg-day)	Average DAD (cm^2-event/kg-day)
6-7	1	50	31.8	200	3,900	1.2E-02	2.4E-01			
7-8	1	50	31.8	200	3,900	1.2E-02	2.4E-01			
8-9	1	50	31.8	200	3,900	1.2E-02	2.4E-01			
9-10	1	50	31.8	200	3,900	1.2E-02	2.4E-01			
10-11	1	50	31.8	200	3,900	1.2E-02	2.4E-01			
11-12	1	50	56.8	200	5,700	6.9E-03	2.0E-01			
12-13	1	50	56.8	200	5,700	6.9E-03	2.0E-01			
13-14	1	50	56.8	200	5,700	6.9E-03	2.0E-01			
14-15	1	50	56.8	200	5,700	6.9E-03	2.0E-01			
15-16	1	50	56.8	200	5,700	6.9E-03	2.0E-01	7 to <16 years Average	9.6E-03	2.2E-01
16-17	1	50	71.6	200	6,400	5.5E-03	1.7E-01			
17-18	1	50	71.6	200	6,400	5.5E-03	1.7E-01	16 to <18 years Average	5.5E-03	1.7E-01

Notes

CDI (mg/kg-day) = IR-S x FI x EF x ED x 1/BW x 1/AT

DAD (cm^2-event/kg-day) = SA x EV x EF x ED x 1/BW x 1/AT

Where: Fraction Ingested (FI) = 1 (unitless)
Event Frequency (EV) = 1 event/day
Averaging Time (AT) = 25,550 days

TABLE 4.19.CTE: AGE-ADJUSTED EXPOSURE FACTORS USED TO CALCULATE INTAKE/EXPOSURE FOR MUTAGENIC CHEMICALS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Medium:	Surface Soil
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

						Age-Adjusted Intake/Dose Calculations for Cancer				
Age (years)	Exposure Duration (ED) (years)	Exposure Frequency (EF) (days/year)	Body Weight (BW) (kg)	Ingestion Rate of Soil (IR-S) (mg/day)	Skin Surface Area (SA) available for Dermal Contact (cm^2)	Age-Adjusted Chronic Daily Intake (CDI) (mg/kg-day)	Age-Adjusted Dermally Absorbed Dose (DAD) (cm^2-event/kg-day)	Age Group	Average CDI (mg/kg-day)	Average DAD (cm^2-event/kg-day)
6-7	1	25	31.8	200	3,900	--	--			
7-8	1	25	31.8	200	3,900	--	--			
8-9	1	25	31.8	200	3,900	--	--			
9-10	1	25	31.8	200	3,900	6.2E-03	1.2E-01			
10-11	1	25	31.8	200	3,900	6.2E-03	1.2E-01			
11-12	1	25	56.8	200	5,700	3.4E-03	9.8E-02			
12-13	1	25	56.8	200	5,700	3.4E-03	9.8E-02			
13-14	1	25	56.8	200	5,700	3.4E-03	9.8E-02			
14-15	1	25	56.8	200	5,700	3.4E-03	9.8E-02			
15-16	1	25	56.8	200	5,700	3.4E-03	9.8E-02	7 to <16 years Average	4.2E-03	1.0E-01
16-17	1	25	71.6	200	6,400	2.7E-03	8.7E-02			
17-18	1	25	71.6	200	6,400	2.7E-03	8.7E-02	16 to <18 years Average	2.7E-03	8.7E-02

Notes

CDI (mg/kg-day) = IR-S x FI x EF x ED x 1/BW x 1/AT

DAD (cm^2-event/kg-day) = SA x EV x EF x ED x 1/BW x 1/AT

Where: Fraction Ingested (FI) = 1 (unitless)
Event Frequency (EV) = 1 event/day
Averaging Time (AT) = 25,550 days

TABLE 4.20.RME: AGE-ADJUSTED EXPOSURE FACTORS USED TO CALCULATE INTAKE/EXPOSURE FOR MUTAGENIC CHEMICALS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Medium:	All Soil
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

						Age-Adjusted Intake/Dose Calculations for Cancer				
Age (years)	Exposure Duration (ED) (years)	Exposure Frequency (EF) (days/year)	Body Weight (BW) (kg)	Ingestion Rate of Soil (IR-S) (mg/day)	Skin Surface Area (SA) available for Dermal Contact (cm^2)	Age-Adjusted Chronic Daily Intake (CDI) (mg/kg-day)	Age-Adjusted Dermally Absorbed Dose (DAD) (cm^2-event/kg-day)	Age Group	Average CDI (mg/kg-day)	Average DAD (cm^2-event/kg-day)
0-1	1	350	7.83	200	1,500	3.5E-01	2.6E+00			
1-2	1	350	11.4	200	2,000	2.4E-01	2.4E+00	0 to <4 years Average	3.0E-01	2.5E+00
2-3	1	350	13.8	200	2,100	2.0E-01	2.1E+00			
3-4	1	350	18.6	200	2,700	1.5E-01	2.0E+00			
4-5	1	350	18.6	200	2,700	1.5E-01	2.0E+00			
5-6	1	350	18.6	200	2,700	1.5E-01	2.0E+00	4 to <6 years Average	1.6E-01	2.0E+00

Notes

CDI (mg/kg-day) = IR-S x FI x EF x ED x 1/BW x 1/AT

DAD (cm^2-event/kg-day) = SA x EV x EF x ED x 1/BW x 1/AT

Where: Fraction Ingested (FI) = 1 (unitless)
Event Frequency (EV) = 1 event/day
Averaging Time (AT) = 25,550 days

TABLE 4.20.CTE: AGE-ADJUSTED EXPOSURE FACTORS USED TO CALCULATE INTAKE/EXPOSURE FOR MUTAGENIC CHEMICALS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Medium:	All Soil
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

						Age-Adjusted Intake/Dose Calculations for Cancer				
Age (years)	Exposure Duration (ED) (years)	Exposure Frequency (EF) (days/year)	Body Weight (BW) (kg)	Ingestion Rate of Soil (IR-S) (mg/day)	Skin Surface Area (SA) available for Dermal Contact (cm^2)	Age-Adjusted Chronic Daily Intake (CDI) (mg/kg-day)	Age-Adjusted Dermally Absorbed Dose (DAD) (cm^2-event/kg-day)	Age Group	Average CDI (mg/kg-day)	Average DAD (cm^2-event/kg-day)
0-1	1	350	7.83	200	1,500	3.5E-01	2.6E+00			
1-2	1	350	11.4	200	2,000	2.4E-01	2.4E+00	0 to <4 years Average	3.0E-01	2.5E+00
2-3	1	350	13.8	200	2,100	2.0E-01	2.1E+00			
3-4	1	350	18.6	200	2,700	1.5E-01	2.0E+00			
4-5	1	350	18.6	200	2,700	1.5E-01	2.0E+00			
5-6	1	350	18.6	200	2,700	1.5E-01	2.0E+00	4 to <6 years Average	1.6E-01	2.0E+00

Notes

CDI (mg/kg-day) = IR-S x FI x EF x ED x 1/BW x 1/AT

DAD (cm^2-event/kg-day) = SA x EV x EF x ED x 1/BW x 1/AT

Where: Fraction Ingested (FI) = 1 (unitless)
Event Frequency (EV) = 1 event/day
Averaging Time (AT) = 25,550 days

TABLE 5.1: NON-CANCER TOXICITY DATA - ORAL/DERMAL

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Chronic/ Subchronic	Oral Reference Dose (RfD)		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD	
		Value	Units		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
Volatile Organic Compounds										
cis-1,2-Dichloroethene	Chronic	2.00E-03	mg/kg-day	1	2.00E-03	mg/kg-day	Increased kidney weight	3,000	IRIS	11/1/2012
	Subchronic	2.00E-02	mg/kg-day	1	2.00E-02	mg/kg-day	Increased kidney weight	300	IRIS	11/1/2012
Trichloroethene	Chronic	5.00E-04	mg/kg-day	1	5.00E-04	mg/kg-day	Heart effects, Immunological effects	10-100	IRIS	11/1/2012
Vinyl chloride	Chronic	3.00E-03	mg/kg-day	1	3.00E-03	mg/kg-day	Liver cell polymorphism	30	IRIS	11/1/2012
Semi-Volatile Organic Compounds										
Acenaphthylene	--	NA	--	1	NA	--	NA	NA	--	--
Benzidine	Chronic	3.00E-03	mg/kg-day	1	3.00E-03	mg/kg-day	Central nervous system; Liver cell alterations	1,000	IRIS	11/1/2012
Benzo(a)anthracene	--	NA	--	1	NA	--	NA	NA	--	--
Benzo(a)pyrene	--	NA	--	1	NA	--	NA	NA	--	--
Benzo(b)fluoranthene	--	NA	--	1	NA	--	NA	NA	--	--
Benzo(g,h,i)perylene	--	NA	--	1	NA	--	NA	NA	--	--
Benzo(k)fluoranthene	--	NA	--	1	NA	--	NA	NA	--	--
bis(2-Ethylhexyl)phthalate	Chronic	2.00E-02	mg/kg-day	1	2.00E-02	mg/kg-day	Increased liver weight	1,000	IRIS	11/1/2012
	Subchronic	2.00E-01	mg/kg-day	1	2.00E-01	mg/kg-day	Increased liver weight	100	IRIS	11/1/2012
Carbazole	--	NA	--	1	NA	--	NA	NA	--	--
Chrysene	--	NA	--	1	NA	--	NA	NA	--	--
Dibenzo(a,h)anthracene	--	NA	--	1	NA	--	NA	NA	--	--
1,3-Dichlorobenzene	--	NA	--	1	NA	--	NA	NA	--	--
Dimethyl phthalate	--	NA	--	1	NA	--	NA	NA	--	
di-n-Octyl phthalate	--	NA	--	1	NA	--	NA	NA	--	--
Indeno(1,2,3-cd)pyrene	--	NA	--	1	NA	--	NA	NA	--	--
p-Isopropyltoluene	--	NA	--	1	NA	--	NA	NA	--	--
Phenanthrene	--	NA	--	1	NA	--	NA	NA	--	--
Pesticides										
Aldrin	Chronic	3.00E-05	mg/kg-day	1	3.00E-05	mg/kg-day	Liver toxicity	1,000	IRIS	11/1/2012
alpha-BHC	Chronic	8.00E-03	mg/kg-day	1	8.00E-03	mg/kg-day	Liver effects	100	ATSDR	2/1/2012
delta-BHC	--	NA	--	1	NA	--	NA	NA	--	--
gamma-BHC	Chronic	3.00E-04	mg/kg-day	1	3.00E-04	mg/kg-day	Liver and kidney toxicity	1,000	IRIS	11/1/2012
	Subchronic	3.00E-03	mg/kg-day	1	3.00E-03	mg/kg-day	Liver and kidney toxicity	100	IRIS	11/1/2012
alpha-Chlordane	Chronic	5.00E-04	mg/kg-day	1	5.00E-04	mg/kg-day	Liver necrosis	300	IRIS	11/1/2012
gamma-Chlordane	Chronic	5.00E-04	mg/kg-day	1	5.00E-04	mg/kg-day	Liver necrosis	300	IRIS	11/1/2012
Dieldrin	Chronic	5.00E-05	mg/kg-day	1	5.00E-05	mg/kg-day	Liver lesions	100	IRIS	11/1/2012
	Subchronic	1.00E-04	mg/kg-day	1	1.00E-04	mg/kg-day	Neurological effects	100	ATSDR	2/1/2012
4,4'-DDD	--	NA	--	1	NA	--	NA	NA	--	--
4,4'-DDE	--	NA	--	1	NA	--	NA	NA	--	--

TABLE 5.1: NON-CANCER TOXICITY DATA - ORAL/DERMAL

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Chronic/ Subchronic	Oral Reference Dose (RfD)		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD	
		Value	Units		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
4,4'-DDT	Chronic	5.00E-04	mg/kg-day	1	5.00E-04	mg/kg-day	Liver lesions	100	IRIS	11/1/2012
	Subchronic	5.00E-04	mg/kg-day	1	5.00E-04	mg/kg-day	Liver lesions	100	ATSDR	2/1/2012
Endosulfan sulfate	--	NA	--	1	NA	--	NA	NA	--	--
Endrin	Chronic	3.00E-04	mg/kg-day	1	3.00E-04	mg/kg-day	Liver effects; Central nervous system effects	100	IRIS	11/1/2012
Endrin aldehyde	--	NA	--	1	NA	--	NA	NA	--	--
Endrin ketone	--	NA	--	1	NA	--	NA	NA	--	--
Heptachlor epoxide	Chronic	1.30E-05	mg/kg-day	1	1.30E-05	mg/kg-day	Liver effects	1,000	IRIS	11/1/2012
Polychlorinated Biphenyls										
Total PCB Aroclors (as Aroclor 1254)	Chronic	2.00E-05	mg/kg-day	1	2.00E-05	mg/kg-day	Eye effects; finger and toe nail effects; immunological effects	300	IRIS	11/1/2012
	Subchronic	6.00E-05	mg/kg-day	1	6.00E-05	mg/kg-day	Eye effects; finger and toe nail effects; immunological effects	100	IRIS	11/1/2012
TCDD TEQ (as 2,3,7,8-TCDD)	Chronic	7.00E-10	mg/kg-day	1	7.00E-10	mg/kg-day	Reproductive, thyroid effects	30	IRIS	11/1/2012
	Subchronic	2.00E-08	mg/kg-day	1	2.00E-08	mg/kg-day	Lymphoreticular effects	30	ATSDR	2/1/2012
Inorganics										
Aluminum	Chronic	1.00E+00	mg/kg-day	1	1.00E+00	mg/kg-day	Neurotoxicity	100	NCEA	10/23/2006
	Subchronic	1.00E+00	mg/kg-day	1	1.00E+00	mg/kg-day	Neurological effects	30	ATSDR	2/1/2012
Antimony	Chronic	4.00E-04	mg/kg-day	0.15	6.00E-05	mg/kg-day	Longevity, blood glucose, and cholesterol	1,000	IRIS	11/1/2012
	Subchronic	4.00E-04	mg/kg-day	0.15	6.00E-05	mg/kg-day	Longevity, blood glucose, and cholesterol	1,000	NCEA	7/29/2008
Arsenic	Chronic	3.00E-04	mg/kg-day	1	3.00E-04	mg/kg-day	Hyperpigmentation, keratosis	3	IRIS	11/1/2012
Cadmium (diet)	Chronic	1.00E-03	mg/kg-day	0.025	2.50E-05	mg/kg-day	Significant proteinuria	10	IRIS	11/1/2012
	Subchronic[1]	5.00E-04	mg/kg-day	0.025	1.25E-05	mg/kg-day	Musculoskeletal effects	100	ATSDR	2/1/2012
Chromium (as Cr III)	Chronic	1.50E+00	mg/kg-day	0.013	1.95E-02	mg/kg-day	No effects observed	1,000	IRIS	11/1/2012
Cobalt	Chronic	3.00E-04	mg/kg-day	1	3.00E-04	mg/kg-day	Thyroid toxicity	1,000	NCEA	8/25/2008
	Subchronic	3.00E-03	mg/kg-day	1	3.00E-03	mg/kg-day	Thyroid toxicity	300	NCEA	8/25/2008
Copper	Chronic	4.00E-02	mg/kg-day	1	4.00E-02	mg/kg-day	Gastrointestinal toxicity	NA	HEAST	7/1/1997
Cyanide (as CN^-)	Chronic	6.00E-04	mg/kg-day	1	6.00E-04	mg/kg-day	Whole body, thyroid toxicity	3,000	IRIS	11/1/2012
Iron	Chronic	7.00E-01	mg/kg-day	1	7.00E-01	mg/kg-day	Gastrointestinal toxicity	1.5	NCEA	9/11/2006
	Subchronic	7.00E-01	mg/kg-day	1	7.00E-01	mg/kg-day	Gastrointestinal toxicity	1.5	NCEA	9/11/2006
Lead	--	NA	--	1	NA	--	NA	NA	--	--
Manganese (non-diet)	Chronic	2.40E-02	mg/kg-day	0.04	9.60E-04	mg/kg-day	Central nervous system effects	1	IRIS	11/1/2012
Mercury (as mercuric chloride)	Chronic	3.00E-04	mg/kg-day	0.07	2.10E-05	mg/kg-day	Autoimmune effects	1,000	IRIS	11/1/2012
Nickel (as soluble salts)	Chronic	2.00E-02	mg/kg-day	0.04	8.00E-04	mg/kg-day	Whole body	300	IRIS	11/1/2012
Selenium	Chronic	5.00E-03	mg/kg-day	1	5.00E-03	mg/kg-day	Whole body	3	IRIS	11/1/2012
Silver	Chronic	5.00E-03	mg/kg-day	0.04	2.00E-04	mg/kg-day	Skin effects	3	IRIS	11/1/2012

TABLE 5.1: NON-CANCER TOXICITY DATA - ORAL/DERMAL

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Chronic/ Subchronic	Oral Reference Dose (RfD)		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD	
		Value	Units		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
Thallium (as soluble salts)	Chronic	1.00E-05	mg/kg-day	1	1.00E-05	mg/kg-day	NOAEL	3,000	NCEA	10/25/2012
	Subchronic	3.00E-05	mg/kg-day	1	3.00E-05	mg/kg-day	NOAEL	1,000	NCEA	10/25/2012
Vanadium	Chronic	5.00E-03	mg/kg-day	1	5.00E-03	mg/kg-day	Decreased hair cysteine	100	IRIS [2]	11/1/2012
	Subchronic[1]	7.00E-04	mg/kg-day	1	7.00E-04	mg/kg-day	Histopathology	300	NCEA	9/30/2009
Zinc	Chronic	3.00E-01	mg/kg-day	1	3.00E-01	mg/kg-day	Hematological effects	3	IRIS	11/1/2012

Notes

Gastrointestinal absorption efficiencies are from Exhibit 4-1 in USEPA, 2004b. See Section 4, "Toxicity Assessment," of the Human Health Risk Assessment text.

NA = Not Available

NOAEL = No observable adverse effect level

[1] = The subchronic RfD is from a different source than the chronic RfD. The subchronic value is lower than the chronic value and will therefore not be used in the noncancer hazard calculations.

[2] = RfD is specific to vanadium pentoxide and was corrected for vanadium per the USEPA Regional Screening Levels User's Guide, Section 5.4 (USEPA, 2012c)

Hierarchy of Sources:

IRIS = Integrated Risk Information System (USEPA, 2012a).

NCEA = National Center for Environmental Assessment, Provisional Peer-Reviewed Toxicity Value (http://hhpprtv.ornl.gov/).

CalEPA = California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (http://oehha.ca.gov/tcdb/index.asp).

ATSDR = Agency for Toxic Substances and Disease Registry, Minimal Risk Level (ATSDR, 2012).

HEAST = Health Effects Assessment Summary Tables (USEPA, 1997b).

TABLE 5.2: NON-CANCER TOXICITY DATA - INHALATION

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation Reference Concentration (RfC)		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfC : Target Organs	
		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
Volatile Organic Compounds							
cis-1,2-Dichloroethene	--	NA	--	NA	NA	--	--
Trichloroethene	Chronic	2.00E-03	mg/m^3	Heart effects, Immunological effects	10-100	IRIS	11/1/2012
Vinyl chloride	Chronic	1.00E-01	mg/m^3	Liver cell polymorphism	30	IRIS	11/1/2012
	Subchronic [1]	7.70E-02	mg/m^3	Liver effects	30	ATSDR	2/1/2012
Semi-Volatile Organic Compounds							
Acenaphthylene	--	NA	--	NA	NA	--	--
Benzidine	--	NA	--	NA	NA	--	--
Benzo(a)anthracene	--	NA	--	NA	NA	--	--
Benzo(a)pyrene	--	NA	--	NA	NA	--	--
Benzo(b)fluoranthene	--	NA	--	NA	NA	--	--
Benzo(g,h,i)perylene	--	NA	--	NA	NA	--	--
Benzo(k)fluoranthene	--	NA	--	NA	NA	--	--
bis(2-Ethylhexyl)phthalate	--	NA	--	NA	NA	--	--
Carbazole	--	NA	--	NA	NA	--	--
Chrysene	--	NA	--	NA	NA	--	--
Dibenzo(a,h)anthracene	--	NA	--	NA	NA	--	--
1,3-Dichlorobenzene	--	NA	--	NA	NA	--	--
Dimethyl phthalate	--	NA	--	NA	NA	--	--
di-n-Octyl phthalate	--	NA	--	NA	NA	--	--
Indeno(1,2,3-cd)pyrene	--	NA	--	NA	NA	--	--
p-Isopropyltoluene	--	NA	--	NA	NA	--	--
Phenanthrene	--	NA	--	NA	NA	--	--
Pesticides							
Aldrin	--	NA	--	NA	NA	--	--
alpha-BHC	--	NA	--	NA	NA	--	--
delta-BHC	--	NA	--	NA	NA	--	--
gamma-BHC	--	NA	--	NA	NA	--	--

TABLE 5.2: NON-CANCER TOXICITY DATA - INHALATION

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation Reference Concentration (RfC)		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfC : Target Organs	
		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
alpha-Chlordane	Chronic	7.00E-04	mg/m^3	Liver effects	1,000	IRIS	11/1/2012
	Subchronic	7.00E-03	mg/m^3	Liver effects	100	IRIS	11/1/2012
gamma-Chlordane	Chronic	7.00E-04	mg/m^3	Liver effects	1,000	IRIS	11/1/2012
	Subchronic	7.00E-03	mg/m^3	Liver effects	100	IRIS	11/1/2012
Dieldrin	--	NA	--	NA	NA	--	--
4,4'-DDD	--	NA	--	NA	NA	--	--
4,4'-DDE	--	NA	--	NA	NA	--	--
4,4'-DDT	--	NA	--	NA	NA	--	--
Endosulfan sulfate	--	NA	--	NA	NA	--	--
Endrin	--	NA	--	NA	NA	--	--
Endrin aldehyde	--	NA	--	NA	NA	--	--
Endrin ketone	--	NA	--	NA	NA	--	--
Heptachlor epoxide	--	NA	--	NA	NA	--	--
Polychlorinated Biphenyls							
Total PCB Aroclors (as Aroclor 1254)	--	NA	--	NA	NA	--	
TCDD TEQ (as 2,3,7,8-TCDD)	Chronic	4.00E-08	mg/m^3	Lliver, Reproductive, Development, Endocrine, Respiratory, Hematopoietic system	NA	CalEPA	11/1/2012
Inorganics							
Aluminum	Chronic	5.00E-03	mg/m^3	Psychomotor and cognitive impairment	300	NCEA	10/23/2006
Antimony	--	NA	--	NA	NA	--	--
Arsenic	Chronic	1.50E-05	mg/m^3	Development, Cardiovascular system, Nervous system; Lung; Skin	--	CalEPA	11/1/2012
Cadmium (diet)	Chronic	2.00E-05	mg/m^3	Kidney; Respiratory		CalEPA	11/1/2012
Chromium (as Cr III)	Chronic	NA	mg/m^3	NA	NA	--	--
Cobalt	Chronic	6.00E-06	mg/m^3	Lung effects	300	PPRTV	8/25/2008
	Subchronic	2.00E-05	mg/m^3	Lung effects	100	PPRTV	8/25/2008
Copper	--	NA	--	NA	NA	--	--
Cyanide (as CN^-)	--	NA	--	NA	NA	--	--
Iron	--	NA	--	NA	NA	--	--

TABLE 5.2: NON-CANCER TOXICITY DATA - INHALATION

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation Reference Concentration (RfC)		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfC : Target Organs	
		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
Lead	--	NA	--	NA	NA	--	--
Manganese (non-diet)	Chronic	5.00E-05	mg/m^3	Neurologic effects	1000	IRIS	11/1/2012
Mercury (as mercuric chloride)	Chronic	3.00E-05	mg/m^3	Nervous system	300	CalEPA	11/1/2012
Nickel (as soluble salts)	Chronic	9.00E-05	mg/m^3	Respiratory effects	30	ATSDR	2/1/2012
	Subchronic	2.00E-04	mg/m^3	Respiratory effects	30	ATSDR	2/1/2012
Selenium	--	NA	--	NA	NA	--	--
Silver	--	NA	--	NA	NA	--	--
Thallium (as soluble salts)	--	NA	--	NA	NA	--	--
Vanadium	--	NA	--	NA	NA	--	--
Zinc	--	NA	--	NA	NA	--	--

Notes

[1] = The subchronic RfC is from a different source than the chronic RfC. The subchronic value is lower than the chronic value and will therefore not be used in the noncancer hazard calculations.

NA = Not Available

Hierarchy of Sources:

IRIS = Integrated Risk Information System (USEPA, 2012a).

NCEA = National Center for Environmental Assessment, Provisional Peer-Reviewed Toxicity Value (http://hhpprtv.ornl.gov/).

CalEPA = California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (http://oehha.ca.gov/tcdb/index.asp).

ATSDR = Agency for Toxic Substances and Disease Registry, Minimal Risk Level (ATSDR, 2012).

HEAST = Health Effects Assessment Summary Tables (USEPA, 1997b).

TABLE 6.1: CANCER TOXICITY DATA - ORAL/DERMAL

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Oral Cancer Slope Factor (CSF)		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal		USEPA Weight of Evidence Classification / Cancer Guideline Description	Oral CSF	
	Value	Units		Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
Volatile Organic Compounds								
cis-1,2-Dichloroethene	NA	--	1	NA	--	Inadequate information	--	--
Trichloroethene	4.60E-02	$(mg/kg\text{-}day)^{-1}$	1	4.60E-02	$(mg/kg\text{-}day)^{-1}$	Carcinogenic to humans	IRIS	11/1/2012
Vinyl chloride (for adult workers)	7.20E-01	$(mg/kg\text{-}day)^{-1}$	1	7.20E-01	$(mg/kg\text{-}day)^{-1}$	A	IRIS	11/1/2012
Vinyl chloride (for recreationists and residents, all ages)	1.50E+00	$(mg/kg\text{-}day)^{-1}$	1	1.50E+00	$(mg/kg\text{-}day)^{-1}$		IRIS	11/1/2012
Semi-Volatile Organic Compounds								
Acenaphthylene	NA	--	1	NA	--	D	--	--
Benzidine	2.30E+02	$(mg/kg\text{-}day)^{-1}$	1	2.30E+02	$(mg/kg\text{-}day)^{-1}$	A	IRIS	11/1/2012
Benzo(a)anthracene	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1	7.30E-01	$(mg/kg\text{-}day)^{-1}$	B2	ECAO	
Benzo(a)pyrene	7.30E+00	$(mg/kg\text{-}day)^{-1}$	1	7.30E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/2012
Benzo(b)fluoranthene	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1	7.30E-01	$(mg/kg\text{-}day)^{-1}$	B2	ECAO	
Benzo(g,h,i)perylene	NA	--	1	NA	--	D	--	--
Benzo(k)fluoranthene	7.30E-02	$(mg/kg\text{-}day)^{-1}$	1	7.30E-02	$(mg/kg\text{-}day)^{-1}$	B2	ECAO	
bis(2-Ethylhexyl)phthalate	1.40E-02	$(mg/kg\text{-}day)^{-1}$	1	1.40E-02	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/2012
Carbazole	NA	--	1	NA	--	NA	--	--
Chrysene	7.30E-03	$(mg/kg\text{-}day)^{-1}$	1	7.30E-03	$(mg/kg\text{-}day)^{-1}$	B2	ECAO	
Dibenzo(a,h)anthracene	7.30E+00	$(mg/kg\text{-}day)^{-1}$	1	7.30E+00	$(mg/kg\text{-}day)^{-1}$	B2	ECAO	
1,3-Dichlorobenzene	NA	--	1	NA	--	D	--	--
Dimethyl phthalate	NA	--	1	NA	--	D	--	--
di-n-Octyl phthalate	NA	--	1	NA	--	D	--	--
Indeno(1,2,3-cd)pyrene	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1	7.30E-01	$(mg/kg\text{-}day)^{-1}$	B2	ECAO	
p-Isopropyltoluene	NA	--	1	NA	--	NA	NA	--
Phenanthrene	NA	--	1	NA	--	D	--	--
Pesticides								
Aldrin	1.70E+01	$(mg/kg\text{-}day)^{-1}$	1	1.70E+01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/2012
alpha-BHC	6.30E+00	$(mg/kg\text{-}day)^{-1}$	1	6.30E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/2012
delta-BHC	NA	NA	1	NA	NA	D	NA	
gamma-BHC	1.10E+00	$(mg/kg\text{-}day)^{-1}$	1	1.10E+00	$(mg/kg\text{-}day)^{-1}$	NA	CalEPA	11/1/2012
alpha-Chlordane	3.50E-01	$(mg/kg\text{-}day)^{-1}$	1	3.50E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/2012
gamma-Chlordane	3.50E-01	$(mg/kg\text{-}day)^{-1}$	1	3.50E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/2012
Dieldrin	1.60E+01	$(mg/kg\text{-}day)^{-1}$	1	1.60E+01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/2012
4,4'-DDD	2.40E-01	$(mg/kg\text{-}day)^{-1}$	1	2.40E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/2012
4,4'-DDE	3.40E-01	$(mg/kg\text{-}day)^{-1}$	1	3.40E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/2012
4,4'-DDT	3.40E-01	$(mg/kg\text{-}day)^{-1}$	1	3.40E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/2012
Endosulfan sulfate	NA	--	1	NA	--	NA	--	

TABLE 6.1: CANCER TOXICITY DATA - ORAL/DERMAL

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Oral Cancer Slope Factor (CSF)		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal		USEPA Weight of Evidence Classification / Cancer Guideline Description	Oral CSF	
	Value	Units		Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
Endrin	NA	--	1	NA	--	D	--	
Endrin aldehyde	NA	--	1	NA	--	D	--	
Endrin ketone	NA	--	1	NA	--	D	--	
Heptachlor epoxide	9.10E+00	$(mg/kg\text{-}day)^{-1}$	1	9.10E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/2012
Polychlorinated Biphenyls								
Total PCB Aroclors	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1	2.00E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/2012
TCDD TEQ (as 2,3,7,8-TCDD)	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1	1.30E+05	$(mg/kg\text{-}day)^{-1}$	B2	CalEPA	11/1/2012
Inorganics								
Aluminum	NA	--	1	NA	--	Inadequate information	--	--
Antimony	NA	--	0.15	NA	--	NA	--	--
Arsenic	1.50E+00	$(mg/kg\text{-}day)^{-1}$	1	1.50E+00	$(mg/kg\text{-}day)^{-1}$	A	IRIS	11/1/2012
Cadmium (diet)	NA	--	0.025	NA	--	--	--	--
Chromium (as Cr III)	NA	--	0.013	NA	--	D	--	--
Cobalt	NA	--	1	NA	--	Likely to be carcinogenic to humans by the inhalation route	--	--
Copper	NA	--	1	NA	--	D	--	--
Cyanide (as CN^-)	NA	--	1	NA	--	D	--	--
Iron	NA	--	1	NA	--	NA	--	--
Lead	NA	--	1	NA	--	B2	--	--
Manganese (non-diet)	NA	--	0.04	NA	--	D	--	--
Mercury (as mercuric chloride)	NA	--	0.07	NA	--	C	--	--
Nickel (as soluble salts)	NA	--	0.04	NA	--	NA	--	--
Selenium	NA	--	1	NA	--	D	--	--
Silver	NA	--	0.04	NA	--	D	--	--
Thallium (as soluble salts)	NA	--	1	NA	--	Inadequate information	--	--
Vanadium	NA	--	0.026	NA	--	Inadequate information	--	--
Zinc	NA	--	1	NA	--	D	--	--

TABLE 6.1: CANCER TOXICITY DATA - ORAL/DERMAL

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Oral Cancer Slope Factor (CSF)		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal		USEPA Weight of Evidence Classification / Cancer Guideline Description	Oral CSF	
	Value	Units		Value	Units		Source(s)	Date(s) (MM/DD/YYYY)

Notes

Gastrointestinal absorption efficiencies are from Exhibit 4-1 in USEPA, 2004b.

NA = Not Available

Hierarchy of Sources:

IRIS = Integrated Risk Information System (USEPA, 2012a).

NCEA = National Center for Environmental Assessment, Provisional Peer-Reviewed Toxicity Value (http://hhpprtv.ornl.gov/).

CalEPA = California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (http://oehha.ca.gov/tcdb/index.asp).

ATSDR = Agency for Toxic Substances and Disease Registry, Minimal Risk Level (ATSDR, 2012).

HEAST = Health Effects Assessment Summary Tables (USEPA, 1997b).

Other Sources:

ECAO = Environmental Criteria and Assessment Office (USEPA, 2012).

NJDEP = New Jersey Department of Environmental Protection (Stern, 2009).

USEPA (1986) Weight of Evidence Classifications:

A - Human carcinogen.

B1 - Probable human carcinogen - indicates that limited human data are available.

B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans.

C - Possible human carcinogen.

D - Not classifiable as a human carcinogen.

E - Evidence of noncarcinogenicity.

USEPA (2005d) Cancer Guidelines Descriptions:

Carcinogenic to humans.

Likely to be carcinogenic to humans.

Suggestive evidence of carcinogenic potential.

Inadequate information to assess carcinogenic potential.

Not likely to be carcinogenic to humans.

TABLE 6.2: CANCER TOXICITY DATA - INHALATION

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Unit Risk		USEPA Weight of Evidence Classification / Cancer Guideline Description	Unit Risk	
	Value	Units		Source	Date (MM/DD/YYYY)
Volatile Organic Compounds					
cis-1,2-Dichloroethene	NA	--	Inadequate information	--	
Trichloroethene	4.10E-06	$(\mu g/m^3)^{-1}$	Carcinogenic to humans	IRIS	11/1/2012
Vinyl chloride (for adult workers)	4.40E-06	$(\mu g/m^3)^{-1}$	A	IRIS	11/1/2012
Vinyl chloride (for recreationists and residents, all ages)	8.80E-06	$(\mu g/m^3)^{-1}$		IRIS	11/1/2012
Semi-Volatile Organic Compounds					
Acenaphthylene	NA	--	D	--	
Benzidine	6.70E-02	$(mg/m^3)^{-1}$	A	IRIS	11/1/2012
Benzo(a)anthracene	1.10E-04	$(\mu g/m^3)^{-1}$	B2	CalEPA	11/1/2012
Benzo(a)pyrene	1.10E-03	$(\mu g/m^3)^{-1}$	B2	CalEPA	11/1/2012
Benzo(b)fluoranthene	1.10E-04	$(\mu g/m^3)^{-1}$	B2	CalEPA	11/1/2012
Benzo(g,h,i)perylene	NA	--	D	--	--
Benzo(k)fluoranthene	1.10E-04	$(\mu g/m^3)^{-1}$	B2	CalEPA	11/1/2012
bis(2-Ethylhexyl)phthalate	2.40E-06	$(\mu g/m^3)^{-1}$	B2	CalEPA	11/1/2012
Carbazole	NA	--	B2	--	--
Chrysene	1.10E-05	$(\mu g/m^3)^{-1}$	B2	CalEPA	11/1/2012
Dibenzo(a,h)anthracene	1.20E-03	$(\mu g/m^3)^{-1}$	B2	CalEPA	11/1/2012
1,3-Dichlorobenzene	NA	--	D	--	--
Dimethyl phthalate	NA	--	D	--	--
di-n-Octyl phthalate	NA	--	D	--	--
Indeno(1,2,3-cd)pyrene	1.10E-04	$(\mu g/m^3)^{-1}$	B2	CalEPA	11/1/2012
p-Isopropyltoluene	NA	--	NA	--	--
Phenanthrene	NA	--	D	--	--

TABLE 6.2: CANCER TOXICITY DATA - INHALATION

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Unit Risk		USEPA Weight of Evidence Classification / Cancer Guideline Description	Unit Risk	
	Value	Units		Source	Date (MM/DD/YYYY)
Pesticides					
Aldrin	4.90E-03	$(\mu g/m^3)^{-1}$	B2	IRIS	11/1/2012
alpha-BHC	1.80E-03	$(\mu g/m^3)^{-1}$	B2	IRIS	11/1/2012
delta-BHC	NA	--	D	--	--
gamma-BHC	3.10E-04	$(\mu g/m^3)^{-1}$	B2	CalEPA	11/1/2012
alpha-Chlordane	1.00E-04	$(\mu g/m^3)^{-1}$	B2	IRIS	11/1/2012
gamma-Chlordane	1.00E-04	$(\mu g/m^3)^{-1}$	B2	IRIS	11/1/2012
Dieldrin	4.60E-03	$(\mu g/m^3)^{-1}$	B2	IRIS	11/1/2012
4,4'-DDD	6.90E-05	$(\mu g/m^3)^{-1}$	B2	CalEPA	11/1/2012
4,4'-DDE	9.70E-05	$(\mu g/m^3)^{-1}$	B2	CalEPA	11/1/2012
4,4'-DDT	9.70E-05	$(\mu g/m^3)^{-1}$	B2	IRIS	11/1/2012
Endosulfan sulfate	NA	--	NA	--	--
Endrin	NA	--	D	--	--
Endrin aldehyde	NA	--	D	--	--
Endrin ketone	NA	--	D	--	--
Heptachlor epoxide	2.60E-03	$(\mu g/m^3)^{-1}$	B2	IRIS	11/1/2012
Polychlorinated Biphenyls					
Total PCB Aroclors	1.00E-04	$(\mu g/m^3)^{-1}$	B2	IRIS	11/1/2012
TCDD TEQ (as 2,3,7,8-TCDD)	3.80E+01	$(\mu g/m^3)^{-1}$	B2	CalEPA	11/1/2012
Inorganics					
Aluminum	NA	--	Inadequate information	--	--
Antimony	NA	--	Inadequate information	--	--
Arsenic	4.30E-03	$(\mu g/m^3)^{-1}$	A	IRIS	11/1/2012
Cadmium (diet)	1.80E-03	$(\mu g/m^3)^{-1}$	B1	IRIS	11/1/2012
Chromium (as Cr III)	NA	--	D	--	--

TABLE 6.2: CANCER TOXICITY DATA - INHALATION

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Unit Risk		USEPA Weight of Evidence Classification / Cancer Guideline Description	Unit Risk	
	Value	Units		Source	Date (MM/DD/YYYY)
Cobalt	9.00E-03	$(\mu g/m^3)^{-1}$	Likely to be carcinogenic to humans by the inhalation route	NCEA	8/25/2008
Copper	NA	--	D	--	--
Cyanide (as CN^-)	NA	--	D	--	--
Iron	NA	--	NA	--	--
Lead	NA	--	B2	--	--
Manganese (non-diet)	NA	--	D	--	--
Mercury (as mercuric chloride)	NA	--	C	--	--
Nickel (as soluble salts)	2.60E-04	$(\mu g/m^3)^{-1}$	NA	CalEPA	11/1/2012
Selenium	NA	--	D	--	--
Silver	NA	--	D	--	--
Thallium (as soluble salts)	NA	--	Inadequate information	--	--
Vanadium	NA	--	Inadequate information	--	--
Zinc	NA	--	D	--	--

Notes

NA = Not Available

Hierarchy of Sources:

IRIS = Integrated Risk Information System (USEPA, 2012a).

NCEA = National Center for Environmental Assessment, Provisional Peer-Reviewed Toxicity Value (http://hhpprtv.ornl.gov/).

CalEPA = California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (http://oehha.ca.gov/tcdb/index.asp).

ATSDR = Agency for Toxic Substances and Disease Registry, Minimal Risk Level (ATSDR, 2012).

HEAST = Health Effects Assessment Summary Tables (USEPA, 1997b).

TABLE 6.2: CANCER TOXICITY DATA - INHALATION

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern	Unit Risk		USEPA Weight of Evidence Classification / Cancer Guideline Description	Unit Risk	
	Value	Units		Source	Date (MM/DD/YYYY)

Other Sources:

ECAO = Environmental Criteria and Assessment Office (USEPA, 2012).

NJDEP = New Jersey Department of Environmental Protection (Stern, 2009).

S = See USEPA Regional Screening Level User's Guide (USEPA, 2012c).

USEPA (1986) Weight of Evidence Classifications:

A - Human carcinogen.

B1 - Probable human carcinogen - indicates that limited human data are available.

B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans.

C - Possible human carcinogen.

D - Not classifiable as a human carcinogen.

E - Evidence of noncarcinogenicity.

USEPA (2005d) Cancer Guidelines Descriptions:

Carcinogenic to humans.

Likely to be carcinogenic to humans.

Suggestive evidence of carcinogenic potential.

Inadequate information to assess carcinogenic potential.

Not likely to be carcinogenic to humans.

TABLE 7.1.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit:	OU4 Bound Brook Study Area
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Water	Surface Water	OU4 Bound Brook Study Area	Dermal Absorption	cis-1,2-Dichloroethene	8.8E-03	mg/L	9.6E-07	mg/kg-day	NA	--	--	2.2E-06	mg/kg-day	2.0E-03	mg/kg-day	1E-03
				Trichloroethene	3.7E-03	mg/L	6.9E-07	mg/kg-day	4.6E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	1.6E-06	mg/kg-day	5.0E-04	mg/kg-day	3E-03
				Total PCB Congeners	1.1E-04	mg/L	2.3E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	5.4E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Arsenic	3.9E-03	mg/L	4.1E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	9.5E-08	mg/kg-day	3.0E-04	mg/kg-day	3E-04
				Cyanide	1.1E-02	mg/L	1.1E-07	mg/kg-day	NA	--	--	2.7E-07	mg/kg-day	6.0E-04	mg/kg-day	4E-04
				Manganese	2.1E-01	mg/L	2.2E-06	mg/kg-day	NA	--	--	5.0E-06	mg/kg-day	9.6E-04	mg/kg-day	5E-03
			Exposure Route Total								5E-06					3E-01
		Exposure Point Total									5E-06					3E-01
	Total of Receptor Risks Across Medium										5E-06					3E-01

Notes
NA = Not Available

TABLE 7.1.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit:	OU4 Bound Brook Study Area
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Water	Surface Water	OU4 Bound Brook Study Area	Dermal Absorption	cis-1,2-Dichloroethene	8.8E-03	mg/L	1.4E-07	mg/kg-day	NA	--	--	1.1E-06	mg/kg-day	2.0E-03	mg/kg-day	6E-04
				Trichloroethene	3.7E-03	mg/L	1.0E-07	mg/kg-day	4.6E-02	$(mg/kg\text{-}day)^{-1}$	5E-09	8.1E-07	mg/kg-day	5.0E-04	mg/kg-day	2E-03
				Total PCB Congeners	1.1E-04	mg/L	3.5E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	2.7E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Arsenic	3.9E-03	mg/L	6.1E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-09	4.7E-08	mg/kg-day	3.0E-04	mg/kg-day	2E-04
				Cyanide	1.1E-02	mg/L	1.7E-08	mg/kg-day	NA	--	--	1.3E-07	mg/kg-day	6.0E-04	mg/kg-day	2E-04
				Manganese	2.1E-01	mg/L	3.2E-07	mg/kg-day	NA	--	--	2.5E-06	mg/kg-day	9.6E-04	mg/kg-day	3E-03
			Exposure Route Total								7E-07					1E-01
		Exposure Point Total									7E-07					1E-01
	Total of Receptor Risks Across Medium										7E-07					1E-01

Notes
NA = Not Available

TABLE 7.2.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit:	OU4 Bound Brook Study Area
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Water	Surface Water	OU4 Bound Brook Study Area	Dermal Absorption	cis-1,2-Dichloroethene	8.8E-03	mg/L	4.4E-07	mg/kg-day	NA	--	--	2.6E-06	mg/kg-day	2.0E-03	mg/kg-day	1E-03
				Trichloroethene	3.7E-03	mg/L	5.3E-08	mg/kg-day	4.6E-02	$(mg/kg\text{-}day)^{-1}$	5E-09	1.9E-06	mg/kg-day	5.0E-04	mg/kg-day	4E-03
				Total PCB Congeners	1.1E-04	mg/L	1.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	6.3E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Arsenic	3.9E-03	mg/L	1.9E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	1.1E-07	mg/kg-day	3.0E-04	mg/kg-day	4E-04
				Cyanide	1.1E-02	mg/L	5.3E-08	mg/kg-day	NA	--	--	3.1E-07	mg/kg-day	6.0E-04	mg/kg-day	5E-04
				Manganese	2.1E-01	mg/L	1.0E-06	mg/kg-day	NA	--	--	5.8E-06	mg/kg-day	9.6E-04	mg/kg-day	6E-03
			Exposure Route Total								2E-06					3E-01
		Exposure Point Total									2E-06					3E-01
	Total of Receptor Risks Across Medium										2E-06					3E-01

Notes
NA = Not Available

TABLE 7.2.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit:	OU4 Bound Brook Study Area
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Water	Surface Water	OU4 Bound Brook Study Area	Dermal Absorption	cis-1,2-Dichloroethene	8.8E-03	mg/L	1.7E-07	mg/kg-day	NA	--	--	1.3E-06	mg/kg-day	2.0E-03	mg/kg-day	6E-04
				Trichloroethene	3.7E-03	mg/L	2.6E-08	mg/kg-day	4.6E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	9.3E-07	mg/kg-day	5.0E-04	mg/kg-day	2E-03
				Total PCB Congeners	1.1E-04	mg/L	4.0E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	3.1E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Arsenic	3.9E-03	mg/L	7.0E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	5.5E-08	mg/kg-day	3.0E-04	mg/kg-day	2E-04
				Cyanide	1.1E-02	mg/L	2.0E-08	mg/kg-day	NA	--	--	1.5E-07	mg/kg-day	6.0E-04	mg/kg-day	3E-04
				Manganese	2.1E-01	mg/L	3.7E-07	mg/kg-day	NA	--	--	2.9E-06	mg/kg-day	9.6E-04	mg/kg-day	3E-03
			Exposure Route Total								8E-07					2E-01
		Exposure Point Total									8E-07					2E-01
	Total of Receptor Risks Across Medium										8E-07					2E-01

Notes
NA = Not Available

TABLE 7.3.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit:	OU4 Bound Brook Study Area
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Water	Surface Water	OU4 Bound Brook Study Area	Dermal Absorption	cis-1,2-Dichloroethene	8.8E-03	mg/L	6.4E-08	mg/kg-day	NA	--	--	4.5E-06	mg/kg-day	2.0E-02	mg/kg-day	2E-04
				Trichloroethene	3.7E-03	mg/L	4.1E-08	mg/kg-day	4.6E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	2.9E-06	mg/kg-day	5.0E-04	mg/kg-day	6E-03
				Total PCB Congeners	1.1E-04	mg/L	9.8E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	6.9E-06	mg/kg-day	6.0E-05	mg/kg-day	1E-01
				Arsenic	3.9E-03	mg/L	3.5E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-09	2.4E-07	mg/kg-day	3.0E-04	mg/kg-day	8E-04
				Cyanide	1.1E-02	mg/L	9.7E-09	mg/kg-day	NA	--	--	6.8E-07	mg/kg-day	6.0E-04	mg/kg-day	1E-03
				Manganese	2.1E-01	mg/L	1.8E-07	mg/kg-day	NA	--	--	1.3E-05	mg/kg-day	9.6E-04	mg/kg-day	1E-02
			Exposure Route Total								2E-07					1E-01
		Exposure Point Total									2E-07					1E-01
	Total of Receptor Risks Across Medium										2E-07					1E-01

Notes
NA = Not Available

TABLE 7.3.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit:	OU4 Bound Brook Study Area
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Water	Surface Water	OU4 Bound Brook Study Area	Dermal Absorption	cis-1,2-Dichloroethene	8.8E-03	mg/L	1.7E-08	mg/kg-day	NA	--	--	1.2E-06	mg/kg-day	2.0E-02	mg/kg-day	6E-05
				Trichloroethene	3.7E-03	mg/L	1.1E-08	mg/kg-day	4.6E-02	$(mg/kg\text{-}day)^{-1}$	5E-10	7.7E-07	mg/kg-day	5.0E-04	mg/kg-day	2E-03
				Total PCB Congeners	1.1E-04	mg/L	2.9E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	2.0E-06	mg/kg-day	6.0E-05	mg/kg-day	3E-02
				Arsenic	3.9E-03	mg/L	8.6E-10	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-09	6.0E-08	mg/kg-day	3.0E-04	mg/kg-day	2E-04
				Cyanide	1.1E-02	mg/L	2.4E-09	mg/kg-day	NA	--	--	1.7E-07	mg/kg-day	6.0E-04	mg/kg-day	3E-04
				Manganese	2.1E-01	mg/L	4.6E-08	mg/kg-day	NA	--	--	3.2E-06	mg/kg-day	9.6E-04	mg/kg-day	3E-03
			Exposure Route Total								6E-08					4E-02
		Exposure Point Total									6E-08					4E-02
	Total of Receptor Risks Across Medium										6E-08					4E-02

Notes
NA = Not Available

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU GB	Ingestion	Benzo(a)anthracene	4.4E-01	mg/kg	3.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	8.6E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.5E-01	mg/kg	3.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	8.8E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	7.1E-01	mg/kg	6.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.4E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	3.7E-01	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	7.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E-01	mg/kg	1.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	2.5E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	2.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	5.3E-08	mg/kg-day	NA	--	NA
				Phenanthrene	4.2E-01	mg/kg	3.5E-08	mg/kg-day	NA	--	NA	8.2E-08	mg/kg-day	NA	--	NA
				Aluminum	1.0E+04	mg/kg	8.4E-04	mg/kg-day	NA	--	NA	1.9E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Arsenic	2.1E+00	mg/kg	1.8E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	4.1E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cobalt	7.6E+00	mg/kg	6.4E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Iron	1.9E+04	mg/kg	1.6E-03	mg/kg-day	NA	--	NA	3.7E-03	mg/kg-day	7.0E-01	mg/kg-day	5E-03
				Manganese	2.4E+02	mg/kg	2.0E-05	mg/kg-day	NA	--	NA	4.6E-05	mg/kg-day	2.4E-02	mg/kg-day	2E-03
				Vanadium	4.6E+01	mg/kg	3.9E-06	mg/kg-day	NA	--	NA	9.0E-06	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								7E-07					2E-02
Sediment	Surface Sediment	EU GB	Dermal	Benzo(a)anthracene	4.4E-01	mg/kg	1.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.5E-01	mg/kg	1.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	3.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	7.1E-01	mg/kg	2.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	5.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	3.7E-01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	2.9E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E-01	mg/kg	4.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	9.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	2.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	4.2E-01	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	3.3E-07	mg/kg-day	NA	--	NA
				Aluminum	1.0E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.1E+00	mg/kg	1.6E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	3.8E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cobalt	7.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.9E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	2.4E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.6E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-06					1E-03
		Exposure Point Total									3E-06					2E-02
	Total of Receptor Risks Across Medium										3E-06					2E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB1	Ingestion	Acenaphthylene	1.5E+00	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	2.9E-07	mg/kg-day	NA	--	NA
				Benzidine	1.5E+01	mg/kg	1.3E-06	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	3E-04	2.9E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Benzo(a)anthracene	3.4E+00	mg/kg	2.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	6.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.2E+00	mg/kg	3.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	8.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.4E+00	mg/kg	3.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	8.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.7E+00	mg/kg	2.3E-07	mg/kg-day	NA	--	NA	5.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.0E+00	mg/kg	2.5E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-08	5.9E-07	mg/kg-day	NA	--	NA
				Carbazole	1.1E-01	mg/kg	9.5E-09	mg/kg-day	NA	--	NA	2.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.5E-01	mg/kg	6.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.5E+00	mg/kg	2.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	4.9E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-03	mg/kg	8.4E-11	mg/kg-day	NA	--	NA	2.0E-10	mg/kg-day	NA	--	NA
				Phenanthrene	5.0E+00	mg/kg	4.2E-07	mg/kg-day	NA	--	NA	9.8E-07	mg/kg-day	NA	--	NA
				delta-BHC	2.0E-03	mg/kg	1.7E-10	mg/kg-day	NA	--	NA	3.9E-10	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.7E-03	mg/kg	5.6E-10	mg/kg-day	NA	--	NA	1.3E-09	mg/kg-day	NA	--	NA
				Endrin ketone	2.0E-02	mg/kg	1.7E-09	mg/kg-day	NA	--	NA	3.9E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.4E+00	mg/kg	5.4E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.3E-06	mg/kg-day	2.0E-05	mg/kg-day	6E-02
				Aluminum	2.2E+04	mg/kg	1.9E-03	mg/kg-day	NA	--	NA	4.4E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Arsenic	8.2E+00	mg/kg	6.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cobalt	2.2E+01	mg/kg	1.8E-06	mg/kg-day	NA	--	NA	4.3E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Copper	1.1E+02	mg/kg	9.4E-06	mg/kg-day	NA	--	NA	2.2E-05	mg/kg-day	4.0E-02	mg/kg-day	5E-04
				Iron	7.5E+04	mg/kg	6.3E-03	mg/kg-day	NA	--	NA	1.5E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	7.1E+02	mg/kg	6.0E-05	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
				Vanadium	3.3E+01	mg/kg	2.8E-06	mg/kg-day	NA	--	NA	6.5E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
			Exposure Route Total								3E-04					1E-01

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB1	Dermal	Acenaphthylene	1.5E+00	mg/kg	5.1E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Benzidine	1.5E+01	mg/kg	3.9E-06	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	9E-04	9.1E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Benzo(a)anthracene	3.4E+00	mg/kg	1.1E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-07	2.7E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.2E+00	mg/kg	1.4E-06	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	3.3E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.4E+00	mg/kg	1.5E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	3.5E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.7E+00	mg/kg	9.1E-07	mg/kg-day	NA	--	NA	2.1E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.0E+00	mg/kg	1.0E-06	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	7E-08	2.4E-06	mg/kg-day	NA	--	NA
				Carbazole	1.1E-01	mg/kg	2.9E-08	mg/kg-day	NA	--	NA	6.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.5E-01	mg/kg	2.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	5.9E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.5E+00	mg/kg	8.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-07	2.0E-06	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-03	mg/kg	2.6E-10	mg/kg-day	NA	--	NA	6.1E-10	mg/kg-day	NA	--	NA
				Phenanthrene	5.0E+00	mg/kg	1.7E-06	mg/kg-day	NA	--	NA	3.9E-06	mg/kg-day	NA	--	NA
				delta-BHC	2.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	6.7E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	2.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.4E+00	mg/kg	2.3E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	5.4E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Aluminum	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.2E+00	mg/kg	6.4E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.5E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cobalt	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	7.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								9E-04					3E-01
		Exposure Point Total									1E-03					4E-01
	Total of Receptor Risks Across Medium										1E-03					4E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB1	Ingestion	Acenaphthylene	1.5E+00	mg/kg	1.9E-08	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Benzidine	1.5E+01	mg/kg	1.9E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	4E-05	1.5E-06	mg/kg-day	3.0E-03	mg/kg-day	5E-04
				Benzo(a)anthracene	3.4E+00	mg/kg	4.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	3.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.2E+00	mg/kg	5.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	4.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.4E+00	mg/kg	5.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	4.3E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.7E+00	mg/kg	3.4E-08	mg/kg-day	NA	--	NA	2.6E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.0E+00	mg/kg	3.8E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	2.9E-07	mg/kg-day	NA	--	NA
				Carbazole	1.1E-01	mg/kg	1.4E-09	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.5E-01	mg/kg	9.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	7.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.5E+00	mg/kg	3.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.4E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-03	mg/kg	1.3E-11	mg/kg-day	NA	--	NA	9.8E-11	mg/kg-day	NA	--	NA
				Phenanthrene	5.0E+00	mg/kg	6.3E-08	mg/kg-day	NA	--	NA	4.9E-07	mg/kg-day	NA	--	NA
				delta-BHC	2.0E-03	mg/kg	2.5E-11	mg/kg-day	NA	--	NA	2.0E-10	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.7E-03	mg/kg	8.4E-11	mg/kg-day	NA	--	NA	6.6E-10	mg/kg-day	NA	--	NA
				Endrin ketone	2.0E-02	mg/kg	2.5E-10	mg/kg-day	NA	--	NA	2.0E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.4E+00	mg/kg	8.1E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	6.3E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	2.2E+04	mg/kg	2.8E-04	mg/kg-day	NA	--	NA	2.2E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Arsenic	8.2E+00	mg/kg	1.0E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	8.0E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cobalt	2.2E+01	mg/kg	2.8E-07	mg/kg-day	NA	--	NA	2.2E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Copper	1.1E+02	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	4.0E-02	mg/kg-day	3E-04
				Iron	7.5E+04	mg/kg	9.4E-04	mg/kg-day	NA	--	NA	7.3E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Manganese	7.1E+02	mg/kg	8.9E-06	mg/kg-day	NA	--	NA	6.9E-05	mg/kg-day	2.4E-02	mg/kg-day	3E-03
				Vanadium	3.3E+01	mg/kg	4.2E-07	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	5.0E-03	mg/kg-day	6E-04
			Exposure Route Total								4E-05					6E-02

TABLE 7.4.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB1	Dermal	Acenaphthylene	1.5E+00	mg/kg	7.6E-08	mg/kg-day	NA	--	NA	5.9E-07	mg/kg-day	NA	--	NA
				Benzidine	1.5E+01	mg/kg	5.8E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-04	4.5E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	3.4E+00	mg/kg	1.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.2E+00	mg/kg	2.1E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.4E+00	mg/kg	2.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.7E+00	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.0E+00	mg/kg	1.5E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	1.2E-06	mg/kg-day	NA	--	NA
				Carbazole	1.1E-01	mg/kg	4.4E-09	mg/kg-day	NA	--	NA	3.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.5E-01	mg/kg	3.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	3.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.5E+00	mg/kg	1.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	9.9E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-03	mg/kg	3.9E-11	mg/kg-day	NA	--	NA	3.0E-10	mg/kg-day	NA	--	NA
				Phenanthrene	5.0E+00	mg/kg	2.5E-07	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	NA	--	NA
				delta-BHC	2.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	6.7E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	2.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.4E+00	mg/kg	3.5E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	2.7E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.2E+00	mg/kg	9.6E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	7.5E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cobalt	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	7.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-04					1E-01
		Exposure Point Total									2E-04					2E-01
	Total of Receptor Risks Across Medium										2E-04					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB2	Ingestion	Acenaphthylene	1.7E-01	mg/kg	1.4E-08	mg/kg-day	NA	--	NA	3.3E-08	mg/kg-day	NA	--	NA
				Benzidine	1.9E+01	mg/kg	1.6E-06	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	4E-04	3.7E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Benzo(a)anthracene	2.1E+00	mg/kg	1.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.4E+00	mg/kg	2.0E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.7E+00	mg/kg	3.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	7.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	3.1E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.4E+00	mg/kg	2.0E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	4.7E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	2.6E+01	mg/kg	2.2E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	5.1E-06	mg/kg-day	2.0E-02	mg/kg-day	3E-04
				Carbazole	1.8E-01	mg/kg	1.5E-08	mg/kg-day	NA	--	NA	3.5E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.2E-01	mg/kg	5.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.2E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.4E+01	mg/kg	2.0E-06	mg/kg-day	NA	--	NA	4.7E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.1E+00	mg/kg	1.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.4E+00	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	2.7E-07	mg/kg-day	NA	--	NA
				Endrin ketone	5.9E-03	mg/kg	4.9E-10	mg/kg-day	NA	--	NA	1.2E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	3.5E+00	mg/kg	2.9E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	6.8E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	1.7E+04	mg/kg	1.4E-03	mg/kg-day	NA	--	NA	3.4E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Arsenic	7.4E+00	mg/kg	6.2E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cadmium	3.0E+01	mg/kg	2.5E-06	mg/kg-day	NA	--	NA	5.9E-06	mg/kg-day	1.0E-03	mg/kg-day	6E-03
				Cobalt	1.2E+01	mg/kg	1.0E-06	mg/kg-day	NA	--	NA	2.3E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Iron	2.8E+04	mg/kg	2.4E-03	mg/kg-day	NA	--	NA	5.6E-03	mg/kg-day	7.0E-01	mg/kg-day	8E-03
				Manganese	4.0E+02	mg/kg	3.4E-05	mg/kg-day	NA	--	NA	7.9E-05	mg/kg-day	2.4E-02	mg/kg-day	3E-03
				Vanadium	3.3E+01	mg/kg	2.8E-06	mg/kg-day	NA	--	NA	6.5E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
			Exposure Route Total								4E-04					7E-02

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB2	Dermal	Acenaphthylene	1.7E-01	mg/kg	5.7E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Benzidine	1.9E+01	mg/kg	4.9E-06	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-03	1.2E-05	mg/kg-day	3.0E-03	mg/kg-day	4E-03
				Benzo(a)anthracene	2.1E+00	mg/kg	7.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.4E+00	mg/kg	8.1E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	1.9E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.7E+00	mg/kg	1.3E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-07	2.9E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	5.4E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.4E+00	mg/kg	8.1E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	6E-08	1.9E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	2.6E+01	mg/kg	6.8E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	9E-08	1.6E-05	mg/kg-day	2.0E-02	mg/kg-day	8E-04
				Carbazole	1.8E-01	mg/kg	4.7E-08	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.2E-01	mg/kg	2.1E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	4.9E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.4E+01	mg/kg	6.2E-06	mg/kg-day	NA	--	NA	1.5E-05	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.1E+00	mg/kg	7.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	1.7E-06	mg/kg-day	NA	--	NA
				Phenanthrene	1.4E+00	mg/kg	4.7E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	NA	--	NA
				Endrin ketone	5.9E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	3.5E+00	mg/kg	1.3E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	3.0E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	1.7E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	7.4E+00	mg/kg	5.8E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	3.0E+01	mg/kg	7.8E-08	mg/kg-day	NA	--	NA	1.8E-07	mg/kg-day	2.5E-05	mg/kg-day	7E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-03					2E-01
		Exposure Point Total									2E-03					2E-01
	Total of Receptor Risks Across Medium										2E-03					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB2	Ingestion	Acenaphthylene	1.7E-01	mg/kg	2.1E-09	mg/kg-day	NA	--	NA	1.7E-08	mg/kg-day	NA	--	NA
				Benzidine	1.9E+01	mg/kg	2.4E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	5E-05	1.9E-06	mg/kg-day	3.0E-03	mg/kg-day	6E-04
				Benzo(a)anthracene	2.1E+00	mg/kg	2.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.4E+00	mg/kg	3.0E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	2.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.7E+00	mg/kg	4.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	3.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.4E+00	mg/kg	3.0E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	2.3E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	2.6E+01	mg/kg	3.3E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	5E-09	2.5E-06	mg/kg-day	2.0E-02	mg/kg-day	1E-04
				Carbazole	1.8E-01	mg/kg	2.3E-09	mg/kg-day	NA	--	NA	1.8E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.2E-01	mg/kg	7.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	6.1E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.4E+01	mg/kg	3.0E-07	mg/kg-day	NA	--	NA	2.3E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.1E+00	mg/kg	2.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.4E+00	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Endrin ketone	5.9E-03	mg/kg	7.4E-11	mg/kg-day	NA	--	NA	5.8E-10	mg/kg-day	NA	--	NA
				Total PCB Aroclors	3.5E+00	mg/kg	4.4E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	3.4E-07	mg/kg-day	2.0E-05	mg/kg-day	2E-02
				Aluminum	1.7E+04	mg/kg	2.2E-04	mg/kg-day	NA	--	NA	1.7E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Arsenic	7.4E+00	mg/kg	9.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	7.2E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	3.0E+01	mg/kg	3.8E-07	mg/kg-day	NA	--	NA	2.9E-06	mg/kg-day	1.0E-03	mg/kg-day	3E-03
				Cobalt	1.2E+01	mg/kg	1.5E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Iron	2.8E+04	mg/kg	3.6E-04	mg/kg-day	NA	--	NA	2.8E-03	mg/kg-day	7.0E-01	mg/kg-day	4E-03
				Manganese	4.0E+02	mg/kg	5.1E-06	mg/kg-day	NA	--	NA	3.9E-05	mg/kg-day	2.4E-02	mg/kg-day	2E-03
				Vanadium	3.3E+01	mg/kg	4.2E-07	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	5.0E-03	mg/kg-day	6E-04
			Exposure Route Total								6E-05					4E-02

TABLE 7.4.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB2	Dermal	Acenaphthylene	1.7E-01	mg/kg	8.6E-09	mg/kg-day	NA	--	NA	6.7E-08	mg/kg-day	NA	--	NA
				Benzidine	1.9E+01	mg/kg	7.4E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	2E-04	5.8E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	2.1E+00	mg/kg	1.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	8.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.4E+00	mg/kg	1.2E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	9.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.7E+00	mg/kg	1.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	8.1E-08	mg/kg-day	NA	--	NA	6.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.4E+00	mg/kg	1.2E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	9E-09	9.5E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	2.6E+01	mg/kg	1.0E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	7.9E-06	mg/kg-day	2.0E-02	mg/kg-day	4E-04
				Carbazole	1.8E-01	mg/kg	7.0E-09	mg/kg-day	NA	--	NA	5.5E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.2E-01	mg/kg	3.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	2.4E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.4E+01	mg/kg	9.4E-07	mg/kg-day	NA	--	NA	7.3E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.1E+00	mg/kg	1.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	8.3E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.4E+00	mg/kg	7.1E-08	mg/kg-day	NA	--	NA	5.5E-07	mg/kg-day	NA	--	NA
				Endrin ketone	5.9E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	3.5E+00	mg/kg	1.9E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.5E-06	mg/kg-day	2.0E-05	mg/kg-day	7E-02
				Aluminum	1.7E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	7.4E+00	mg/kg	8.7E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	6.7E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	3.0E+01	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	9.1E-08	mg/kg-day	2.5E-05	mg/kg-day	4E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-04					8E-02
		Exposure Point Total									2E-04					1E-01
	Total of Receptor Risks Across Medium										2E-04					1E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB3	Ingestion	Acenaphthylene	6.0E-01	mg/kg	5.0E-08	mg/kg-day	NA	--	NA	1.2E-07	mg/kg-day	NA	--	NA
				Benzidine	5.0E+01	mg/kg	4.2E-06	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-03	9.8E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Benzo(a)anthracene	4.8E+00	mg/kg	4.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	9.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.4E+00	mg/kg	5.4E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.5E+00	mg/kg	3.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	8.8E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	3.7E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.9E+00	mg/kg	2.4E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-08	5.7E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.9E+01	mg/kg	1.6E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-08	3.7E-06	mg/kg-day	2.0E-02	mg/kg-day	2E-04
				Carbazole	2.5E-01	mg/kg	2.1E-08	mg/kg-day	NA	--	NA	4.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	5.3E-01	mg/kg	4.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.0E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.2E+00	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	4.3E-07	mg/kg-day	NA	--	NA
				Phenanthrene	6.1E+00	mg/kg	5.1E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Dieldrin	3.0E-01	mg/kg	2.5E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	4E-07	5.9E-08	mg/kg-day	5.0E-05	mg/kg-day	1E-03
				Endrin aldehyde	1.8E-02	mg/kg	1.5E-09	mg/kg-day	NA	--	NA	3.5E-09	mg/kg-day	NA	--	NA
				Endrin ketone	1.0E-02	mg/kg	8.4E-10	mg/kg-day	NA	--	NA	2.0E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.5E+00	mg/kg	5.5E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.3E-06	mg/kg-day	2.0E-05	mg/kg-day	6E-02
				Aluminum	1.2E+04	mg/kg	1.0E-03	mg/kg-day	NA	--	NA	2.4E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Arsenic	6.4E+00	mg/kg	5.4E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	1.3E+01	mg/kg	1.1E-06	mg/kg-day	NA	--	NA	2.5E-06	mg/kg-day	1.0E-03	mg/kg-day	3E-03
				Cobalt	2.1E+01	mg/kg	1.8E-06	mg/kg-day	NA	--	NA	4.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Iron	1.9E+04	mg/kg	1.6E-03	mg/kg-day	NA	--	NA	3.7E-03	mg/kg-day	7.0E-01	mg/kg-day	5E-03
				Manganese	3.5E+02	mg/kg	3.0E-05	mg/kg-day	NA	--	NA	6.9E-05	mg/kg-day	2.4E-02	mg/kg-day	3E-03
				Vanadium	2.9E+01	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	5.7E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
			Exposure Route Total								1E-03					1E-01

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB3	Dermal	Acenaphthylene	6.0E-01	mg/kg	2.0E-07	mg/kg-day	NA	--	NA	4.7E-07	mg/kg-day	NA	--	NA
				Benzidine	5.0E+01	mg/kg	1.3E-05	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	3E-03	3.0E-05	mg/kg-day	3.0E-03	mg/kg-day	1E-02
				Benzo(a)anthracene	4.8E+00	mg/kg	1.6E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	3.8E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.4E+00	mg/kg	2.2E-06	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	5.0E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.5E+00	mg/kg	1.5E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	3.5E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	6.4E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.9E+00	mg/kg	9.8E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	7E-08	2.3E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.9E+01	mg/kg	4.9E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	7E-08	1.2E-05	mg/kg-day	2.0E-02	mg/kg-day	6E-04
				Carbazole	2.5E-01	mg/kg	6.5E-08	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	5.3E-01	mg/kg	1.8E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.2E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.2E+00	mg/kg	5.7E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Phenanthrene	6.1E+00	mg/kg	2.1E-06	mg/kg-day	NA	--	NA	4.8E-06	mg/kg-day	NA	--	NA
				Dieldrin	3.0E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				Endrin aldehyde	1.8E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	1.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.5E+00	mg/kg	2.4E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	5.5E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Aluminum	1.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	6.4E+00	mg/kg	5.0E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	1.2E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	1.3E+01	mg/kg	3.4E-08	mg/kg-day	NA	--	NA	7.9E-08	mg/kg-day	2.5E-05	mg/kg-day	3E-03
				Cobalt	2.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.9E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	3.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								3E-03					3E-01
		Exposure Point Total									4E-03					4E-01
	Total of Receptor Risks Across Medium										4E-03					4E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB3	Ingestion	Acenaphthylene	6.0E-01	mg/kg	7.5E-09	mg/kg-day	NA	--	NA	5.9E-08	mg/kg-day	NA	--	NA
				Benzidine	5.0E+01	mg/kg	6.3E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-04	4.9E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	4.8E+00	mg/kg	6.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	4.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.4E+00	mg/kg	8.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	6.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.5E+00	mg/kg	5.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	4.4E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.9E+00	mg/kg	3.6E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	2.8E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.9E+01	mg/kg	2.4E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	1.9E-06	mg/kg-day	2.0E-02	mg/kg-day	9E-05
				Carbazole	2.5E-01	mg/kg	3.1E-09	mg/kg-day	NA	--	NA	2.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	5.3E-01	mg/kg	6.7E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	5.2E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.2E+00	mg/kg	2.8E-08	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	6.1E+00	mg/kg	7.7E-08	mg/kg-day	NA	--	NA	6.0E-07	mg/kg-day	NA	--	NA
				Dieldrin	3.0E-01	mg/kg	3.8E-09	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	6E-08	2.9E-08	mg/kg-day	5.0E-05	mg/kg-day	6E-04
				Endrin aldehyde	1.8E-02	mg/kg	2.3E-10	mg/kg-day	NA	--	NA	1.8E-09	mg/kg-day	NA	--	NA
				Endrin ketone	1.0E-02	mg/kg	1.3E-10	mg/kg-day	NA	--	NA	9.8E-10	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.5E+00	mg/kg	8.2E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	6.4E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	1.2E+04	mg/kg	1.5E-04	mg/kg-day	NA	--	NA	1.2E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Arsenic	6.4E+00	mg/kg	8.1E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	6.3E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	1.3E+01	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	1.0E-03	mg/kg-day	1E-03
				Cobalt	2.1E+01	mg/kg	2.6E-07	mg/kg-day	NA	--	NA	2.1E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Iron	1.9E+04	mg/kg	2.4E-04	mg/kg-day	NA	--	NA	1.9E-03	mg/kg-day	7.0E-01	mg/kg-day	3E-03
				Manganese	3.5E+02	mg/kg	4.4E-06	mg/kg-day	NA	--	NA	3.4E-05	mg/kg-day	2.4E-02	mg/kg-day	1E-03
				Vanadium	2.9E+01	mg/kg	3.6E-07	mg/kg-day	NA	--	NA	2.8E-06	mg/kg-day	5.0E-03	mg/kg-day	6E-04
			Exposure Route Total								1E-04					5E-02

TABLE 7.4.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB3	Dermal	Acenaphthylene	6.0E-01	mg/kg	3.0E-08	mg/kg-day	NA	--	NA	2.4E-07	mg/kg-day	NA	--	NA
				Benzidine	5.0E+01	mg/kg	1.9E-06	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	4E-04	1.5E-05	mg/kg-day	3.0E-03	mg/kg-day	5E-03
				Benzo(a)anthracene	4.8E+00	mg/kg	2.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.9E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.4E+00	mg/kg	3.2E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	2.5E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.5E+00	mg/kg	2.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.8E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	9.6E-08	mg/kg-day	NA	--	NA	7.5E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.9E+00	mg/kg	1.5E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	1.1E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.9E+01	mg/kg	7.4E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	5.8E-06	mg/kg-day	2.0E-02	mg/kg-day	3E-04
				Carbazole	2.5E-01	mg/kg	9.7E-09	mg/kg-day	NA	--	NA	7.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	5.3E-01	mg/kg	2.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	2.1E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.2E+00	mg/kg	8.6E-08	mg/kg-day	NA	--	NA	6.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	6.1E+00	mg/kg	3.1E-07	mg/kg-day	NA	--	NA	2.4E-06	mg/kg-day	NA	--	NA
				Dieldrin	3.0E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				Endrin aldehyde	1.8E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	1.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.5E+00	mg/kg	3.5E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	2.8E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	1.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	6.4E+00	mg/kg	7.5E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	5.8E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	1.3E+01	mg/kg	5.1E-09	mg/kg-day	NA	--	NA	3.9E-08	mg/kg-day	2.5E-05	mg/kg-day	2E-03
				Cobalt	2.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.9E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	3.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-04					1E-01
		Exposure Point Total									6E-04					2E-01
	Total of Receptor Risks Across Medium										6E-04					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB4	Ingestion	Acenaphthylene	1.0E-02	mg/kg	8.4E-10	mg/kg-day	NA	--	NA	2.0E-09	mg/kg-day	NA	--	NA
				Benzidine	2.0E+01	mg/kg	1.7E-06	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	4E-04	3.9E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Benzo(a)anthracene	1.7E+00	mg/kg	1.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	1.3E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	3.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	1.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.5E+00	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	2.9E-07	mg/kg-day	NA	--	NA
				Carbazole	1.3E-01	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	2.5E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	1.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	4.3E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.5E+00	mg/kg	2.1E-07	mg/kg-day	NA	--	NA	4.9E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	1.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	2.3E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	8.0E-02	mg/kg	6.7E-09	mg/kg-day	NA	--	NA	1.6E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.6E+00	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	3.1E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.3E-02	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	2.5E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	1.9E-02	mg/kg	1.6E-09	mg/kg-day	NA	--	NA	3.7E-09	mg/kg-day	NA	--	NA
				Endrin ketone	1.3E-02	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	2.5E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	8.4E+00	mg/kg	7.0E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.6E-06	mg/kg-day	2.0E-05	mg/kg-day	8E-02
				Aluminum	8.0E+03	mg/kg	6.7E-04	mg/kg-day	NA	--	NA	1.6E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Arsenic	5.8E+00	mg/kg	4.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	6.4E+00	mg/kg	5.4E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	1.0E-03	mg/kg-day	1E-03
				Cobalt	6.7E+00	mg/kg	5.6E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Iron	2.1E+04	mg/kg	1.8E-03	mg/kg-day	NA	--	NA	4.1E-03	mg/kg-day	7.0E-01	mg/kg-day	6E-03
				Manganese	1.3E+03	mg/kg	1.1E-04	mg/kg-day	NA	--	NA	2.6E-04	mg/kg-day	2.4E-02	mg/kg-day	1E-02
				Vanadium	1.8E+01	mg/kg	1.5E-06	mg/kg-day	NA	--	NA	3.5E-06	mg/kg-day	5.0E-03	mg/kg-day	7E-04
			Exposure Route Total								4E-04					1E-01

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB4	Dermal	Acenaphthylene	1.0E-02	mg/kg	3.4E-09	mg/kg-day	NA	--	NA	7.9E-09	mg/kg-day	NA	--	NA
				Benzidine	2.0E+01	mg/kg	5.2E-06	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-03	1.2E-05	mg/kg-day	3.0E-03	mg/kg-day	4E-03
				Benzo(a)anthracene	1.7E+00	mg/kg	5.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	5.4E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	7.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-07	1.8E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.5E+00	mg/kg	5.1E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Carbazole	1.3E-01	mg/kg	3.4E-08	mg/kg-day	NA	--	NA	7.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	7.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.7E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.5E+00	mg/kg	6.5E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	4.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	9.5E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	8.0E-02	mg/kg	2.1E-08	mg/kg-day	NA	--	NA	4.9E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.6E+00	mg/kg	5.4E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.3E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	1.9E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	1.3E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	8.4E+00	mg/kg	3.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	7.1E-06	mg/kg-day	2.0E-05	mg/kg-day	4E-01
				Aluminum	8.0E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	5.8E+00	mg/kg	4.5E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	6.4E+00	mg/kg	1.7E-08	mg/kg-day	NA	--	NA	3.9E-08	mg/kg-day	2.5E-05	mg/kg-day	2E-03
				Cobalt	6.7E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	1.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	1.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-03					4E-01
		Exposure Point Total									2E-03					5E-01
	Total of Receptor Risks Across Medium										2E-03					5E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB4	Ingestion	Acenaphthylene	1.0E-02	mg/kg	1.3E-10	mg/kg-day	NA	--	NA	9.8E-10	mg/kg-day	NA	--	NA
				Benzidine	2.0E+01	mg/kg	2.5E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	6E-05	2.0E-06	mg/kg-day	3.0E-03	mg/kg-day	7E-04
				Benzo(a)anthracene	1.7E+00	mg/kg	2.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	2.0E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	2.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.3E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.5E+00	mg/kg	1.9E-08	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Carbazole	1.3E-01	mg/kg	1.6E-09	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	2.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.2E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.5E+00	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	2.4E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.2E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	8.0E-02	mg/kg	1.0E-09	mg/kg-day	NA	--	NA	7.8E-09	mg/kg-day	NA	--	NA
				Phenanthrene	1.6E+00	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.3E-02	mg/kg	1.6E-10	mg/kg-day	NA	--	NA	1.3E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	1.9E-02	mg/kg	2.4E-10	mg/kg-day	NA	--	NA	1.9E-09	mg/kg-day	NA	--	NA
				Endrin ketone	1.3E-02	mg/kg	1.6E-10	mg/kg-day	NA	--	NA	1.3E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	8.4E+00	mg/kg	1.1E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	8.2E-07	mg/kg-day	2.0E-05	mg/kg-day	4E-02
				Aluminum	8.0E+03	mg/kg	1.0E-04	mg/kg-day	NA	--	NA	7.8E-04	mg/kg-day	1.0E+00	mg/kg-day	8E-04
				Arsenic	5.8E+00	mg/kg	7.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	5.7E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	6.4E+00	mg/kg	8.1E-08	mg/kg-day	NA	--	NA	6.3E-07	mg/kg-day	1.0E-03	mg/kg-day	6E-04
				Cobalt	6.7E+00	mg/kg	8.4E-08	mg/kg-day	NA	--	NA	6.6E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Iron	2.1E+04	mg/kg	2.6E-04	mg/kg-day	NA	--	NA	2.0E-03	mg/kg-day	7.0E-01	mg/kg-day	3E-03
				Manganese	1.3E+03	mg/kg	1.7E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	2.4E-02	mg/kg-day	5E-03
				Vanadium	1.8E+01	mg/kg	2.3E-07	mg/kg-day	NA	--	NA	1.8E-06	mg/kg-day	5.0E-03	mg/kg-day	4E-04
			Exposure Route Total								6E-05					6E-02

TABLE 7.4.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB4	Dermal	Acenaphthylene	1.0E-02	mg/kg	5.1E-10	mg/kg-day	NA	--	NA	3.9E-09	mg/kg-day	NA	--	NA
				Benzidine	2.0E+01	mg/kg	7.8E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	2E-04	6.1E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	1.7E+00	mg/kg	8.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	6.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	8.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	6.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	1.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	9.1E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.5E+00	mg/kg	7.6E-08	mg/kg-day	NA	--	NA	5.9E-07	mg/kg-day	NA	--	NA
				Carbazole	1.3E-01	mg/kg	5.1E-09	mg/kg-day	NA	--	NA	3.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	1.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	8.7E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.5E+00	mg/kg	9.7E-08	mg/kg-day	NA	--	NA	7.6E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	6.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	4.7E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	8.0E-02	mg/kg	3.1E-09	mg/kg-day	NA	--	NA	2.4E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.6E+00	mg/kg	8.1E-08	mg/kg-day	NA	--	NA	6.3E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.3E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	1.9E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	1.3E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	8.4E+00	mg/kg	4.6E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	3.6E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	8.0E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	5.8E+00	mg/kg	6.8E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	5.3E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	6.4E+00	mg/kg	2.5E-09	mg/kg-day	NA	--	NA	1.9E-08	mg/kg-day	2.5E-05	mg/kg-day	8E-04
				Cobalt	6.7E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	1.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	1.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-04					2E-01
		Exposure Point Total									2E-04					2E-01
	Total of Receptor Risks Across Medium										2E-04					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.9E+01	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	5.7E-06	mg/kg-day	2.0E-03	mg/kg-day	3E-03
				Vinyl chloride	3.5E-01	mg/kg	2.9E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	6.8E-08	mg/kg-day	3.0E-03	mg/kg-day	2E-05
				Acenaphthylene	6.5E-03	mg/kg	5.5E-10	mg/kg-day	NA	--	NA	1.3E-09	mg/kg-day	NA	--	NA
				Benzidine	1.3E+01	mg/kg	1.1E-06	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	3E-04	2.5E-06	mg/kg-day	3.0E-03	mg/kg-day	8E-04
				Benzo(a)anthracene	1.5E+00	mg/kg	1.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	2.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.9E+00	mg/kg	1.6E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	3.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	2.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	4.9E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.0E+00	mg/kg	8.4E-08	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	9.9E-01	mg/kg	8.3E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	6E-09	1.9E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.4E+02	mg/kg	1.1E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-07	2.7E-05	mg/kg-day	2.0E-02	mg/kg-day	1E-03
				Carbazole	2.0E-01	mg/kg	1.7E-08	mg/kg-day	NA	--	NA	3.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.5E-01	mg/kg	2.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	4.9E-08	mg/kg-day	NA	--	NA
				1,3-Dichlorobenzene	2.5E-02	mg/kg	2.1E-09	mg/kg-day	NA	--	NA	4.9E-09	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+01	mg/kg	1.1E-06	mg/kg-day	NA	--	NA	2.5E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.1E+00	mg/kg	9.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	2.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	9.8E-01	mg/kg	8.2E-08	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Dieldrin	5.0E-01	mg/kg	4.2E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	7E-07	9.8E-08	mg/kg-day	5.0E-05	mg/kg-day	2E-03
				4,4'-DDT	6.7E-01	mg/kg	5.6E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.3E-07	mg/kg-day	5.0E-04	mg/kg-day	3E-04
				Endrin aldehyde	7.1E-02	mg/kg	6.0E-09	mg/kg-day	NA	--	NA	1.4E-08	mg/kg-day	NA	--	NA
				Endrin ketone	2.0E-02	mg/kg	1.7E-09	mg/kg-day	NA	--	NA	3.9E-09	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.7E-01	mg/kg	2.2E-08	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	5.2E-08	mg/kg-day	1.3E-05	mg/kg-day	4E-03
				Total PCB Aroclors	2.9E+01	mg/kg	2.4E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	5.7E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Aluminum	1.1E+04	mg/kg	9.2E-04	mg/kg-day	NA	--	NA	2.2E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Antimony	2.0E+00	mg/kg	1.7E-07	mg/kg-day	NA	--	NA	3.9E-07	mg/kg-day	4.0E-04	mg/kg-day	1E-03
				Arsenic	8.4E+00	mg/kg	7.0E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cadmium	2.5E+01	mg/kg	2.1E-06	mg/kg-day	NA	--	NA	4.9E-06	mg/kg-day	1.0E-03	mg/kg-day	5E-03
				Cobalt	8.9E+00	mg/kg	7.5E-07	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Iron	3.4E+04	mg/kg	2.8E-03	mg/kg-day	NA	--	NA	6.6E-03	mg/kg-day	7.0E-01	mg/kg-day	9E-03
				Manganese	4.3E+02	mg/kg	3.6E-05	mg/kg-day	NA	--	NA	8.5E-05	mg/kg-day	2.4E-02	mg/kg-day	4E-03
				Vanadium	2.9E+01	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	5.7E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
			Exposure Route Total								3E-04					3E-01

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB5	Dermal	cis-1,2-Dichloroethene	2.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Vinyl chloride	3.5E-01	mg/kg	N/A	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Acenaphthylene	6.5E-03	mg/kg	2.2E-09	mg/kg-day	NA	--	NA	5.1E-09	mg/kg-day	NA	--	NA
				Benzidine	1.3E+01	mg/kg	3.4E-06	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	8E-04	7.9E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Benzo(a)anthracene	1.5E+00	mg/kg	5.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.9E+00	mg/kg	6.4E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	8.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-07	2.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.0E+00	mg/kg	3.4E-07	mg/kg-day	NA	--	NA	7.9E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	9.9E-01	mg/kg	3.3E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-08	7.8E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.4E+02	mg/kg	3.5E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	5E-07	8.3E-05	mg/kg-day	2.0E-02	mg/kg-day	4E-03
				Carbazole	2.0E-01	mg/kg	5.2E-08	mg/kg-day	NA	--	NA	1.2E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.5E-01	mg/kg	8.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	2.0E-07	mg/kg-day	NA	--	NA
				1,3-Dichlorobenzene	2.5E-02	mg/kg	6.5E-09	mg/kg-day	NA	--	NA	1.5E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+01	mg/kg	3.4E-06	mg/kg-day	NA	--	NA	7.9E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.1E+00	mg/kg	3.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	8.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	9.8E-01	mg/kg	3.3E-07	mg/kg-day	NA	--	NA	7.7E-07	mg/kg-day	NA	--	NA
				Dieldrin	5.0E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	6.7E-01	mg/kg	5.2E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.2E-07	mg/kg-day	5.0E-04	mg/kg-day	2E-04
				Endrin aldehyde	7.1E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	2.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	2.7E-01	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	2.9E+01	mg/kg	1.1E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	2.5E-05	mg/kg-day	2.0E-05	mg/kg-day	1E+00
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	2.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	8.4E+00	mg/kg	6.6E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.5E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cadmium	2.5E+01	mg/kg	6.5E-08	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	2.5E-05	mg/kg-day	6E-03
				Cobalt	8.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	3.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								8E-04					1E+00
		Exposure Point Total									1E-03					2E+00
	Total of Receptor Risks Across Medium										1E-03					2E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.9E+01	mg/kg	3.6E-07	mg/kg-day	NA	--	NA	2.8E-06	mg/kg-day	2.0E-03	mg/kg-day	1E-03
				Vinyl chloride	3.5E-01	mg/kg	4.4E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	3.4E-08	mg/kg-day	3.0E-03	mg/kg-day	1E-05
				Acenaphthylene	6.5E-03	mg/kg	8.2E-11	mg/kg-day	NA	--	NA	6.4E-10	mg/kg-day	NA	--	NA
				Benzidine	1.3E+01	mg/kg	1.6E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	4E-05	1.3E-06	mg/kg-day	3.0E-03	mg/kg-day	4E-04
				Benzo(a)anthracene	1.5E+00	mg/kg	1.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.9E+00	mg/kg	2.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.9E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	3.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.4E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.0E+00	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	9.8E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	9.9E-01	mg/kg	1.2E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	9E-10	9.7E-08	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.4E+02	mg/kg	1.7E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-08	1.3E-05	mg/kg-day	2.0E-02	mg/kg-day	7E-04
				Carbazole	2.0E-01	mg/kg	2.5E-09	mg/kg-day	NA	--	NA	2.0E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.5E-01	mg/kg	3.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.4E-08	mg/kg-day	NA	--	NA
				1,3-Dichlorobenzene	2.5E-02	mg/kg	3.1E-10	mg/kg-day	NA	--	NA	2.4E-09	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+01	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.1E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	9.8E-01	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	9.6E-08	mg/kg-day	NA	--	NA
				Dieldrin	5.0E-01	mg/kg	6.3E-09	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.9E-08	mg/kg-day	5.0E-05	mg/kg-day	1E-03
				4,4'-DDT	6.7E-01	mg/kg	8.4E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	6.6E-08	mg/kg-day	5.0E-04	mg/kg-day	1E-04
				Endrin aldehyde	7.1E-02	mg/kg	8.9E-10	mg/kg-day	NA	--	NA	6.9E-09	mg/kg-day	NA	--	NA
				Endrin ketone	2.0E-02	mg/kg	2.5E-10	mg/kg-day	NA	--	NA	2.0E-09	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.7E-01	mg/kg	3.4E-09	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	2.6E-08	mg/kg-day	1.3E-05	mg/kg-day	2E-03
				Total PCB Aroclors	2.9E+01	mg/kg	3.6E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	2.8E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	1.1E+04	mg/kg	1.4E-04	mg/kg-day	NA	--	NA	1.1E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Antimony	2.0E+00	mg/kg	2.5E-08	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	4.0E-04	mg/kg-day	5E-04
				Arsenic	8.4E+00	mg/kg	1.1E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	8.2E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cadmium	2.5E+01	mg/kg	3.1E-07	mg/kg-day	NA	--	NA	2.4E-06	mg/kg-day	1.0E-03	mg/kg-day	2E-03
				Cobalt	8.9E+00	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	8.7E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Iron	3.4E+04	mg/kg	4.2E-04	mg/kg-day	NA	--	NA	3.3E-03	mg/kg-day	7.0E-01	mg/kg-day	5E-03
				Manganese	4.3E+02	mg/kg	5.4E-06	mg/kg-day	NA	--	NA	4.2E-05	mg/kg-day	2.4E-02	mg/kg-day	2E-03
				Vanadium	2.9E+01	mg/kg	3.6E-07	mg/kg-day	NA	--	NA	2.8E-06	mg/kg-day	5.0E-03	mg/kg-day	6E-04
			Exposure Route Total								4E-05					2E-01

TABLE 7.4.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB5	Dermal	cis-1,2-Dichloroethene	2.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Vinyl chloride	3.5E-01	mg/kg	N/A	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Acenaphthylene	6.5E-03	mg/kg	3.3E-10	mg/kg-day	NA	--	NA	2.6E-09	mg/kg-day	NA	--	NA
				Benzidine	1.3E+01	mg/kg	5.1E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-04	3.9E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Benzo(a)anthracene	1.5E+00	mg/kg	7.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	5.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.9E+00	mg/kg	9.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	7.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	1.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	9.9E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.0E+00	mg/kg	5.1E-08	mg/kg-day	NA	--	NA	3.9E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	9.9E-01	mg/kg	5.0E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-09	3.9E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.4E+02	mg/kg	5.3E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	7E-08	4.1E-05	mg/kg-day	2.0E-02	mg/kg-day	2E-03
				Carbazole	2.0E-01	mg/kg	7.8E-09	mg/kg-day	NA	--	NA	6.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.5E-01	mg/kg	1.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	9.9E-08	mg/kg-day	NA	--	NA
				1,3-Dichlorobenzene	2.5E-02	mg/kg	9.7E-10	mg/kg-day	NA	--	NA	7.6E-09	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+01	mg/kg	5.1E-07	mg/kg-day	NA	--	NA	3.9E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.1E+00	mg/kg	5.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	4.3E-07	mg/kg-day	NA	--	NA
				Phenanthrene	9.8E-01	mg/kg	5.0E-08	mg/kg-day	NA	--	NA	3.9E-07	mg/kg-day	NA	--	NA
				Dieldrin	5.0E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	6.7E-01	mg/kg	7.8E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	6.1E-08	mg/kg-day	5.0E-04	mg/kg-day	1E-04
				Endrin aldehyde	7.1E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	2.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	2.7E-01	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	2.9E+01	mg/kg	1.6E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	1.2E-05	mg/kg-day	2.0E-05	mg/kg-day	6E-01
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	2.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	8.4E+00	mg/kg	9.8E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	7.6E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cadmium	2.5E+01	mg/kg	9.7E-09	mg/kg-day	NA	--	NA	7.6E-08	mg/kg-day	2.5E-05	mg/kg-day	3E-03
				Cobalt	8.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	3.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-04					6E-01
		Exposure Point Total									2E-04					8E-01
	Total of Receptor Risks Across Medium										2E-04					8E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB6	Ingestion	Acenaphthylene	3.7E-02	mg/kg	3.1E-09	mg/kg-day	NA	--	NA	7.2E-09	mg/kg-day	NA	--	NA
				Benzidine	1.0E+01	mg/kg	8.4E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	2E-04	2.0E-06	mg/kg-day	3.0E-03	mg/kg-day	7E-04
				Benzo(a)anthracene	3.1E-01	mg/kg	2.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	6.1E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.5E-01	mg/kg	2.9E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	6.8E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	7.8E-01	mg/kg	6.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.9E-01	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	5.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.0E-02	mg/kg	5.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	1.2E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	2.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	5.3E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.4E-01	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	4.7E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	4.6E-01	mg/kg	3.9E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	9.0E-08	mg/kg-day	2.0E-05	mg/kg-day	5E-03
				Aluminum	9.5E+03	mg/kg	8.0E-04	mg/kg-day	NA	--	NA	1.9E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Arsenic	4.1E+00	mg/kg	3.4E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	8.0E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cadmium	1.9E+01	mg/kg	1.6E-06	mg/kg-day	NA	--	NA	3.7E-06	mg/kg-day	1.0E-03	mg/kg-day	4E-03
				Cobalt	7.1E+00	mg/kg	6.0E-07	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Iron	1.4E+04	mg/kg	1.2E-03	mg/kg-day	NA	--	NA	2.7E-03	mg/kg-day	7.0E-01	mg/kg-day	4E-03
				Manganese	3.6E+02	mg/kg	3.0E-05	mg/kg-day	NA	--	NA	7.1E-05	mg/kg-day	2.4E-02	mg/kg-day	3E-03
				Thallium	7.1E-02	mg/kg	6.0E-09	mg/kg-day	NA	--	NA	1.4E-08	mg/kg-day	1.0E-05	mg/kg-day	1E-03
				Vanadium	2.5E+01	mg/kg	2.1E-06	mg/kg-day	NA	--	NA	4.9E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
			Exposure Route Total								2E-04					3E-02
Sediment	Surface Sediment	EU BB6	Dermal	Acenaphthylene	3.7E-02	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	2.9E-08	mg/kg-day	NA	--	NA
				Benzidine	1.0E+01	mg/kg	2.6E-06	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	6E-04	6.1E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	3.1E-01	mg/kg	1.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	2.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.5E-01	mg/kg	1.2E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	7.8E-01	mg/kg	2.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	6.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.9E-01	mg/kg	9.8E-08	mg/kg-day	NA	--	NA	2.3E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.0E-02	mg/kg	2.0E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	4.7E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	9.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	2.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.4E-01	mg/kg	8.1E-08	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	4.6E-01	mg/kg	1.7E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	3.9E-07	mg/kg-day	2.0E-05	mg/kg-day	2E-02
				Aluminum	9.5E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	4.1E+00	mg/kg	3.2E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	7.5E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	1.9E+01	mg/kg	4.9E-08	mg/kg-day	NA	--	NA	1.2E-07	mg/kg-day	2.5E-05	mg/kg-day	5E-03
				Cobalt	7.1E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	3.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Thallium	7.1E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.5E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								6E-04					3E-02
		Exposure Point Total									8E-04					6E-02
	Total of Receptor Risks Across Medium										8E-04					6E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB6	Ingestion	Acenaphthylene	3.7E-02	mg/kg	4.7E-10	mg/kg-day	NA	--	NA	3.6E-09	mg/kg-day	NA	--	NA
				Benzidine	1.0E+01	mg/kg	1.3E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	3E-05	9.8E-07	mg/kg-day	3.0E-03	mg/kg-day	3E-04
				Benzo(a)anthracene	3.1E-01	mg/kg	3.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	3.0E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.5E-01	mg/kg	4.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	3.4E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	7.8E-01	mg/kg	9.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	7.6E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.9E-01	mg/kg	3.6E-09	mg/kg-day	NA	--	NA	2.8E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.0E-02	mg/kg	7.5E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	5.9E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	3.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	2.6E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.4E-01	mg/kg	3.0E-09	mg/kg-day	NA	--	NA	2.3E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	4.6E-01	mg/kg	5.8E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	4.5E-08	mg/kg-day	2.0E-05	mg/kg-day	2E-03
				Aluminum	9.5E+03	mg/kg	1.2E-04	mg/kg-day	NA	--	NA	9.3E-04	mg/kg-day	1.0E+00	mg/kg-day	9E-04
				Arsenic	4.1E+00	mg/kg	5.2E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	4.0E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cadmium	1.9E+01	mg/kg	2.4E-07	mg/kg-day	NA	--	NA	1.9E-06	mg/kg-day	1.0E-03	mg/kg-day	2E-03
				Cobalt	7.1E+00	mg/kg	8.9E-08	mg/kg-day	NA	--	NA	6.9E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Iron	1.4E+04	mg/kg	1.7E-04	mg/kg-day	NA	--	NA	1.3E-03	mg/kg-day	7.0E-01	mg/kg-day	2E-03
				Manganese	3.6E+02	mg/kg	4.6E-06	mg/kg-day	NA	--	NA	3.6E-05	mg/kg-day	2.4E-02	mg/kg-day	1E-03
				Thallium	7.1E-02	mg/kg	8.9E-10	mg/kg-day	NA	--	NA	6.9E-09	mg/kg-day	1.0E-05	mg/kg-day	7E-04
				Vanadium	2.5E+01	mg/kg	3.1E-07	mg/kg-day	NA	--	NA	2.4E-06	mg/kg-day	5.0E-03	mg/kg-day	5E-04
			Exposure Route Total								3E-05					1E-02
Sediment	Surface Sediment	EU BB6	Dermal	Acenaphthylene	3.7E-02	mg/kg	1.9E-09	mg/kg-day	NA	--	NA	1.5E-08	mg/kg-day	NA	--	NA
				Benzidine	1.0E+01	mg/kg	3.9E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	9E-05	3.0E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Benzo(a)anthracene	3.1E-01	mg/kg	1.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.5E-01	mg/kg	1.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.4E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	7.8E-01	mg/kg	4.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	3.1E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.9E-01	mg/kg	1.5E-08	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.0E-02	mg/kg	3.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.4E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.4E-01	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	9.5E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	4.6E-01	mg/kg	2.5E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	2.0E-07	mg/kg-day	2.0E-05	mg/kg-day	1E-02
				Aluminum	9.5E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	4.1E+00	mg/kg	4.8E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	3.7E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cadmium	1.9E+01	mg/kg	7.4E-09	mg/kg-day	NA	--	NA	5.8E-08	mg/kg-day	2.5E-05	mg/kg-day	2E-03
				Cobalt	7.1E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	3.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Thallium	7.1E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.5E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								9E-05					1E-02
		Exposure Point Total									1E-04					3E-02
	Total of Receptor Risks Across Medium										1E-04					3E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.4.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU SL	Ingestion	Acenaphthylene	3.6E-03	mg/kg	3.0E-10	mg/kg-day	NA	--	NA	7.0E-10	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.9E+00	mg/kg	3.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	7.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	5.8E+00	mg/kg	4.9E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	4.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	3.5E+00	mg/kg	2.9E-07	mg/kg-day	NA	--	NA	6.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E+00	mg/kg	4.4E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	1.0E-06	mg/kg-day	NA	--	NA
				Carbazole	6.9E-02	mg/kg	5.8E-09	mg/kg-day	NA	--	NA	1.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E+00	mg/kg	1.1E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	2.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.2E+00	mg/kg	2.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	6.3E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-02	mg/kg	8.4E-10	mg/kg-day	NA	--	NA	2.0E-09	mg/kg-day	NA	--	NA
				Phenanthrene	4.1E+00	mg/kg	3.4E-07	mg/kg-day	NA	--	NA	8.0E-07	mg/kg-day	NA	--	NA
				Aluminum	9.8E+03	mg/kg	8.2E-04	mg/kg-day	NA	--	NA	1.9E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Arsenic	3.3E+00	mg/kg	2.8E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	6.5E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cobalt	8.0E+00	mg/kg	6.7E-07	mg/kg-day	NA	--	NA	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Iron	1.9E+04	mg/kg	1.6E-03	mg/kg-day	NA	--	NA	3.7E-03	mg/kg-day	7.0E-01	mg/kg-day	5E-03
				Manganese	2.2E+02	mg/kg	1.8E-05	mg/kg-day	NA	--	NA	4.3E-05	mg/kg-day	2.4E-02	mg/kg-day	2E-03
			Exposure Route Total								6E-06					2E-02
Sediment	Surface Sediment	EU SL	Dermal	Acenaphthylene	3.6E-03	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	2.8E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.9E+00	mg/kg	1.3E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	3.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	5.8E+00	mg/kg	2.0E-06	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	4.6E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	1.8E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	4.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	3.5E+00	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	2.8E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E+00	mg/kg	1.8E-06	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-07	4.1E-06	mg/kg-day	NA	--	NA
				Carbazole	6.9E-02	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	4.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E+00	mg/kg	4.4E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	1.0E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.2E+00	mg/kg	1.1E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-07	2.5E-06	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-02	mg/kg	2.6E-09	mg/kg-day	NA	--	NA	6.1E-09	mg/kg-day	NA	--	NA
				Phenanthrene	4.1E+00	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	NA	--	NA
				Aluminum	9.8E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	3.3E+00	mg/kg	2.6E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	6.0E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cobalt	8.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.9E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	2.2E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								2E-05					2E-03
		Exposure Point Total									3E-05					2E-02
	Total of Receptor Risks Across Medium										3E-05					2E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU GB	Ingestion	Benzo(a)anthracene	4.4E-01	mg/kg	6.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	2.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.5E-01	mg/kg	6.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	2.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	7.1E-01	mg/kg	1.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	4.0E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	3.7E-01	mg/kg	3.5E-08	mg/kg-day	NA	--	NA	2.1E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E-01	mg/kg	2.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	7.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	4.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	1.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	4.2E-01	mg/kg	4.0E-08	mg/kg-day	NA	--	NA	2.3E-07	mg/kg-day	NA	--	NA
				Aluminum	1.0E+04	mg/kg	9.5E-04	mg/kg-day	NA	--	NA	5.6E-03	mg/kg-day	1.0E+00	mg/kg-day	6E-03
				Arsenic	2.1E+00	mg/kg	2.0E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.2E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cobalt	7.6E+00	mg/kg	7.3E-07	mg/kg-day	NA	--	NA	4.2E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Iron	1.9E+04	mg/kg	1.8E-03	mg/kg-day	NA	--	NA	1.1E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	2.4E+02	mg/kg	2.3E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
				Vanadium	4.6E+01	mg/kg	4.4E-06	mg/kg-day	NA	--	NA	2.6E-05	mg/kg-day	5.0E-03	mg/kg-day	5E-03
			Exposure Route Total								5E-07					5E-02
Sediment	Surface Sediment	EU GB	Dermal	Benzo(a)anthracene	4.4E-01	mg/kg	1.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	4.0E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.5E-01	mg/kg	1.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	4.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	7.1E-01	mg/kg	1.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	6.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	3.7E-01	mg/kg	5.8E-08	mg/kg-day	NA	--	NA	3.4E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E-01	mg/kg	3.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	1.2E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	6.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	2.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	4.2E-01	mg/kg	6.5E-08	mg/kg-day	NA	--	NA	3.8E-07	mg/kg-day	NA	--	NA
				Aluminum	1.0E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.1E+00	mg/kg	7.5E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	4.4E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cobalt	7.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.9E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	2.4E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.6E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								4E-07					1E-03
		Exposure Point Total									9E-07					5E-02
	Total of Receptor Risks Across Medium										9E-07					5E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB1	Ingestion	Acenaphthylene	1.5E+00	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	8.4E-07	mg/kg-day	NA	--	NA
				Benzidine	1.5E+01	mg/kg	2.3E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-04	8.4E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Benzo(a)anthracene	3.4E+00	mg/kg	5.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	1.9E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.2E+00	mg/kg	6.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	2.3E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.4E+00	mg/kg	6.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	2.5E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.7E+00	mg/kg	2.6E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.0E+00	mg/kg	4.5E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-09	1.7E-06	mg/kg-day	NA	--	NA
				Carbazole	1.1E-01	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	6.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.5E-01	mg/kg	1.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	4.2E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.5E+00	mg/kg	3.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.4E-06	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-03	mg/kg	9.6E-11	mg/kg-day	NA	--	NA	5.6E-10	mg/kg-day	NA	--	NA
				Phenanthrene	5.0E+00	mg/kg	4.8E-07	mg/kg-day	NA	--	NA	2.8E-06	mg/kg-day	NA	--	NA
				delta-BHC	2.0E-03	mg/kg	1.9E-10	mg/kg-day	NA	--	NA	1.1E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.7E-03	mg/kg	6.4E-10	mg/kg-day	NA	--	NA	3.7E-09	mg/kg-day	NA	--	NA
				Endrin ketone	2.0E-02	mg/kg	1.9E-09	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.4E+00	mg/kg	6.1E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	3.6E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	2.2E+04	mg/kg	2.1E-03	mg/kg-day	NA	--	NA	1.3E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	8.2E+00	mg/kg	7.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.6E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cobalt	2.2E+01	mg/kg	2.1E-06	mg/kg-day	NA	--	NA	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Copper	1.1E+02	mg/kg	1.1E-05	mg/kg-day	NA	--	NA	6.3E-05	mg/kg-day	4.0E-02	mg/kg-day	2E-03
				Iron	7.5E+04	mg/kg	7.2E-03	mg/kg-day	NA	--	NA	4.2E-02	mg/kg-day	7.0E-01	mg/kg-day	6E-02
				Manganese	7.1E+02	mg/kg	6.8E-05	mg/kg-day	NA	--	NA	4.0E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Vanadium	3.3E+01	mg/kg	3.2E-06	mg/kg-day	NA	--	NA	1.8E-05	mg/kg-day	5.0E-03	mg/kg-day	4E-03
			Exposure Route Total								1E-04					3E-01

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB1	Dermal	Acenaphthylene	1.5E+00	mg/kg	2.3E-07	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	NA	--	NA
				Benzidine	1.5E+01	mg/kg	2.9E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-04	1.0E-05	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Benzo(a)anthracene	3.4E+00	mg/kg	8.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.2E+00	mg/kg	1.1E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	3.8E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.4E+00	mg/kg	1.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	4.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.7E+00	mg/kg	4.2E-07	mg/kg-day	NA	--	NA	2.5E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.0E+00	mg/kg	7.7E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	2.7E-06	mg/kg-day	NA	--	NA
				Carbazole	1.1E-01	mg/kg	1.4E-08	mg/kg-day	NA	--	NA	7.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.5E-01	mg/kg	1.9E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	6.8E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.5E+00	mg/kg	6.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	2.3E-06	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-03	mg/kg	1.2E-10	mg/kg-day	NA	--	NA	7.0E-10	mg/kg-day	NA	--	NA
				Phenanthrene	5.0E+00	mg/kg	7.8E-07	mg/kg-day	NA	--	NA	4.5E-06	mg/kg-day	NA	--	NA
				delta-BHC	2.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	6.7E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	2.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.4E+00	mg/kg	1.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	6.3E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Aluminum	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.2E+00	mg/kg	2.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.7E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Cobalt	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	7.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-04					3E-01
		Exposure Point Total									3E-04					7E-01
	Total of Receptor Risks Across Medium										3E-04					7E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB1	Ingestion	Acenaphthylene	1.5E+00	mg/kg	5.4E-08	mg/kg-day	NA	--	NA	4.2E-07	mg/kg-day	NA	--	NA
				Benzidine	1.5E+01	mg/kg	1.0E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	5E-05	4.2E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Benzo(a)anthracene	3.4E+00	mg/kg	2.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	9.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.2E+00	mg/kg	2.9E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.4E+00	mg/kg	3.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.7E+00	mg/kg	9.7E-08	mg/kg-day	NA	--	NA	7.5E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.0E+00	mg/kg	2.1E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	8.4E-07	mg/kg-day	NA	--	NA
				Carbazole	1.1E-01	mg/kg	4.1E-09	mg/kg-day	NA	--	NA	3.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.5E-01	mg/kg	5.2E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	2.1E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.5E+00	mg/kg	1.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	7.0E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-03	mg/kg	3.6E-11	mg/kg-day	NA	--	NA	2.8E-10	mg/kg-day	NA	--	NA
				Phenanthrene	5.0E+00	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	NA	--	NA
				delta-BHC	2.0E-03	mg/kg	7.2E-11	mg/kg-day	NA	--	NA	5.6E-10	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.7E-03	mg/kg	2.4E-10	mg/kg-day	NA	--	NA	1.9E-09	mg/kg-day	NA	--	NA
				Endrin ketone	2.0E-02	mg/kg	7.2E-10	mg/kg-day	NA	--	NA	5.6E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.4E+00	mg/kg	2.3E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.8E-06	mg/kg-day	2.0E-05	mg/kg-day	9E-02
				Aluminum	2.2E+04	mg/kg	8.1E-04	mg/kg-day	NA	--	NA	6.3E-03	mg/kg-day	1.0E+00	mg/kg-day	6E-03
				Arsenic	8.2E+00	mg/kg	2.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	2.3E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Cobalt	2.2E+01	mg/kg	7.9E-07	mg/kg-day	NA	--	NA	6.2E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Copper	1.1E+02	mg/kg	4.0E-06	mg/kg-day	NA	--	NA	3.1E-05	mg/kg-day	4.0E-02	mg/kg-day	8E-04
				Iron	7.5E+04	mg/kg	2.7E-03	mg/kg-day	NA	--	NA	2.1E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Manganese	7.1E+02	mg/kg	2.6E-05	mg/kg-day	NA	--	NA	2.0E-04	mg/kg-day	2.4E-02	mg/kg-day	8E-03
				Vanadium	3.3E+01	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	9.2E-06	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								5E-05					2E-01

TABLE 7.5.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB1	Dermal	Acenaphthylene	1.5E+00	mg/kg	5.3E-08	mg/kg-day	NA	--	NA	4.1E-07	mg/kg-day	NA	--	NA
				Benzidine	1.5E+01	mg/kg	4.0E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	7E-05	3.1E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Benzo(a)anthracene	3.4E+00	mg/kg	2.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	9.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.2E+00	mg/kg	3.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.4E+00	mg/kg	3.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.7E+00	mg/kg	9.5E-08	mg/kg-day	NA	--	NA	7.4E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.0E+00	mg/kg	2.2E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	6E-09	8.2E-07	mg/kg-day	NA	--	NA
				Carbazole	1.1E-01	mg/kg	3.0E-09	mg/kg-day	NA	--	NA	2.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.5E-01	mg/kg	5.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	2.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.5E+00	mg/kg	1.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	6.8E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-03	mg/kg	2.7E-11	mg/kg-day	NA	--	NA	2.1E-10	mg/kg-day	NA	--	NA
				Phenanthrene	5.0E+00	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	NA	--	NA
				delta-BHC	2.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	6.7E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	2.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.4E+00	mg/kg	2.4E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.9E-06	mg/kg-day	2.0E-05	mg/kg-day	9E-02
				Aluminum	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.2E+00	mg/kg	6.6E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	5.2E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cobalt	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	7.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								7E-05					1E-01
		Exposure Point Total									1E-04					3E-01
	Total of Receptor Risks Across Medium										1E-04					3E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB2	Ingestion	Acenaphthylene	1.7E-01	mg/kg	1.6E-08	mg/kg-day	NA	--	NA	9.5E-08	mg/kg-day	NA	--	NA
				Benzidine	1.9E+01	mg/kg	2.9E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-04	1.1E-05	mg/kg-day	3.0E-03	mg/kg-day	4E-03
				Benzo(a)anthracene	2.1E+00	mg/kg	3.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.4E+00	mg/kg	3.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.7E+00	mg/kg	5.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	2.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	1.5E-07	mg/kg-day	NA	--	NA	8.9E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.4E+00	mg/kg	3.6E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	6E-09	1.3E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	2.6E+01	mg/kg	2.5E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	1.5E-05	mg/kg-day	2.0E-02	mg/kg-day	7E-04
				Carbazole	1.8E-01	mg/kg	1.7E-08	mg/kg-day	NA	--	NA	1.0E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.2E-01	mg/kg	9.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	3.5E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.4E+01	mg/kg	2.3E-06	mg/kg-day	NA	--	NA	1.3E-05	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.1E+00	mg/kg	3.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.2E-06	mg/kg-day	NA	--	NA
				Phenanthrene	1.4E+00	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	7.8E-07	mg/kg-day	NA	--	NA
				Endrin ketone	5.9E-03	mg/kg	5.7E-10	mg/kg-day	NA	--	NA	3.3E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	3.5E+00	mg/kg	3.4E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	2.0E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	1.7E+04	mg/kg	1.7E-03	mg/kg-day	NA	--	NA	9.6E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	7.4E+00	mg/kg	7.1E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	3.0E+01	mg/kg	2.9E-06	mg/kg-day	NA	--	NA	1.7E-05	mg/kg-day	1.0E-03	mg/kg-day	2E-02
				Cobalt	1.2E+01	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	6.7E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Iron	2.8E+04	mg/kg	2.7E-03	mg/kg-day	NA	--	NA	1.6E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	4.0E+02	mg/kg	3.9E-05	mg/kg-day	NA	--	NA	2.2E-04	mg/kg-day	2.4E-02	mg/kg-day	9E-03
				Vanadium	3.3E+01	mg/kg	3.2E-06	mg/kg-day	NA	--	NA	1.8E-05	mg/kg-day	5.0E-03	mg/kg-day	4E-03
			Exposure Route Total								2E-04					2E-01

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB2	Dermal	Acenaphthylene	1.7E-01	mg/kg	2.6E-08	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Benzidine	1.9E+01	mg/kg	3.7E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	2E-04	1.3E-05	mg/kg-day	3.0E-03	mg/kg-day	4E-03
				Benzo(a)anthracene	2.1E+00	mg/kg	5.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	1.9E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.4E+00	mg/kg	6.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	2.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.7E+00	mg/kg	9.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.4E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	2.5E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.4E+00	mg/kg	6.1E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	9E-09	2.2E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	2.6E+01	mg/kg	3.1E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	4E-08	1.8E-05	mg/kg-day	2.0E-02	mg/kg-day	9E-04
				Carbazole	1.8E-01	mg/kg	2.2E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.2E-01	mg/kg	1.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	5.6E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.4E+01	mg/kg	2.9E-06	mg/kg-day	NA	--	NA	1.7E-05	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.1E+00	mg/kg	5.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	1.9E-06	mg/kg-day	NA	--	NA
				Phenanthrene	1.4E+00	mg/kg	2.2E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Endrin ketone	5.9E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	3.5E+00	mg/kg	5.9E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	3.4E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	1.7E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	7.4E+00	mg/kg	2.7E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cadmium	3.0E+01	mg/kg	3.6E-08	mg/kg-day	NA	--	NA	2.1E-07	mg/kg-day	2.5E-05	mg/kg-day	8E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-04					2E-01
		Exposure Point Total									3E-04					4E-01
	Total of Receptor Risks Across Medium										3E-04					4E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB2	Ingestion	Acenaphthylene	1.7E-01	mg/kg	6.1E-09	mg/kg-day	NA	--	NA	4.8E-08	mg/kg-day	NA	--	NA
				Benzidine	1.9E+01	mg/kg	1.3E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	7E-05	5.3E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	2.1E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	5.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.4E+00	mg/kg	1.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	6.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.7E+00	mg/kg	2.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	5.8E-08	mg/kg-day	NA	--	NA	4.5E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.4E+00	mg/kg	1.7E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	6.7E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	2.6E+01	mg/kg	9.3E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	7.3E-06	mg/kg-day	2.0E-02	mg/kg-day	4E-04
				Carbazole	1.8E-01	mg/kg	6.5E-09	mg/kg-day	NA	--	NA	5.0E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.2E-01	mg/kg	4.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	1.7E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.4E+01	mg/kg	8.6E-07	mg/kg-day	NA	--	NA	6.7E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.1E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	5.9E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.4E+00	mg/kg	5.0E-08	mg/kg-day	NA	--	NA	3.9E-07	mg/kg-day	NA	--	NA
				Endrin ketone	5.9E-03	mg/kg	2.1E-10	mg/kg-day	NA	--	NA	1.6E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	3.5E+00	mg/kg	1.3E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	9.8E-07	mg/kg-day	2.0E-05	mg/kg-day	5E-02
				Aluminum	1.7E+04	mg/kg	6.2E-04	mg/kg-day	NA	--	NA	4.8E-03	mg/kg-day	1.0E+00	mg/kg-day	5E-03
				Arsenic	7.4E+00	mg/kg	2.7E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	2.1E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Cadmium	3.0E+01	mg/kg	1.1E-06	mg/kg-day	NA	--	NA	8.4E-06	mg/kg-day	1.0E-03	mg/kg-day	8E-03
				Cobalt	1.2E+01	mg/kg	4.3E-07	mg/kg-day	NA	--	NA	3.4E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Iron	2.8E+04	mg/kg	1.0E-03	mg/kg-day	NA	--	NA	8.0E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Manganese	4.0E+02	mg/kg	1.4E-05	mg/kg-day	NA	--	NA	1.1E-04	mg/kg-day	2.4E-02	mg/kg-day	5E-03
				Vanadium	3.3E+01	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	9.2E-06	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								7E-05					1E-01

TABLE 7.5.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB2	Dermal	Acenaphthylene	1.7E-01	mg/kg	6.0E-09	mg/kg-day	NA	--	NA	4.6E-08	mg/kg-day	NA	--	NA
				Benzidine	1.9E+01	mg/kg	1.1E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	9E-05	4.0E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Benzo(a)anthracene	2.1E+00	mg/kg	1.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	5.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.4E+00	mg/kg	1.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	6.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.7E+00	mg/kg	2.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	5.6E-08	mg/kg-day	NA	--	NA	4.4E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.4E+00	mg/kg	1.8E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-09	6.5E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	2.6E+01	mg/kg	7.0E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	5.5E-06	mg/kg-day	2.0E-02	mg/kg-day	3E-04
				Carbazole	1.8E-01	mg/kg	4.9E-09	mg/kg-day	NA	--	NA	3.8E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.2E-01	mg/kg	4.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.7E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.4E+01	mg/kg	6.5E-07	mg/kg-day	NA	--	NA	5.0E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.1E+00	mg/kg	1.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	5.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.4E+00	mg/kg	4.9E-08	mg/kg-day	NA	--	NA	3.8E-07	mg/kg-day	NA	--	NA
				Endrin ketone	5.9E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	3.5E+00	mg/kg	1.3E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.0E-06	mg/kg-day	2.0E-05	mg/kg-day	5E-02
				Aluminum	1.7E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	7.4E+00	mg/kg	6.0E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	4.7E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	3.0E+01	mg/kg	8.1E-09	mg/kg-day	NA	--	NA	6.3E-08	mg/kg-day	2.5E-05	mg/kg-day	3E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								9E-05					6E-02
		Exposure Point Total									2E-04					2E-01
	Total of Receptor Risks Across Medium										2E-04					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB3	Ingestion	Acenaphthylene	6.0E-01	mg/kg	5.8E-08	mg/kg-day	NA	--	NA	3.4E-07	mg/kg-day	NA	--	NA
				Benzidine	5.0E+01	mg/kg	7.5E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	4E-04	2.8E-05	mg/kg-day	3.0E-03	mg/kg-day	9E-03
				Benzo(a)anthracene	4.8E+00	mg/kg	7.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	2.7E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.4E+00	mg/kg	9.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	3.6E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.5E+00	mg/kg	6.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	2.5E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.9E+00	mg/kg	4.4E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	7E-09	1.6E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.9E+01	mg/kg	1.8E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	1.1E-05	mg/kg-day	2.0E-02	mg/kg-day	5E-04
				Carbazole	2.5E-01	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	5.3E-01	mg/kg	8.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.0E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.2E+00	mg/kg	2.1E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Phenanthrene	6.1E+00	mg/kg	5.8E-07	mg/kg-day	NA	--	NA	3.4E-06	mg/kg-day	NA	--	NA
				Dieldrin	3.0E-01	mg/kg	2.9E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	5E-07	1.7E-07	mg/kg-day	5.0E-05	mg/kg-day	3E-03
				Endrin aldehyde	1.8E-02	mg/kg	1.7E-09	mg/kg-day	NA	--	NA	1.0E-08	mg/kg-day	NA	--	NA
				Endrin ketone	1.0E-02	mg/kg	9.6E-10	mg/kg-day	NA	--	NA	5.6E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.5E+00	mg/kg	6.2E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	3.6E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	1.2E+04	mg/kg	1.2E-03	mg/kg-day	NA	--	NA	6.8E-03	mg/kg-day	1.0E+00	mg/kg-day	7E-03
				Arsenic	6.4E+00	mg/kg	6.1E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	3.6E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	1.3E+01	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	7.3E-06	mg/kg-day	1.0E-03	mg/kg-day	7E-03
				Cobalt	2.1E+01	mg/kg	2.0E-06	mg/kg-day	NA	--	NA	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Iron	1.9E+04	mg/kg	1.8E-03	mg/kg-day	NA	--	NA	1.1E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	3.5E+02	mg/kg	3.4E-05	mg/kg-day	NA	--	NA	2.0E-04	mg/kg-day	2.4E-02	mg/kg-day	8E-03
				Vanadium	2.9E+01	mg/kg	2.8E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	5.0E-03	mg/kg-day	3E-03
			Exposure Route Total								4E-04					3E-01

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB3	Dermal	Acenaphthylene	6.0E-01	mg/kg	9.3E-08	mg/kg-day	NA	--	NA	5.5E-07	mg/kg-day	NA	--	NA
				Benzidine	5.0E+01	mg/kg	9.8E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	5E-04	3.5E-05	mg/kg-day	3.0E-03	mg/kg-day	1E-02
				Benzo(a)anthracene	4.8E+00	mg/kg	1.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	4.4E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.4E+00	mg/kg	1.6E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	5.8E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.5E+00	mg/kg	1.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	4.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	3.0E-07	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.9E+00	mg/kg	7.4E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	2.6E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.9E+01	mg/kg	2.3E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	1.3E-05	mg/kg-day	2.0E-02	mg/kg-day	7E-04
				Carbazole	2.5E-01	mg/kg	3.0E-08	mg/kg-day	NA	--	NA	1.7E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	5.3E-01	mg/kg	1.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	4.8E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.2E+00	mg/kg	2.6E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Phenanthrene	6.1E+00	mg/kg	9.5E-07	mg/kg-day	NA	--	NA	5.5E-06	mg/kg-day	NA	--	NA
				Dieldrin	3.0E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				Endrin aldehyde	1.8E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	1.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.5E+00	mg/kg	1.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	6.4E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Aluminum	1.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	6.4E+00	mg/kg	2.3E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	1.3E+01	mg/kg	1.6E-08	mg/kg-day	NA	--	NA	9.1E-08	mg/kg-day	2.5E-05	mg/kg-day	4E-03
				Cobalt	2.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.9E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	3.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-04					3E-01
		Exposure Point Total									9E-04					6E-01
	Total of Receptor Risks Across Medium										9E-04					6E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB3	Ingestion	Acenaphthylene	6.0E-01	mg/kg	2.2E-08	mg/kg-day	NA	--	NA	1.7E-07	mg/kg-day	NA	--	NA
				Benzidine	5.0E+01	mg/kg	3.5E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	2E-04	1.4E-05	mg/kg-day	3.0E-03	mg/kg-day	5E-03
				Benzo(a)anthracene	4.8E+00	mg/kg	3.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.4E+00	mg/kg	4.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	1.8E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.5E+00	mg/kg	3.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	6.8E-08	mg/kg-day	NA	--	NA	5.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.9E+00	mg/kg	2.0E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	8.1E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.9E+01	mg/kg	6.8E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	5.3E-06	mg/kg-day	2.0E-02	mg/kg-day	3E-04
				Carbazole	2.5E-01	mg/kg	9.0E-09	mg/kg-day	NA	--	NA	7.0E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	5.3E-01	mg/kg	3.7E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	1.5E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.2E+00	mg/kg	7.9E-08	mg/kg-day	NA	--	NA	6.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	6.1E+00	mg/kg	2.2E-07	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	NA	--	NA
				Dieldrin	3.0E-01	mg/kg	1.1E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	2E-07	8.4E-08	mg/kg-day	5.0E-05	mg/kg-day	2E-03
				Endrin aldehyde	1.8E-02	mg/kg	6.5E-10	mg/kg-day	NA	--	NA	5.0E-09	mg/kg-day	NA	--	NA
				Endrin ketone	1.0E-02	mg/kg	3.6E-10	mg/kg-day	NA	--	NA	2.8E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.5E+00	mg/kg	2.3E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.8E-06	mg/kg-day	2.0E-05	mg/kg-day	9E-02
				Aluminum	1.2E+04	mg/kg	4.4E-04	mg/kg-day	NA	--	NA	3.4E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Arsenic	6.4E+00	mg/kg	2.3E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.8E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Cadmium	1.3E+01	mg/kg	4.7E-07	mg/kg-day	NA	--	NA	3.6E-06	mg/kg-day	1.0E-03	mg/kg-day	4E-03
				Cobalt	2.1E+01	mg/kg	7.5E-07	mg/kg-day	NA	--	NA	5.9E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Iron	1.9E+04	mg/kg	6.8E-04	mg/kg-day	NA	--	NA	5.3E-03	mg/kg-day	7.0E-01	mg/kg-day	8E-03
				Manganese	3.5E+02	mg/kg	1.3E-05	mg/kg-day	NA	--	NA	9.8E-05	mg/kg-day	2.4E-02	mg/kg-day	4E-03
				Vanadium	2.9E+01	mg/kg	1.0E-06	mg/kg-day	NA	--	NA	8.1E-06	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								2E-04					1E-01

TABLE 7.5.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB3	Dermal	Acenaphthylene	6.0E-01	mg/kg	2.1E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Benzidine	5.0E+01	mg/kg	2.9E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	2E-04	1.0E-05	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Benzo(a)anthracene	4.8E+00	mg/kg	3.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.4E+00	mg/kg	4.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.5E+00	mg/kg	3.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	6.7E-08	mg/kg-day	NA	--	NA	5.2E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.9E+00	mg/kg	2.2E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-09	7.9E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.9E+01	mg/kg	5.1E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	7E-09	4.0E-06	mg/kg-day	2.0E-02	mg/kg-day	2E-04
				Carbazole	2.5E-01	mg/kg	6.7E-09	mg/kg-day	NA	--	NA	5.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	5.3E-01	mg/kg	4.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.4E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.2E+00	mg/kg	5.9E-08	mg/kg-day	NA	--	NA	4.6E-07	mg/kg-day	NA	--	NA
				Phenanthrene	6.1E+00	mg/kg	2.1E-07	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	NA	--	NA
				Dieldrin	3.0E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				Endrin aldehyde	1.8E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	1.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.5E+00	mg/kg	2.5E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.9E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	1.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	6.4E+00	mg/kg	5.2E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	4.0E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cadmium	1.3E+01	mg/kg	3.5E-09	mg/kg-day	NA	--	NA	2.7E-08	mg/kg-day	2.5E-05	mg/kg-day	1E-03
				Cobalt	2.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.9E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	3.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-04					1E-01
		Exposure Point Total									4E-04					2E-01
	Total of Receptor Risks Across Medium										4E-04					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB4	Ingestion	Acenaphthylene	1.0E-02	mg/kg	9.6E-10	mg/kg-day	NA	--	NA	5.6E-09	mg/kg-day	NA	--	NA
				Benzidine	2.0E+01	mg/kg	3.0E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	2E-04	1.1E-05	mg/kg-day	3.0E-03	mg/kg-day	4E-03
				Benzo(a)anthracene	1.7E+00	mg/kg	2.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	9.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	2.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	8.9E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	3.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.5E+00	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	8.4E-07	mg/kg-day	NA	--	NA
				Carbazole	1.3E-01	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	7.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	3.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	1.2E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.5E+00	mg/kg	2.4E-07	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	1.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	6.7E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	8.0E-02	mg/kg	7.7E-09	mg/kg-day	NA	--	NA	4.5E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.6E+00	mg/kg	1.5E-07	mg/kg-day	NA	--	NA	8.9E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.3E-02	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	7.3E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	1.9E-02	mg/kg	1.8E-09	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				Endrin ketone	1.3E-02	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	7.3E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	8.4E+00	mg/kg	8.1E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	4.7E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	8.0E+03	mg/kg	7.7E-04	mg/kg-day	NA	--	NA	4.5E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Arsenic	5.8E+00	mg/kg	5.6E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	3.2E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	6.4E+00	mg/kg	6.1E-07	mg/kg-day	NA	--	NA	3.6E-06	mg/kg-day	1.0E-03	mg/kg-day	4E-03
				Cobalt	6.7E+00	mg/kg	6.4E-07	mg/kg-day	NA	--	NA	3.7E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Iron	2.1E+04	mg/kg	2.0E-03	mg/kg-day	NA	--	NA	1.2E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	1.3E+03	mg/kg	1.3E-04	mg/kg-day	NA	--	NA	7.5E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
				Vanadium	1.8E+01	mg/kg	1.7E-06	mg/kg-day	NA	--	NA	1.0E-05	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								2E-04					3E-01

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB4	Dermal	Acenaphthylene	1.0E-02	mg/kg	1.6E-09	mg/kg-day	NA	--	NA	9.1E-09	mg/kg-day	NA	--	NA
				Benzidine	2.0E+01	mg/kg	3.9E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	2E-04	1.4E-05	mg/kg-day	3.0E-03	mg/kg-day	5E-03
				Benzo(a)anthracene	1.7E+00	mg/kg	4.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	4.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	5.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	2.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.5E+00	mg/kg	2.3E-07	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	NA	--	NA
				Carbazole	1.3E-01	mg/kg	1.6E-08	mg/kg-day	NA	--	NA	9.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	5.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	2.0E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.5E+00	mg/kg	3.0E-07	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	3.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.1E-06	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	8.0E-02	mg/kg	9.6E-09	mg/kg-day	NA	--	NA	5.6E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.6E+00	mg/kg	2.5E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.3E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	1.9E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	1.3E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	8.4E+00	mg/kg	1.4E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	8.2E-06	mg/kg-day	2.0E-05	mg/kg-day	4E-01
				Aluminum	8.0E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	5.8E+00	mg/kg	2.1E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.2E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	6.4E+00	mg/kg	7.7E-09	mg/kg-day	NA	--	NA	4.5E-08	mg/kg-day	2.5E-05	mg/kg-day	2E-03
				Cobalt	6.7E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	1.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	1.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-04					4E-01
		Exposure Point Total									4E-04					7E-01
	Total of Receptor Risks Across Medium										4E-04					7E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB4	Ingestion	Acenaphthylene	1.0E-02	mg/kg	3.6E-10	mg/kg-day	NA	--	NA	2.8E-09	mg/kg-day	NA	--	NA
				Benzidine	2.0E+01	mg/kg	1.4E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	7E-05	5.6E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	1.7E+00	mg/kg	1.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	4.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	1.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	4.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	1.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	6.4E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.5E+00	mg/kg	5.4E-08	mg/kg-day	NA	--	NA	4.2E-07	mg/kg-day	NA	--	NA
				Carbazole	1.3E-01	mg/kg	4.7E-09	mg/kg-day	NA	--	NA	3.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	1.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	6.2E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.5E+00	mg/kg	9.0E-08	mg/kg-day	NA	--	NA	7.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	8.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	3.4E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	8.0E-02	mg/kg	2.9E-09	mg/kg-day	NA	--	NA	2.2E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.6E+00	mg/kg	5.8E-08	mg/kg-day	NA	--	NA	4.5E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.3E-02	mg/kg	4.7E-10	mg/kg-day	NA	--	NA	3.6E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	1.9E-02	mg/kg	6.8E-10	mg/kg-day	NA	--	NA	5.3E-09	mg/kg-day	NA	--	NA
				Endrin ketone	1.3E-02	mg/kg	4.7E-10	mg/kg-day	NA	--	NA	3.6E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	8.4E+00	mg/kg	3.0E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	2.3E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	8.0E+03	mg/kg	2.9E-04	mg/kg-day	NA	--	NA	2.2E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Arsenic	5.8E+00	mg/kg	2.1E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cadmium	6.4E+00	mg/kg	2.3E-07	mg/kg-day	NA	--	NA	1.8E-06	mg/kg-day	1.0E-03	mg/kg-day	2E-03
				Cobalt	6.7E+00	mg/kg	2.4E-07	mg/kg-day	NA	--	NA	1.9E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Iron	2.1E+04	mg/kg	7.5E-04	mg/kg-day	NA	--	NA	5.8E-03	mg/kg-day	7.0E-01	mg/kg-day	8E-03
				Manganese	1.3E+03	mg/kg	4.8E-05	mg/kg-day	NA	--	NA	3.7E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Vanadium	1.8E+01	mg/kg	6.5E-07	mg/kg-day	NA	--	NA	5.0E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
			Exposure Route Total								7E-05					2E-01

TABLE 7.5.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB4	Dermal	Acenaphthylene	1.0E-02	mg/kg	3.5E-10	mg/kg-day	NA	--	NA	2.7E-09	mg/kg-day	NA	--	NA
				Benzidine	2.0E+01	mg/kg	1.1E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	9E-05	4.2E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Benzo(a)anthracene	1.7E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	4.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	1.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	4.4E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	1.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	6.3E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.5E+00	mg/kg	5.3E-08	mg/kg-day	NA	--	NA	4.1E-07	mg/kg-day	NA	--	NA
				Carbazole	1.3E-01	mg/kg	3.5E-09	mg/kg-day	NA	--	NA	2.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	1.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	6.0E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	2.5E+00	mg/kg	6.7E-08	mg/kg-day	NA	--	NA	5.2E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	9.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	3.3E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	8.0E-02	mg/kg	2.2E-09	mg/kg-day	NA	--	NA	1.7E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.6E+00	mg/kg	5.6E-08	mg/kg-day	NA	--	NA	4.4E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.3E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	1.9E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	1.3E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	8.4E+00	mg/kg	3.2E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	2.5E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	8.0E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	5.8E+00	mg/kg	4.7E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	3.6E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cadmium	6.4E+00	mg/kg	1.7E-09	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	2.5E-05	mg/kg-day	5E-04
				Cobalt	6.7E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	1.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	1.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								9E-05					1E-01
		Exposure Point Total									2E-04					3E-01
	Total of Receptor Risks Across Medium										2E-04					3E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.9E+01	mg/kg	2.8E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	2.0E-03	mg/kg-day	8E-03
				Vinyl chloride	3.5E-01	mg/kg	5.3E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.0E-07	mg/kg-day	3.0E-03	mg/kg-day	7E-05
				Acenaphthylene	6.5E-03	mg/kg	6.2E-10	mg/kg-day	NA	--	NA	3.6E-09	mg/kg-day	NA	--	NA
				Benzidine	1.3E+01	mg/kg	2.0E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-04	7.3E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	1.5E+00	mg/kg	2.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	8.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.9E+00	mg/kg	2.9E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	3.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.4E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.0E+00	mg/kg	9.6E-08	mg/kg-day	NA	--	NA	5.6E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	9.9E-01	mg/kg	1.5E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	5.5E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.4E+02	mg/kg	1.3E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-07	7.6E-05	mg/kg-day	2.0E-02	mg/kg-day	4E-03
				Carbazole	2.0E-01	mg/kg	1.9E-08	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.5E-01	mg/kg	3.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	1.4E-07	mg/kg-day	NA	--	NA
				1,3-Dichlorobenzene	2.5E-02	mg/kg	2.4E-09	mg/kg-day	NA	--	NA	1.4E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+01	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	7.3E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.1E+00	mg/kg	1.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	6.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	9.8E-01	mg/kg	9.4E-08	mg/kg-day	NA	--	NA	5.5E-07	mg/kg-day	NA	--	NA
				Dieldrin	5.0E-01	mg/kg	4.8E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	8E-07	2.8E-07	mg/kg-day	5.0E-05	mg/kg-day	6E-03
				4,4'-DDT	6.7E-01	mg/kg	6.4E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	3.7E-07	mg/kg-day	5.0E-04	mg/kg-day	7E-04
				Endrin aldehyde	7.1E-02	mg/kg	6.8E-09	mg/kg-day	NA	--	NA	4.0E-08	mg/kg-day	NA	--	NA
				Endrin ketone	2.0E-02	mg/kg	1.9E-09	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.7E-01	mg/kg	2.5E-08	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.5E-07	mg/kg-day	1.3E-05	mg/kg-day	1E-02
				Total PCB Aroclors	2.9E+01	mg/kg	2.8E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	1.6E-05	mg/kg-day	2.0E-05	mg/kg-day	8E-01
				Aluminum	1.1E+04	mg/kg	1.1E-03	mg/kg-day	NA	--	NA	6.2E-03	mg/kg-day	1.0E+00	mg/kg-day	6E-03
				Antimony	2.0E+00	mg/kg	1.9E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	4.0E-04	mg/kg-day	3E-03
				Arsenic	8.4E+00	mg/kg	8.1E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.7E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cadmium	2.5E+01	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	1.4E-05	mg/kg-day	1.0E-03	mg/kg-day	1E-02
				Cobalt	8.9E+00	mg/kg	8.5E-07	mg/kg-day	NA	--	NA	5.0E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Iron	3.4E+04	mg/kg	3.2E-03	mg/kg-day	NA	--	NA	1.9E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Manganese	4.3E+02	mg/kg	4.2E-05	mg/kg-day	NA	--	NA	2.4E-04	mg/kg-day	2.4E-02	mg/kg-day	1E-02
				Vanadium	2.9E+01	mg/kg	2.8E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	5.0E-03	mg/kg-day	3E-03
			Exposure Route Total								1E-04					9E-01

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB5	Dermal	cis-1,2-Dichloroethene	2.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Vinyl chloride	3.5E-01	mg/kg	N/A	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Acenaphthylene	6.5E-03	mg/kg	1.0E-09	mg/kg-day	NA	--	NA	5.9E-09	mg/kg-day	NA	--	NA
				Benzidine	1.3E+01	mg/kg	2.6E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-04	9.1E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Benzo(a)anthracene	1.5E+00	mg/kg	3.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.4E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.9E+00	mg/kg	4.9E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	6.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	2.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.0E+00	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	9.1E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	9.9E-01	mg/kg	2.5E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-09	9.0E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.4E+02	mg/kg	1.6E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-07	9.5E-05	mg/kg-day	2.0E-02	mg/kg-day	5E-03
				Carbazole	2.0E-01	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.5E-01	mg/kg	6.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	2.3E-07	mg/kg-day	NA	--	NA
				1,3-Dichlorobenzene	2.5E-02	mg/kg	3.0E-09	mg/kg-day	NA	--	NA	1.7E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+01	mg/kg	1.6E-06	mg/kg-day	NA	--	NA	9.1E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.1E+00	mg/kg	2.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.0E-06	mg/kg-day	NA	--	NA
				Phenanthrene	9.8E-01	mg/kg	1.5E-07	mg/kg-day	NA	--	NA	8.9E-07	mg/kg-day	NA	--	NA
				Dieldrin	5.0E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	6.7E-01	mg/kg	2.4E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	1.4E-07	mg/kg-day	5.0E-04	mg/kg-day	3E-04
				Endrin aldehyde	7.1E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	2.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	2.7E-01	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	2.9E+01	mg/kg	4.9E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	2.8E-05	mg/kg-day	2.0E-05	mg/kg-day	1E+00
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	2.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	8.4E+00	mg/kg	3.0E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.8E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Cadmium	2.5E+01	mg/kg	3.0E-08	mg/kg-day	NA	--	NA	1.7E-07	mg/kg-day	2.5E-05	mg/kg-day	7E-03
				Cobalt	8.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	3.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-04					1E+00
		Exposure Point Total									2E-04					2E+00
	Total of Receptor Risks Across Medium										2E-04					2E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.9E+01	mg/kg	1.0E-06	mg/kg-day	NA	--	NA	8.1E-06	mg/kg-day	2.0E-03	mg/kg-day	4E-03
				Vinyl chloride	3.5E-01	mg/kg	2.4E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-09	9.8E-08	mg/kg-day	3.0E-03	mg/kg-day	3E-05
				Acenaphthylene	6.5E-03	mg/kg	2.3E-10	mg/kg-day	NA	--	NA	1.8E-09	mg/kg-day	NA	--	NA
				Benzidine	1.3E+01	mg/kg	9.0E-08	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	5E-05	3.6E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Benzo(a)anthracene	1.5E+00	mg/kg	1.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	4.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.9E+00	mg/kg	1.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	5.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	1.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	7.0E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.0E+00	mg/kg	3.6E-08	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	9.9E-01	mg/kg	6.9E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-09	2.8E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.4E+02	mg/kg	4.9E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	7E-08	3.8E-05	mg/kg-day	2.0E-02	mg/kg-day	2E-03
				Carbazole	2.0E-01	mg/kg	7.2E-09	mg/kg-day	NA	--	NA	5.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.5E-01	mg/kg	1.7E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	7.0E-08	mg/kg-day	NA	--	NA
				1,3-Dichlorobenzene	2.5E-02	mg/kg	9.0E-10	mg/kg-day	NA	--	NA	7.0E-09	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+01	mg/kg	4.7E-07	mg/kg-day	NA	--	NA	3.6E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.1E+00	mg/kg	7.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	3.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	9.8E-01	mg/kg	3.5E-08	mg/kg-day	NA	--	NA	2.7E-07	mg/kg-day	NA	--	NA
				Dieldrin	5.0E-01	mg/kg	1.8E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.4E-07	mg/kg-day	5.0E-05	mg/kg-day	3E-03
				4,4'-DDT	6.7E-01	mg/kg	2.4E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	1.9E-07	mg/kg-day	5.0E-04	mg/kg-day	4E-04
				Endrin aldehyde	7.1E-02	mg/kg	2.6E-09	mg/kg-day	NA	--	NA	2.0E-08	mg/kg-day	NA	--	NA
				Endrin ketone	2.0E-02	mg/kg	7.2E-10	mg/kg-day	NA	--	NA	5.6E-09	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.7E-01	mg/kg	9.7E-09	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	7.5E-08	mg/kg-day	1.3E-05	mg/kg-day	6E-03
				Total PCB Aroclors	2.9E+01	mg/kg	1.0E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	8.1E-06	mg/kg-day	2.0E-05	mg/kg-day	4E-01
				Aluminum	1.1E+04	mg/kg	4.0E-04	mg/kg-day	NA	--	NA	3.1E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Antimony	2.0E+00	mg/kg	7.2E-08	mg/kg-day	NA	--	NA	5.6E-07	mg/kg-day	4.0E-04	mg/kg-day	1E-03
				Arsenic	8.4E+00	mg/kg	3.0E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	2.3E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Cadmium	2.5E+01	mg/kg	9.0E-07	mg/kg-day	NA	--	NA	7.0E-06	mg/kg-day	1.0E-03	mg/kg-day	7E-03
				Cobalt	8.9E+00	mg/kg	3.2E-07	mg/kg-day	NA	--	NA	2.5E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Iron	3.4E+04	mg/kg	1.2E-03	mg/kg-day	NA	--	NA	9.4E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Manganese	4.3E+02	mg/kg	1.6E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	2.4E-02	mg/kg-day	5E-03
				Vanadium	2.9E+01	mg/kg	1.0E-06	mg/kg-day	NA	--	NA	8.1E-06	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								5E-05					5E-01

TABLE 7.5.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB5	Dermal	cis-1,2-Dichloroethene	2.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Vinyl chloride	3.5E-01	mg/kg	N/A	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Acenaphthylene	6.5E-03	mg/kg	2.3E-10	mg/kg-day	NA	--	NA	1.8E-09	mg/kg-day	NA	--	NA
				Benzidine	1.3E+01	mg/kg	7.5E-08	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	6E-05	2.7E-06	mg/kg-day	3.0E-03	mg/kg-day	9E-04
				Benzo(a)anthracene	1.5E+00	mg/kg	1.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	4.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.9E+00	mg/kg	1.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	5.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	1.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	6.8E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.0E+00	mg/kg	3.5E-08	mg/kg-day	NA	--	NA	2.7E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	9.9E-01	mg/kg	7.4E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	2.7E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.4E+02	mg/kg	3.7E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	5E-08	2.9E-05	mg/kg-day	2.0E-02	mg/kg-day	1E-03
				Carbazole	2.0E-01	mg/kg	5.4E-09	mg/kg-day	NA	--	NA	4.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.5E-01	mg/kg	1.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	6.8E-08	mg/kg-day	NA	--	NA
				1,3-Dichlorobenzene	2.5E-02	mg/kg	6.7E-10	mg/kg-day	NA	--	NA	5.2E-09	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+01	mg/kg	3.5E-07	mg/kg-day	NA	--	NA	2.7E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.1E+00	mg/kg	8.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	3.0E-07	mg/kg-day	NA	--	NA
				Phenanthrene	9.8E-01	mg/kg	3.4E-08	mg/kg-day	NA	--	NA	2.7E-07	mg/kg-day	NA	--	NA
				Dieldrin	5.0E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	6.7E-01	mg/kg	5.4E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	4.2E-08	mg/kg-day	5.0E-04	mg/kg-day	8E-05
				Endrin aldehyde	7.1E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	2.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	2.7E-01	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	2.9E+01	mg/kg	1.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	8.5E-06	mg/kg-day	2.0E-05	mg/kg-day	4E-01
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	2.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	8.4E+00	mg/kg	6.8E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	5.3E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	2.5E+01	mg/kg	6.7E-09	mg/kg-day	NA	--	NA	5.2E-08	mg/kg-day	2.5E-05	mg/kg-day	2E-03
				Cobalt	8.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	3.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								6E-05					4E-01
		Exposure Point Total									1E-04					9E-01
	Total of Receptor Risks Across Medium										1E-04					9E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB6	Ingestion	Acenaphthylene	3.7E-02	mg/kg	3.5E-09	mg/kg-day	NA	--	NA	2.1E-08	mg/kg-day	NA	--	NA
				Benzidine	1.0E+01	mg/kg	1.5E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	8E-05	5.6E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	3.1E-01	mg/kg	4.7E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	1.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.5E-01	mg/kg	5.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	7.8E-01	mg/kg	1.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	4.4E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.9E-01	mg/kg	2.8E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.0E-02	mg/kg	9.0E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	3.4E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	4.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	1.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.4E-01	mg/kg	2.3E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	4.6E-01	mg/kg	4.4E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	2.6E-07	mg/kg-day	2.0E-05	mg/kg-day	1E-02
				Aluminum	9.5E+03	mg/kg	9.1E-04	mg/kg-day	NA	--	NA	5.3E-03	mg/kg-day	1.0E+00	mg/kg-day	5E-03
				Arsenic	4.1E+00	mg/kg	3.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	2.3E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Cadmium	1.9E+01	mg/kg	1.8E-06	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	1.0E-03	mg/kg-day	1E-02
				Cobalt	7.1E+00	mg/kg	6.8E-07	mg/kg-day	NA	--	NA	4.0E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Iron	1.4E+04	mg/kg	1.3E-03	mg/kg-day	NA	--	NA	7.7E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Manganese	3.6E+02	mg/kg	3.5E-05	mg/kg-day	NA	--	NA	2.0E-04	mg/kg-day	2.4E-02	mg/kg-day	8E-03
				Thallium	7.1E-02	mg/kg	6.8E-09	mg/kg-day	NA	--	NA	4.0E-08	mg/kg-day	1.0E-05	mg/kg-day	4E-03
				Vanadium	2.5E+01	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	1.4E-05	mg/kg-day	5.0E-03	mg/kg-day	3E-03
			Exposure Route Total								8E-05					8E-02
Sediment	Surface Sediment	EU BB6	Dermal	Acenaphthylene	3.7E-02	mg/kg	5.8E-09	mg/kg-day	NA	--	NA	3.4E-08	mg/kg-day	NA	--	NA
				Benzidine	1.0E+01	mg/kg	2.0E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-04	7.0E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	3.1E-01	mg/kg	7.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.5E-01	mg/kg	8.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	7.8E-01	mg/kg	2.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	7.1E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.9E-01	mg/kg	4.5E-08	mg/kg-day	NA	--	NA	2.6E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.0E-02	mg/kg	1.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	5.5E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	6.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	2.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.4E-01	mg/kg	3.7E-08	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	4.6E-01	mg/kg	7.7E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	4.5E-07	mg/kg-day	2.0E-05	mg/kg-day	2E-02
				Aluminum	9.5E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	4.1E+00	mg/kg	1.5E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	8.6E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cadmium	1.9E+01	mg/kg	2.3E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	2.5E-05	mg/kg-day	5E-03
				Cobalt	7.1E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	3.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Thallium	7.1E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.5E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-04					3E-02
		Exposure Point Total									2E-04					1E-01
	Total of Receptor Risks Across Medium										2E-04					1E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU BB6	Ingestion	Acenaphthylene	3.7E-02	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	1.0E-08	mg/kg-day	NA	--	NA
				Benzidine	1.0E+01	mg/kg	7.0E-08	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	4E-05	2.8E-06	mg/kg-day	3.0E-03	mg/kg-day	9E-04
				Benzo(a)anthracene	3.1E-01	mg/kg	2.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	8.7E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.5E-01	mg/kg	2.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	9.8E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	7.8E-01	mg/kg	5.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-09	2.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.9E-01	mg/kg	1.0E-08	mg/kg-day	NA	--	NA	8.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.0E-02	mg/kg	4.2E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	1.7E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	1.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	7.5E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.4E-01	mg/kg	8.6E-09	mg/kg-day	NA	--	NA	6.7E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	4.6E-01	mg/kg	1.7E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	1.3E-07	mg/kg-day	2.0E-05	mg/kg-day	6E-03
				Aluminum	9.5E+03	mg/kg	3.4E-04	mg/kg-day	NA	--	NA	2.7E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Arsenic	4.1E+00	mg/kg	1.5E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	1.9E+01	mg/kg	6.8E-07	mg/kg-day	NA	--	NA	5.3E-06	mg/kg-day	1.0E-03	mg/kg-day	5E-03
				Cobalt	7.1E+00	mg/kg	2.6E-07	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Iron	1.4E+04	mg/kg	5.0E-04	mg/kg-day	NA	--	NA	3.9E-03	mg/kg-day	7.0E-01	mg/kg-day	6E-03
				Manganese	3.6E+02	mg/kg	1.3E-05	mg/kg-day	NA	--	NA	1.0E-04	mg/kg-day	2.4E-02	mg/kg-day	4E-03
				Thallium	7.1E-02	mg/kg	2.6E-09	mg/kg-day	NA	--	NA	2.0E-08	mg/kg-day	1.0E-05	mg/kg-day	2E-03
				Vanadium	2.5E+01	mg/kg	9.0E-07	mg/kg-day	NA	--	NA	7.0E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
			Exposure Route Total								4E-05					4E-02
Sediment	Surface Sediment	EU BB6	Dermal	Acenaphthylene	3.7E-02	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	1.0E-08	mg/kg-day	NA	--	NA
				Benzidine	1.0E+01	mg/kg	5.7E-08	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	5E-05	2.1E-06	mg/kg-day	3.0E-03	mg/kg-day	7E-04
				Benzo(a)anthracene	3.1E-01	mg/kg	2.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	8.4E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.5E-01	mg/kg	2.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	9.5E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	7.8E-01	mg/kg	5.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	2.1E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.9E-01	mg/kg	1.0E-08	mg/kg-day	NA	--	NA	7.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.0E-02	mg/kg	4.5E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.6E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	2.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	7.4E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.4E-01	mg/kg	8.4E-09	mg/kg-day	NA	--	NA	6.5E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	4.6E-01	mg/kg	1.7E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	1.4E-07	mg/kg-day	2.0E-05	mg/kg-day	7E-03
				Aluminum	9.5E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	4.1E+00	mg/kg	3.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	2.6E-07	mg/kg-day	3.0E-04	mg/kg-day	9E-04
				Cadmium	1.9E+01	mg/kg	5.1E-09	mg/kg-day	NA	--	NA	4.0E-08	mg/kg-day	2.5E-05	mg/kg-day	2E-03
				Cobalt	7.1E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	3.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Thallium	7.1E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.5E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-05					1E-02
		Exposure Point Total									8E-05					5E-02
	Total of Receptor Risks Across Medium										8E-05					5E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.5.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7-18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Surface Sediment	EU SL	Ingestion	Acenaphthylene	3.6E-03	mg/kg	3.5E-10	mg/kg-day	NA	--	NA	2.0E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.9E+00	mg/kg	5.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	2.2E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	5.8E+00	mg/kg	8.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	3.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	8.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	3.5E+00	mg/kg	3.4E-07	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E+00	mg/kg	7.8E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	2.9E-06	mg/kg-day	NA	--	NA
				Carbazole	6.9E-02	mg/kg	6.6E-09	mg/kg-day	NA	--	NA	3.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E+00	mg/kg	2.0E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	7.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.2E+00	mg/kg	4.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	1.8E-06	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-02	mg/kg	9.6E-10	mg/kg-day	NA	--	NA	5.6E-09	mg/kg-day	NA	--	NA
				Phenanthrene	4.1E+00	mg/kg	3.9E-07	mg/kg-day	NA	--	NA	2.3E-06	mg/kg-day	NA	--	NA
				Aluminum	9.8E+03	mg/kg	9.4E-04	mg/kg-day	NA	--	NA	5.5E-03	mg/kg-day	1.0E+00	mg/kg-day	5E-03
				Arsenic	3.3E+00	mg/kg	3.2E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.8E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Cobalt	8.0E+00	mg/kg	7.7E-07	mg/kg-day	NA	--	NA	4.5E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Iron	1.9E+04	mg/kg	1.8E-03	mg/kg-day	NA	--	NA	1.1E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	2.2E+02	mg/kg	2.1E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	2.4E-02	mg/kg-day	5E-03
			Exposure Route Total								3E-06					5E-02
Sediment	Surface Sediment	EU SL	Dermal	Acenaphthylene	3.6E-03	mg/kg	5.6E-10	mg/kg-day	NA	--	NA	3.3E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.9E+00	mg/kg	1.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	3.5E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	5.8E+00	mg/kg	1.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	5.3E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	1.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	4.9E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	3.5E+00	mg/kg	5.5E-07	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E+00	mg/kg	1.3E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-08	4.7E-06	mg/kg-day	NA	--	NA
				Carbazole	6.9E-02	mg/kg	8.3E-09	mg/kg-day	NA	--	NA	4.8E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E+00	mg/kg	3.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.2E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.2E+00	mg/kg	8.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	2.9E-06	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-02	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	7.0E-09	mg/kg-day	NA	--	NA
				Phenanthrene	4.1E+00	mg/kg	6.4E-07	mg/kg-day	NA	--	NA	3.7E-06	mg/kg-day	NA	--	NA
				Aluminum	9.8E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	3.3E+00	mg/kg	1.2E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	6.9E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cobalt	8.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.9E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	2.2E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								3E-06					2E-03
		Exposure Point Total									6E-06					5E-02
	Total of Receptor Risks Across Medium										6E-06					5E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU GB	Ingestion	Benzo(a)anthracene	4.8E-01	mg/kg	5.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.3E-01	mg/kg	4.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	3.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	6.4E-01	mg/kg	7.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	5.0E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	7.5E-09	mg/kg-day	NA	--	NA	5.3E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.6E-01	mg/kg	2.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.8E-01	mg/kg	3.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	2.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	7.3E-01	mg/kg	8.1E-09	mg/kg-day	NA	--	NA	5.7E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.6E-01	mg/kg	1.8E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-09	1.2E-07	mg/kg-day	6.0E-05	mg/kg-day	2E-03
				Aluminum	8.5E+03	mg/kg	9.4E-05	mg/kg-day	NA	--	NA	6.5E-03	mg/kg-day	1.0E+00	mg/kg-day	7E-03
				Arsenic	2.2E+00	mg/kg	2.4E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	1.7E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Cobalt	6.3E+00	mg/kg	7.0E-08	mg/kg-day	NA	--	NA	4.9E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Iron	1.6E+04	mg/kg	1.8E-04	mg/kg-day	NA	--	NA	1.2E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	1.6E+02	mg/kg	1.8E-06	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	2.4E-02	mg/kg-day	5E-03
				Vanadium	2.2E+01	mg/kg	2.4E-07	mg/kg-day	NA	--	NA	1.7E-05	mg/kg-day	5.0E-03	mg/kg-day	3E-03
			Exposure Route Total								1E-07					4E-02
Sediment	All Sediment	EU GB	Dermal	Benzo(a)anthracene	4.8E-01	mg/kg	3.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	2.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	4.3E-01	mg/kg	3.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	6.4E-01	mg/kg	4.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	3.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	4.9E-09	mg/kg-day	NA	--	NA	3.4E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.6E-01	mg/kg	1.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.8E-01	mg/kg	2.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	7.3E-01	mg/kg	5.3E-09	mg/kg-day	NA	--	NA	3.7E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.6E-01	mg/kg	1.2E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	8.7E-08	mg/kg-day	6.0E-05	mg/kg-day	1E-03
				Aluminum	8.5E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.2E+00	mg/kg	3.7E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-09	2.6E-07	mg/kg-day	3.0E-04	mg/kg-day	9E-04
				Cobalt	6.3E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	1.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-08					2E-03
		Exposure Point Total									2E-07					4E-02
	Total of Receptor Risks Across Medium										2E-07					4E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB1	Ingestion	Acenaphthylene	4.8E-01	mg/kg	5.3E-09	mg/kg-day	NA	--	NA	3.7E-07	mg/kg-day	NA	--	NA
				Benzidine	1.5E+01	mg/kg	1.7E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	4E-05	1.2E-05	mg/kg-day	3.0E-03	mg/kg-day	4E-03
				Benzo(a)anthracene	2.2E+00	mg/kg	2.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.5E+00	mg/kg	2.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.9E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.9E+00	mg/kg	3.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.2E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.9E+00	mg/kg	2.1E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	1.5E-06	mg/kg-day	NA	--	NA
				Carbazole	3.4E-01	mg/kg	3.8E-09	mg/kg-day	NA	--	NA	2.6E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.9E-01	mg/kg	3.2E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.2E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.6E+00	mg/kg	1.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.2E-06	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-03	mg/kg	1.1E-11	mg/kg-day	NA	--	NA	7.7E-10	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E+00	mg/kg	3.2E-08	mg/kg-day	NA	--	NA	2.2E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.8E-03	mg/kg	7.5E-11	mg/kg-day	NA	--	NA	5.3E-09	mg/kg-day	NA	--	NA
				Endrin ketone	2.0E-02	mg/kg	2.2E-10	mg/kg-day	NA	--	NA	1.5E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	2.3E+00	mg/kg	2.5E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	1.8E-06	mg/kg-day	6.0E-05	mg/kg-day	3E-02
				Aluminum	1.6E+04	mg/kg	1.8E-04	mg/kg-day	NA	--	NA	1.3E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	5.2E+00	mg/kg	5.8E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	4.0E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	2.6E+00	mg/kg	2.9E-08	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	1.0E-03	mg/kg-day	2E-03
				Cobalt	3.4E+01	mg/kg	3.8E-07	mg/kg-day	NA	--	NA	2.6E-05	mg/kg-day	3.0E-03	mg/kg-day	9E-03
				Copper	1.0E+03	mg/kg	1.1E-05	mg/kg-day	NA	--	NA	7.8E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Iron	4.7E+04	mg/kg	5.2E-04	mg/kg-day	NA	--	NA	3.7E-02	mg/kg-day	7.0E-01	mg/kg-day	5E-02
				Manganese	3.7E+02	mg/kg	4.1E-06	mg/kg-day	NA	--	NA	2.9E-04	mg/kg-day	2.4E-02	mg/kg-day	1E-02
				Vanadium	1.9E+01	mg/kg	2.1E-07	mg/kg-day	NA	--	NA	1.5E-05	mg/kg-day	5.0E-03	mg/kg-day	3E-03
			Exposure Route Total								4E-05					2E-01

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB1	Dermal	Acenaphthylene	4.8E-01	mg/kg	3.5E-09	mg/kg-day	NA	--	NA	2.4E-07	mg/kg-day	NA	--	NA
				Benzidine	1.5E+01	mg/kg	8.3E-08	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	2E-05	5.8E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	2.2E+00	mg/kg	1.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.5E+00	mg/kg	1.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.9E+00	mg/kg	2.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	8.1E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.9E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-09	9.6E-07	mg/kg-day	NA	--	NA
				Carbazole	3.4E-01	mg/kg	1.9E-09	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.9E-01	mg/kg	2.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.6E+00	mg/kg	1.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	8.1E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-03	mg/kg	5.5E-12	mg/kg-day	NA	--	NA	3.9E-10	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E+00	mg/kg	2.1E-08	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	2.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	2.3E+00	mg/kg	1.8E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	1.2E-06	mg/kg-day	6.0E-05	mg/kg-day	2E-02
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	5.2E+00	mg/kg	8.6E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	6.0E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	2.6E+00	mg/kg	1.4E-10	mg/kg-day	NA	--	NA	1.0E-08	mg/kg-day	2.5E-05	mg/kg-day	4E-04
				Cobalt	3.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Copper	1.0E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	4.7E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	3.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	1.9E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-05					3E-02
		Exposure Point Total									6E-05					2E-01
	Total of Receptor Risks Across Medium										6E-05					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB2	Ingestion	Acenaphthylene	8.4E-03	mg/kg	9.3E-11	mg/kg-day	NA	--	NA	6.5E-09	mg/kg-day	NA	--	NA
				Benzidine	1.9E+01	mg/kg	2.1E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	5E-05	1.5E-05	mg/kg-day	3.0E-03	mg/kg-day	5E-03
				Benzo(a)anthracene	2.4E+00	mg/kg	2.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.9E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.3E+00	mg/kg	1.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.2E+00	mg/kg	4.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	3.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.7E+00	mg/kg	1.9E-08	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.7E+00	mg/kg	3.0E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	2.1E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	2.0E+01	mg/kg	2.2E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	1.5E-05	mg/kg-day	2.0E-01	mg/kg-day	8E-05
				Carbazole	1.8E-01	mg/kg	2.0E-09	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.3E-01	mg/kg	2.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.8E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	3.4E+00	mg/kg	3.8E-08	mg/kg-day	NA	--	NA	2.6E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E+00	mg/kg	2.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.8E-06	mg/kg-day	NA	--	NA
				Phenanthrene	1.5E+00	mg/kg	1.7E-08	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Dieldrin	8.5E-02	mg/kg	9.4E-10	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	2E-08	6.6E-08	mg/kg-day	1.0E-04	mg/kg-day	7E-04
				Total PCB Aroclors	4.3E+00	mg/kg	4.8E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.3E-06	mg/kg-day	6.0E-05	mg/kg-day	6E-02
				Aluminum	1.4E+04	mg/kg	1.6E-04	mg/kg-day	NA	--	NA	1.1E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	3.5E+00	mg/kg	3.9E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	2.7E-06	mg/kg-day	3.0E-04	mg/kg-day	9E-03
				Cadmium	2.2E+01	mg/kg	2.4E-07	mg/kg-day	NA	--	NA	1.7E-05	mg/kg-day	1.0E-03	mg/kg-day	2E-02
				Cobalt	7.9E+00	mg/kg	8.7E-08	mg/kg-day	NA	--	NA	6.1E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Iron	2.0E+04	mg/kg	2.2E-04	mg/kg-day	NA	--	NA	1.5E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	3.8E+02	mg/kg	4.2E-06	mg/kg-day	NA	--	NA	2.9E-04	mg/kg-day	2.4E-02	mg/kg-day	1E-02
				Vanadium	2.3E+01	mg/kg	2.5E-07	mg/kg-day	NA	--	NA	1.8E-05	mg/kg-day	5.0E-03	mg/kg-day	4E-03
			Exposure Route Total								5E-05					1E-01

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB2	Dermal	Acenaphthylene	8.4E-03	mg/kg	6.0E-11	mg/kg-day	NA	--	NA	4.2E-09	mg/kg-day	NA	--	NA
				Benzidine	1.9E+01	mg/kg	1.1E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	2E-05	7.4E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	2.4E+00	mg/kg	1.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.3E+00	mg/kg	9.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	6.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.2E+00	mg/kg	3.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.7E+00	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	8.6E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.7E+00	mg/kg	1.9E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-09	1.4E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	2.0E+01	mg/kg	1.1E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	7.7E-06	mg/kg-day	2.0E-01	mg/kg-day	4E-05
				Carbazole	1.8E-01	mg/kg	1.0E-09	mg/kg-day	NA	--	NA	7.0E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.3E-01	mg/kg	1.7E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.2E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	3.4E+00	mg/kg	1.9E-08	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E+00	mg/kg	1.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.2E-06	mg/kg-day	NA	--	NA
				Phenanthrene	1.5E+00	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	7.6E-07	mg/kg-day	NA	--	NA
				Dieldrin	8.5E-02	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				Total PCB Aroclors	4.3E+00	mg/kg	3.3E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	2.3E-06	mg/kg-day	6.0E-05	mg/kg-day	4E-02
				Aluminum	1.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	3.5E+00	mg/kg	5.8E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-09	4.1E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cadmium	2.2E+01	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	8.5E-08	mg/kg-day	2.5E-05	mg/kg-day	3E-03
				Cobalt	7.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	2.0E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	3.8E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-05					5E-02
		Exposure Point Total									7E-05					2E-01
	Total of Receptor Risks Across Medium										7E-05					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB3	Ingestion	Acenaphthylene	1.1E-01	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	8.5E-08	mg/kg-day	NA	--	NA
				Benzidine	5.0E+01	mg/kg	5.5E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-04	3.9E-05	mg/kg-day	3.0E-03	mg/kg-day	1E-02
				Benzo(a)anthracene	4.1E+00	mg/kg	4.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	3.2E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.9E+00	mg/kg	4.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	3.0E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	6.1E+00	mg/kg	6.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	4.7E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	8.5E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.4E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-09	1.1E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.0E+00	mg/kg	6.6E-08	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	9E-10	4.6E-06	mg/kg-day	2.0E-01	mg/kg-day	2E-05
				Carbazole	3.6E-01	mg/kg	4.0E-09	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.1E-01	mg/kg	3.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	2.4E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	3.5E+01	mg/kg	3.9E-07	mg/kg-day	NA	--	NA	2.7E-05	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E+00	mg/kg	3.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	2.6E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	2.2E-08	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				alpha-BHC	2.2E-02	mg/kg	2.4E-10	mg/kg-day	6.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	1.7E-08	mg/kg-day	8.0E-03	mg/kg-day	2E-06
				Dieldrin	4.8E-01	mg/kg	5.3E-09	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	9E-08	3.7E-07	mg/kg-day	1.0E-04	mg/kg-day	4E-03
				Endrin aldehyde	1.9E-01	mg/kg	2.1E-09	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.2E+00	mg/kg	1.3E-08	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	9.3E-07	mg/kg-day	1.3E-05	mg/kg-day	7E-02
				Total PCB Aroclors	7.2E+00	mg/kg	8.0E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	5.6E-06	mg/kg-day	6.0E-05	mg/kg-day	9E-02
				Aluminum	1.1E+04	mg/kg	1.2E-04	mg/kg-day	NA	--	NA	8.2E-03	mg/kg-day	1.0E+00	mg/kg-day	8E-03
				Arsenic	4.9E+00	mg/kg	5.4E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	3.8E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	5.3E+00	mg/kg	5.9E-08	mg/kg-day	NA	--	NA	4.1E-06	mg/kg-day	1.0E-03	mg/kg-day	4E-03
				Cobalt	1.3E+01	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	1.0E-05	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Iron	1.5E+04	mg/kg	1.7E-04	mg/kg-day	NA	--	NA	1.2E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	1.9E+02	mg/kg	2.0E-06	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
				Vanadium	2.8E+01	mg/kg	3.1E-07	mg/kg-day	NA	--	NA	2.2E-05	mg/kg-day	5.0E-03	mg/kg-day	4E-03
			Exposure Route Total								1E-04					2E-01

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB3	Dermal	Acenaphthylene	1.1E-01	mg/kg	7.9E-10	mg/kg-day	NA	--	NA	5.5E-08	mg/kg-day	NA	--	NA
				Benzidine	5.0E+01	mg/kg	2.8E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	6E-05	1.9E-05	mg/kg-day	3.0E-03	mg/kg-day	6E-03
				Benzo(a)anthracene	4.1E+00	mg/kg	3.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.9E+00	mg/kg	2.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	2.0E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	6.1E+00	mg/kg	4.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	3.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	7.9E-09	mg/kg-day	NA	--	NA	5.5E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.4E+00	mg/kg	1.0E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	7E-10	7.1E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.0E+00	mg/kg	3.3E-08	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	5E-10	2.3E-06	mg/kg-day	2.0E-01	mg/kg-day	1E-05
				Carbazole	3.6E-01	mg/kg	2.0E-09	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.1E-01	mg/kg	2.2E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.6E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	3.5E+01	mg/kg	1.9E-07	mg/kg-day	NA	--	NA	1.4E-05	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E+00	mg/kg	2.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.7E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	1.4E-08	mg/kg-day	NA	--	NA	1.0E-06	mg/kg-day	NA	--	NA
				alpha-BHC	2.2E-02	mg/kg	N/A	mg/kg-day	6.3E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	8.0E-03	mg/kg-day	--
				Dieldrin	4.8E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				Endrin aldehyde	1.9E-01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	1.2E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	7.2E+00	mg/kg	5.6E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.9E-06	mg/kg-day	6.0E-05	mg/kg-day	7E-02
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	4.9E+00	mg/kg	8.1E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	5.7E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	5.3E+00	mg/kg	2.9E-10	mg/kg-day	NA	--	NA	2.1E-08	mg/kg-day	2.5E-05	mg/kg-day	8E-04
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	1.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	1.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								6E-05					7E-02
		Exposure Point Total									2E-04					3E-01
	Total of Receptor Risks Across Medium										2E-04					3E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.6.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB3	Ingestion	Acenaphthylene	1.1E-01	mg/kg	4.1E-10	mg/kg-day	NA	--	NA	2.8E-08	mg/kg-day	NA	--	NA
				Benzidine	5.0E+01	mg/kg	1.8E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	4E-05	1.3E-05	mg/kg-day	3.0E-03	mg/kg-day	4E-03
				Benzo(a)anthracene	4.1E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.9E+00	mg/kg	1.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	6.1E+00	mg/kg	2.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.6E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	4.1E-09	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.4E+00	mg/kg	5.2E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-10	3.6E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.0E+00	mg/kg	2.2E-08	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	1.5E-06	mg/kg-day	2.0E-01	mg/kg-day	8E-06
				Carbazole	3.6E-01	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	9.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.1E-01	mg/kg	1.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-09	8.0E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	3.5E+01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	9.0E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E+00	mg/kg	1.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-09	8.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	7.4E-09	mg/kg-day	NA	--	NA	5.2E-07	mg/kg-day	NA	--	NA
				alpha-BHC	2.2E-02	mg/kg	8.1E-11	mg/kg-day	6.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-10	5.7E-09	mg/kg-day	8.0E-03	mg/kg-day	7E-07
				Dieldrin	4.8E-01	mg/kg	1.8E-09	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	3E-08	1.2E-07	mg/kg-day	1.0E-04	mg/kg-day	1E-03
				Endrin aldehyde	1.9E-01	mg/kg	7.0E-10	mg/kg-day	NA	--	NA	4.9E-08	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.2E+00	mg/kg	4.4E-09	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	3.1E-07	mg/kg-day	1.3E-05	mg/kg-day	2E-02
				Total PCB Aroclors	7.2E+00	mg/kg	2.7E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	1.9E-06	mg/kg-day	6.0E-05	mg/kg-day	3E-02
				Aluminum	1.1E+04	mg/kg	3.9E-05	mg/kg-day	NA	--	NA	2.7E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Arsenic	4.9E+00	mg/kg	1.8E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	5.3E+00	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	1.0E-03	mg/kg-day	1E-03
				Cobalt	1.3E+01	mg/kg	4.8E-08	mg/kg-day	NA	--	NA	3.4E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Iron	1.5E+04	mg/kg	5.5E-05	mg/kg-day	NA	--	NA	3.9E-03	mg/kg-day	7.0E-01	mg/kg-day	6E-03
				Manganese	1.9E+02	mg/kg	6.8E-07	mg/kg-day	NA	--	NA	4.8E-05	mg/kg-day	2.4E-02	mg/kg-day	2E-03
				Vanadium	2.8E+01	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	7.2E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
			Exposure Route Total								4E-05					8E-02

TABLE 7.6.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 3 (BB3)
Receptor Population: Outdoor Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB3	Dermal	Acenaphthylene	1.1E-01	mg/kg	2.6E-10	mg/kg-day	NA	--	NA	1.8E-08	mg/kg-day	NA	--	NA
				Benzidine	4.6E+01	mg/kg	8.5E-08	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	2E-05	5.9E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	4.1E+00	mg/kg	9.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	6.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.9E+00	mg/kg	9.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	6.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	6.1E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	2.6E-09	mg/kg-day	NA	--	NA	1.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.4E+00	mg/kg	3.4E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-10	2.4E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.0E+00	mg/kg	1.1E-08	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-10	7.7E-07	mg/kg-day	2.0E-01	mg/kg-day	4E-06
				Carbazole	3.6E-01	mg/kg	6.6E-10	mg/kg-day	NA	--	NA	4.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.1E-01	mg/kg	7.4E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-09	5.2E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	3.5E+01	mg/kg	6.5E-08	mg/kg-day	NA	--	NA	4.5E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E+00	mg/kg	7.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	5.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	4.8E-09	mg/kg-day	NA	--	NA	3.4E-07	mg/kg-day	NA	--	NA
				alpha-BHC	2.2E-02	mg/kg	N/A	mg/kg-day	6.3E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	8.0E-03	mg/kg-day	--
				Dieldrin	4.8E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				Endrin aldehyde	1.9E-01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	1.2E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	7.2E+00	mg/kg	1.9E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	1.3E-06	mg/kg-day	6.0E-05	mg/kg-day	2E-02
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	4.9E+00	mg/kg	2.7E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-09	1.9E-07	mg/kg-day	3.0E-04	mg/kg-day	6E-04
				Cadmium	5.3E+00	mg/kg	9.8E-11	mg/kg-day	NA	--	NA	6.8E-09	mg/kg-day	2.5E-05	mg/kg-day	3E-04
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	1.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	1.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-05					2E-02
		Exposure Point Total									6E-05					1E-01
	Total of Receptor Risks Across Medium										6E-05					1E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB4	Ingestion	Acenaphthylene	6.9E-03	mg/kg	7.6E-11	mg/kg-day	NA	--	NA	5.3E-09	mg/kg-day	NA	--	NA
				Benzidine	2.0E+01	mg/kg	2.2E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	5E-05	1.5E-05	mg/kg-day	3.0E-03	mg/kg-day	5E-03
				Benzo(a)anthracene	1.3E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.2E+00	mg/kg	1.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	9.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.4E+00	mg/kg	2.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.9E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Carbazole	1.0E-01	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	7.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.7E-01	mg/kg	1.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.3E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.6E+00	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	9.3E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	8.0E-02	mg/kg	8.9E-10	mg/kg-day	NA	--	NA	6.2E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.2E+00	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	9.3E-07	mg/kg-day	NA	--	NA
				Dieldrin	6.1E-02	mg/kg	6.8E-10	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-08	4.7E-08	mg/kg-day	1.0E-04	mg/kg-day	5E-04
				Endrin aldehyde	1.5E-02	mg/kg	1.7E-10	mg/kg-day	NA	--	NA	1.2E-08	mg/kg-day	NA	--	NA
				Endrin ketone	1.3E-02	mg/kg	1.4E-10	mg/kg-day	NA	--	NA	1.0E-08	mg/kg-day	NA	--	NA
				Heptachlor epoxide	7.6E-02	mg/kg	8.4E-10	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	8E-09	5.9E-08	mg/kg-day	1.3E-05	mg/kg-day	5E-03
				Total PCB Aroclors	6.9E+00	mg/kg	7.6E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	5.3E-06	mg/kg-day	6.0E-05	mg/kg-day	9E-02
				Aluminum	7.3E+03	mg/kg	8.1E-05	mg/kg-day	NA	--	NA	5.7E-03	mg/kg-day	1.0E+00	mg/kg-day	6E-03
				Arsenic	4.1E+00	mg/kg	4.5E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	3.2E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	4.7E+00	mg/kg	5.2E-08	mg/kg-day	NA	--	NA	3.6E-06	mg/kg-day	1.0E-03	mg/kg-day	4E-03
				Cobalt	5.9E+00	mg/kg	6.5E-08	mg/kg-day	NA	--	NA	4.6E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Iron	1.9E+04	mg/kg	2.1E-04	mg/kg-day	NA	--	NA	1.4E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	8.2E+02	mg/kg	9.1E-06	mg/kg-day	NA	--	NA	6.3E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
				Vanadium	1.7E+01	mg/kg	1.9E-07	mg/kg-day	NA	--	NA	1.3E-05	mg/kg-day	5.0E-03	mg/kg-day	3E-03
			Exposure Route Total								5E-05					2E-01

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB4	Dermal	Acenaphthylene	6.9E-03	mg/kg	5.0E-11	mg/kg-day	NA	--	NA	3.5E-09	mg/kg-day	NA	--	NA
				Benzidine	2.0E+01	mg/kg	1.1E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	3E-05	7.7E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Benzo(a)anthracene	1.3E+00	mg/kg	9.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	6.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.2E+00	mg/kg	8.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	6.0E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.4E+00	mg/kg	1.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	8.1E-07	mg/kg-day	NA	--	NA
				Carbazole	1.0E-01	mg/kg	5.5E-10	mg/kg-day	NA	--	NA	3.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.7E-01	mg/kg	1.2E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-09	8.6E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.6E+00	mg/kg	8.9E-09	mg/kg-day	NA	--	NA	6.2E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	8.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	6.0E-07	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	8.0E-02	mg/kg	4.4E-10	mg/kg-day	NA	--	NA	3.1E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.2E+00	mg/kg	8.6E-09	mg/kg-day	NA	--	NA	6.0E-07	mg/kg-day	NA	--	NA
				Dieldrin	6.1E-02	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				Endrin aldehyde	1.5E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	1.3E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	7.6E-02	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	6.9E+00	mg/kg	5.3E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.7E-06	mg/kg-day	6.0E-05	mg/kg-day	6E-02
				Aluminum	7.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	4.1E+00	mg/kg	6.8E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	4.8E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	4.7E+00	mg/kg	2.6E-10	mg/kg-day	NA	--	NA	1.8E-08	mg/kg-day	2.5E-05	mg/kg-day	7E-04
				Cobalt	5.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	1.9E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	8.2E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	1.7E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								3E-05					7E-02
		Exposure Point Total									8E-05					2E-01
	Total of Receptor Risks Across Medium										8E-05					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.3E+01	mg/kg	2.5E-07	mg/kg-day	NA	--	NA	1.8E-05	mg/kg-day	2.0E-02	mg/kg-day	9E-04
				Vinyl chloride	3.5E-01	mg/kg	3.9E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	2.7E-07	mg/kg-day	3.0E-03	mg/kg-day	9E-05
				Acenaphthylene	5.9E-03	mg/kg	6.5E-11	mg/kg-day	NA	--	NA	4.6E-09	mg/kg-day	NA	--	NA
				Benzidine	1.3E+01	mg/kg	1.4E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	3E-05	1.0E-05	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Benzo(a)anthracene	1.7E+00	mg/kg	1.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	1.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	3.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.5E+00	mg/kg	1.7E-08	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	9.7E-01	mg/kg	1.1E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-10	7.5E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.6E+02	mg/kg	1.8E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	1.3E-04	mg/kg-day	2.0E-01	mg/kg-day	6E-04
				Carbazole	2.0E-01	mg/kg	2.2E-09	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	2.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.6E-07	mg/kg-day	NA	--	NA
				1,3-Dichlorobenzene	2.5E-02	mg/kg	2.8E-10	mg/kg-day	NA	--	NA	1.9E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.1E+01	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	8.5E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.3E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.0E-06	mg/kg-day	NA	--	NA
				Phenanthrene	9.4E-01	mg/kg	1.0E-08	mg/kg-day	NA	--	NA	7.3E-07	mg/kg-day	NA	--	NA
				gamma-BHC	8.0E-01	mg/kg	8.9E-09	mg/kg-day	1.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	6.2E-07	mg/kg-day	3.0E-03	mg/kg-day	2E-04
				Dieldrin	7.3E-01	mg/kg	8.1E-09	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-07	5.7E-07	mg/kg-day	1.0E-04	mg/kg-day	6E-03
				4,4'-DDE	6.9E-01	mg/kg	7.6E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	5.3E-07	mg/kg-day	NA	--	NA
				4,4'-DDT	5.4E-01	mg/kg	6.0E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	4.2E-07	mg/kg-day	5.0E-04	mg/kg-day	8E-04
				Endrin	3.0E-01	mg/kg	3.3E-09	mg/kg-day	NA	--	NA	2.3E-07	mg/kg-day	3.0E-04	mg/kg-day	8E-04
				Endrin aldehyde	1.8E+00	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	NA	--	NA
				Endrin ketone	2.0E-02	mg/kg	2.2E-10	mg/kg-day	NA	--	NA	1.5E-08	mg/kg-day	NA	--	NA
				Heptachlor epoxide	3.6E-01	mg/kg	4.0E-09	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	2.8E-07	mg/kg-day	1.3E-05	mg/kg-day	2E-02
				Total PCB Aroclors	2.4E+01	mg/kg	2.7E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.9E-05	mg/kg-day	6.0E-05	mg/kg-day	3E-01
				Aluminum	1.1E+04	mg/kg	1.2E-04	mg/kg-day	NA	--	NA	8.5E-03	mg/kg-day	1.0E+00	mg/kg-day	8E-03
				Antimony	3.5E+00	mg/kg	3.9E-08	mg/kg-day	NA	--	NA	2.7E-06	mg/kg-day	4.0E-04	mg/kg-day	7E-03
				Arsenic	7.2E+00	mg/kg	8.0E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	5.6E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cadmium	2.6E+01	mg/kg	2.9E-07	mg/kg-day	NA	--	NA	2.0E-05	mg/kg-day	1.0E-03	mg/kg-day	2E-02
				Cobalt	8.5E+00	mg/kg	9.4E-08	mg/kg-day	NA	--	NA	6.6E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Iron	3.2E+04	mg/kg	3.5E-04	mg/kg-day	NA	--	NA	2.5E-02	mg/kg-day	7.0E-01	mg/kg-day	4E-02
				Manganese	3.8E+02	mg/kg	4.2E-06	mg/kg-day	NA	--	NA	2.9E-04	mg/kg-day	2.4E-02	mg/kg-day	1E-02
				Vanadium	2.7E+01	mg/kg	3.0E-07	mg/kg-day	NA	--	NA	2.1E-05	mg/kg-day	5.0E-03	mg/kg-day	4E-03
			Exposure Route Total								3E-05					5E-01

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB5	Dermal	cis-1,2-Dichloroethene	2.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-02	mg/kg-day	--
				Vinyl chloride	3.5E-01	mg/kg	N/A	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Acenaphthylene	5.9E-03	mg/kg	4.2E-11	mg/kg-day	NA	--	NA	3.0E-09	mg/kg-day	NA	--	NA
				Benzidine	1.3E+01	mg/kg	7.2E-08	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	2E-05	5.0E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Benzo(a)anthracene	1.7E+00	mg/kg	1.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-09	8.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	1.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	8.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	1.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.4E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.5E+00	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	7.6E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	9.7E-01	mg/kg	7.0E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-10	4.9E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.6E+02	mg/kg	9.0E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	6.3E-05	mg/kg-day	2.0E-01	mg/kg-day	3E-04
				Carbazole	2.0E-01	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	7.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	1.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.1E-07	mg/kg-day	NA	--	NA
				1,3-Dichlorobenzene	2.5E-02	mg/kg	1.4E-10	mg/kg-day	NA	--	NA	9.7E-09	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.1E+01	mg/kg	6.1E-08	mg/kg-day	NA	--	NA	4.3E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.3E+00	mg/kg	9.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	6.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	9.4E-01	mg/kg	6.8E-09	mg/kg-day	NA	--	NA	4.7E-07	mg/kg-day	NA	--	NA
				gamma-BHC	8.0E-01	mg/kg	N/A	mg/kg-day	1.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Dieldrin	7.3E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				4,4'-DDE	6.9E-01	mg/kg	1.1E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-10	8.0E-08	mg/kg-day	NA	--	NA
				4,4'-DDT	5.4E-01	mg/kg	9.0E-10	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-10	6.3E-08	mg/kg-day	5.0E-04	mg/kg-day	1E-04
				Endrin	3.0E-01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Endrin aldehyde	1.8E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	2.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	3.6E-01	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	2.4E+01	mg/kg	1.9E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.3E-05	mg/kg-day	6.0E-05	mg/kg-day	2E-01
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	3.5E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	7.2E+00	mg/kg	1.2E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	8.4E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cadmium	2.6E+01	mg/kg	1.4E-09	mg/kg-day	NA	--	NA	1.0E-07	mg/kg-day	2.5E-05	mg/kg-day	4E-03
				Cobalt	8.5E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	3.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	3.8E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.7E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-05					2E-01
		Exposure Point Total									5E-05					7E-01
	Total of Receptor Risks Across Medium										5E-05					7E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.6.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 5 (BB5)
Receptor Population: Outdoor Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.3E+01	mg/kg	8.5E-08	mg/kg-day	NA	--	NA	5.9E-06	mg/kg-day	2.0E-02	mg/kg-day	3E-04
				Vinyl chloride	3.5E-01	mg/kg	1.3E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	9.0E-08	mg/kg-day	3.0E-03	mg/kg-day	3E-05
				Acenaphthylene	5.9E-03	mg/kg	2.2E-11	mg/kg-day	NA	--	NA	1.5E-09	mg/kg-day	NA	--	NA
				Benzidine	1.3E+01	mg/kg	4.8E-08	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-05	3.4E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Benzo(a)anthracene	1.7E+00	mg/kg	6.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	4.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	5.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	4.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	1.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	7.0E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.5E+00	mg/kg	5.5E-09	mg/kg-day	NA	--	NA	3.9E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	9.7E-01	mg/kg	3.6E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	2.5E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.6E+02	mg/kg	6.0E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	8E-09	4.2E-05	mg/kg-day	2.0E-01	mg/kg-day	2E-04
				Carbazole	2.0E-01	mg/kg	7.4E-10	mg/kg-day	NA	--	NA	5.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	7.7E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	5.4E-08	mg/kg-day	NA	--	NA
				1,3-Dichlorobenzene	2.5E-02	mg/kg	9.2E-11	mg/kg-day	NA	--	NA	6.5E-09	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.1E+01	mg/kg	4.1E-08	mg/kg-day	NA	--	NA	2.8E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.3E+00	mg/kg	4.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	9.4E-01	mg/kg	3.5E-09	mg/kg-day	NA	--	NA	2.4E-07	mg/kg-day	NA	--	NA
				gamma-BHC	8.0E-01	mg/kg	3.0E-09	mg/kg-day	1.1E+00	$(mg/kg\text{-}day)^{-1}$	3E-09	2.1E-07	mg/kg-day	3.0E-03	mg/kg-day	7E-05
				Dieldrin	7.3E-01	mg/kg	2.7E-09	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.9E-07	mg/kg-day	1.0E-04	mg/kg-day	2E-03
				4,4'-DDE	6.9E-01	mg/kg	2.5E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	9E-10	1.8E-07	mg/kg-day	NA	--	NA
				4,4'-DDT	5.4E-01	mg/kg	2.0E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-10	1.4E-07	mg/kg-day	5.0E-04	mg/kg-day	3E-04
				Endrin	3.0E-01	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	7.7E-08	mg/kg-day	3.0E-04	mg/kg-day	3E-04
				Endrin aldehyde	1.8E+00	mg/kg	6.6E-09	mg/kg-day	NA	--	NA	4.6E-07	mg/kg-day	NA	--	NA
				Endrin ketone	2.0E-02	mg/kg	7.4E-11	mg/kg-day	NA	--	NA	5.2E-09	mg/kg-day	NA	--	NA
				Heptachlor epoxide	3.6E-01	mg/kg	1.3E-09	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	9.3E-08	mg/kg-day	1.3E-05	mg/kg-day	7E-03
				Total PCB Aroclors	2.4E+01	mg/kg	8.9E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	6.2E-06	mg/kg-day	6.0E-05	mg/kg-day	1E-01
				Aluminum	1.1E+04	mg/kg	4.0E-05	mg/kg-day	NA	--	NA	2.8E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Antimony	3.5E+00	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	9.0E-07	mg/kg-day	4.0E-04	mg/kg-day	2E-03
				Arsenic	7.2E+00	mg/kg	2.7E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	1.9E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Cadmium	2.6E+01	mg/kg	9.6E-08	mg/kg-day	NA	--	NA	6.7E-06	mg/kg-day	1.0E-03	mg/kg-day	7E-03
				Cobalt	8.5E+00	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	2.2E-06	mg/kg-day	3.0E-03	mg/kg-day	7E-04
				Iron	3.2E+04	mg/kg	1.2E-04	mg/kg-day	NA	--	NA	8.2E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Manganese	3.8E+02	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	9.7E-05	mg/kg-day	2.4E-02	mg/kg-day	4E-03
				Vanadium	2.7E+01	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	7.0E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
			Exposure Route Total								1E-05					2E-01

TABLE 7.6.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB5	Dermal	cis-1,2-Dichloroethene	2.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-02	mg/kg-day	--
				Vinyl chloride	3.5E-01	mg/kg	N/A	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Acenaphthylene	5.9E-03	mg/kg	1.4E-11	mg/kg-day	NA	--	NA	9.9E-10	mg/kg-day	NA	--	NA
				Benzidine	1.3E+01	mg/kg	2.4E-08	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	6E-06	1.7E-06	mg/kg-day	3.0E-03	mg/kg-day	6E-04
				Benzo(a)anthracene	1.7E+00	mg/kg	4.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	2.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	3.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	2.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	6.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	4.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.5E+00	mg/kg	3.6E-09	mg/kg-day	NA	--	NA	2.5E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	9.7E-01	mg/kg	2.3E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-10	1.6E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.6E+02	mg/kg	3.0E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	4E-09	2.1E-05	mg/kg-day	2.0E-01	mg/kg-day	1E-04
				Carbazole	2.0E-01	mg/kg	3.7E-10	mg/kg-day	NA	--	NA	2.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	5.0E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-09	3.5E-08	mg/kg-day	NA	--	NA
				1,3-Dichlorobenzene	2.5E-02	mg/kg	4.6E-11	mg/kg-day	NA	--	NA	3.2E-09	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.1E+01	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.3E+00	mg/kg	3.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	2.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	9.4E-01	mg/kg	2.3E-09	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				gamma-BHC	8.0E-01	mg/kg	N/A	mg/kg-day	1.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Dieldrin	7.3E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				4,4'-DDE	6.9E-01	mg/kg	3.8E-10	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-10	2.7E-08	mg/kg-day	NA	--	NA
				4,4'-DDT	5.4E-01	mg/kg	3.0E-10	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-10	2.1E-08	mg/kg-day	5.0E-04	mg/kg-day	4E-05
				Endrin	3.0E-01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Endrin aldehyde	1.8E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	2.0E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	3.6E-01	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	2.4E+01	mg/kg	6.2E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	4.3E-06	mg/kg-day	6.0E-05	mg/kg-day	7E-02
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	3.5E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	7.2E+00	mg/kg	4.0E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	2.8E-07	mg/kg-day	3.0E-04	mg/kg-day	9E-04
				Cadmium	2.6E+01	mg/kg	4.8E-10	mg/kg-day	NA	--	NA	3.4E-08	mg/kg-day	2.5E-05	mg/kg-day	1E-03
				Cobalt	8.5E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	3.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	3.8E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	2.7E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								6E-06					8E-02
		Exposure Point Total									2E-05					2E-01
	Total of Receptor Risks Across Medium										2E-05					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 6 (BB6)
Receptor Population: Outdoor Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU BB6	Ingestion	Acenaphthylene	2.2E-01	mg/kg	2.4E-09	mg/kg-day	NA	--	NA	1.7E-07	mg/kg-day	NA	--	NA
				Benzidine	1.0E+01	mg/kg	1.1E-07	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	3E-05	7.7E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Benzo(a)anthracene	2.1E-01	mg/kg	2.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.2E-01	mg/kg	2.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.6E-01	mg/kg	5.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.7E-01	mg/kg	1.9E-09	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.5E-01	mg/kg	3.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	2.7E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E-01	mg/kg	2.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.5E-01	mg/kg	2.8E-09	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	5.8E-03	mg/kg	6.4E-11	mg/kg-day	NA	--	NA	4.5E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	8.1E-01	mg/kg	9.0E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	6.3E-07	mg/kg-day	6.0E-05	mg/kg-day	1E-02
				Aluminum	8.3E+03	mg/kg	9.2E-05	mg/kg-day	NA	--	NA	6.5E-03	mg/kg-day	1.0E+00	mg/kg-day	6E-03
				Arsenic	3.9E+00	mg/kg	4.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	3.0E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	8.4E+00	mg/kg	9.3E-08	mg/kg-day	NA	--	NA	6.5E-06	mg/kg-day	1.0E-03	mg/kg-day	7E-03
				Cobalt	6.7E+00	mg/kg	7.4E-08	mg/kg-day	NA	--	NA	5.2E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Iron	1.4E+04	mg/kg	1.6E-04	mg/kg-day	NA	--	NA	1.1E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	2.3E+02	mg/kg	2.5E-06	mg/kg-day	NA	--	NA	1.8E-04	mg/kg-day	2.4E-02	mg/kg-day	7E-03
				Thallium	5.6E-02	mg/kg	6.2E-10	mg/kg-day	NA	--	NA	4.3E-08	mg/kg-day	3.0E-05	mg/kg-day	1E-03
				Vanadium	2.1E+01	mg/kg	2.3E-07	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	5.0E-03	mg/kg-day	3E-03
			Exposure Route Total								3E-05					7E-02
Sediment	All Sediment	EU BB6	Dermal	Acenaphthylene	2.2E-01	mg/kg	1.6E-09	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Benzidine	1.0E+01	mg/kg	5.5E-08	mg/kg-day	2.3E+02	$(mg/kg\text{-}day)^{-1}$	1E-05	3.9E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Benzo(a)anthracene	2.1E-01	mg/kg	1.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.2E-01	mg/kg	1.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.6E-01	mg/kg	3.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	2.3E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.7E-01	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	8.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.5E-01	mg/kg	2.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.8E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E-01	mg/kg	1.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-10	9.1E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.5E-01	mg/kg	1.8E-09	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	8.1E-01	mg/kg	6.3E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	4.4E-07	mg/kg-day	6.0E-05	mg/kg-day	7E-03
				Aluminum	8.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	3.9E+00	mg/kg	6.5E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	4.5E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	8.4E+00	mg/kg	4.6E-10	mg/kg-day	NA	--	NA	3.3E-08	mg/kg-day	2.5E-05	mg/kg-day	1E-03
				Cobalt	6.7E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	1.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	2.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Thallium	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				Vanadium	2.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-05					1E-02
		Exposure Point Total									4E-05					8E-02
	Total of Receptor Risks Across Medium										4E-05					8E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.6.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	All Sediment	EU SL	Ingestion	Acenaphthylene	3.6E-03	mg/kg	4.0E-11	mg/kg-day	NA	--	NA	2.8E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.9E+00	mg/kg	4.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	3.0E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	5.8E+00	mg/kg	6.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	4.5E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	6.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	4.2E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	3.5E+00	mg/kg	3.9E-08	mg/kg-day	NA	--	NA	2.7E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E+00	mg/kg	5.8E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-09	4.0E-06	mg/kg-day	NA	--	NA
				Carbazole	6.9E-02	mg/kg	7.6E-10	mg/kg-day	NA	--	NA	5.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E+00	mg/kg	1.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.0E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.2E+00	mg/kg	3.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	2.5E-06	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-02	mg/kg	1.1E-10	mg/kg-day	NA	--	NA	7.7E-09	mg/kg-day	NA	--	NA
				Phenanthrene	4.1E+00	mg/kg	4.5E-08	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	NA	--	NA
				Aluminum	9.8E+03	mg/kg	1.1E-04	mg/kg-day	NA	--	NA	7.6E-03	mg/kg-day	1.0E+00	mg/kg-day	8E-03
				Arsenic	3.3E+00	mg/kg	3.7E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	2.6E-06	mg/kg-day	3.0E-04	mg/kg-day	9E-03
				Cobalt	8.0E+00	mg/kg	8.9E-08	mg/kg-day	NA	--	NA	6.2E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Iron	1.9E+04	mg/kg	2.1E-04	mg/kg-day	NA	--	NA	1.5E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	2.2E+02	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	2.4E-02	mg/kg-day	7E-03
			Exposure Route Total								7E-07					5E-02
Sediment	All Sediment	EU SL	Dermal	Acenaphthylene	3.6E-03	mg/kg	2.6E-11	mg/kg-day	NA	--	NA	1.8E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.9E+00	mg/kg	2.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.0E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	5.8E+00	mg/kg	4.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	2.9E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	3.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	2.7E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	3.5E+00	mg/kg	2.5E-08	mg/kg-day	NA	--	NA	1.8E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E+00	mg/kg	3.7E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	2.6E-06	mg/kg-day	NA	--	NA
				Carbazole	6.9E-02	mg/kg	3.8E-10	mg/kg-day	NA	--	NA	2.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E+00	mg/kg	9.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	6.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.2E+00	mg/kg	2.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.6E-06	mg/kg-day	NA	--	NA
				p-Isopropyltoluene	1.0E-02	mg/kg	5.5E-11	mg/kg-day	NA	--	NA	3.9E-09	mg/kg-day	NA	--	NA
				Phenanthrene	4.1E+00	mg/kg	3.0E-08	mg/kg-day	NA	--	NA	2.1E-06	mg/kg-day	NA	--	NA
				Aluminum	9.8E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	3.3E+00	mg/kg	5.5E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-09	3.8E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cobalt	8.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	1.9E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	2.2E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								4E-07					1E-03
		Exposure Point Total									1E-06					5E-02
	Total of Receptor Risks Across Medium										1E-06					5E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU GB	Ingestion	Benzo(a)anthracene	8.7E-01	mg/kg	7.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	9.3E-01	mg/kg	7.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	1.8E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.4E+00	mg/kg	1.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	2.7E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.1E-01	mg/kg	4.3E-08	mg/kg-day	NA	--	NA	1.0E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	5.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	1.5E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.5E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.4E-01	mg/kg	4.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	1.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.8E+00	mg/kg	1.5E-07	mg/kg-day	NA	--	NA	3.5E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.4E-02	mg/kg	6.2E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.4E-08	mg/kg-day	2.0E-05	mg/kg-day	7E-04
				Aluminum	2.5E+04	mg/kg	2.1E-03	mg/kg-day	NA	--	NA	4.9E-03	mg/kg-day	1.0E+00	mg/kg-day	5E-03
				Arsenic	7.3E+00	mg/kg	6.1E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cobalt	1.3E+01	mg/kg	1.1E-06	mg/kg-day	NA	--	NA	2.5E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Iron	3.3E+04	mg/kg	2.8E-03	mg/kg-day	NA	--	NA	6.4E-03	mg/kg-day	7.0E-01	mg/kg-day	9E-03
				Manganese	7.1E+02	mg/kg	6.0E-05	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
				Mercury	1.4E+00	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	2.7E-07	mg/kg-day	3.0E-04	mg/kg-day	9E-04
				Vanadium	5.4E+01	mg/kg	4.5E-06	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								2E-06					4E-02
Floodplain Soil	Surface Soil	EU GB	Dermal	Benzo(a)anthracene	8.7E-01	mg/kg	4.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	9.6E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	9.3E-01	mg/kg	4.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.0E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.4E+00	mg/kg	6.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.1E-01	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	5.6E-08	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	2.5E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	8.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	2.0E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.4E-01	mg/kg	2.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	6.0E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.8E+00	mg/kg	8.5E-08	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.4E-02	mg/kg	3.8E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-09	8.8E-09	mg/kg-day	2.0E-05	mg/kg-day	4E-04
				Aluminum	2.5E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	7.3E+00	mg/kg	8.0E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.9E-07	mg/kg-day	3.0E-04	mg/kg-day	6E-04
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	3.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	1.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Vanadium	5.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								6E-07					1E-03

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU GB	Inhalation	Benzo(a)anthracene	6.3E-07	µg/m^3	3.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-13	7.2E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	6.7E-07	µg/m^3	3.3E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	4E-12	7.7E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.0E-06	µg/m^3	5.0E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-13	1.2E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.7E-07	µg/m^3	1.8E-09	µg/m^3	NA	--	NA	4.2E-09	µg/m^3	NA	--	NA
				Carbazole	2.1E-07	µg/m^3	1.0E-09	µg/m^3	NA	--	NA	2.4E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E-07	µg/m^3	6.4E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	8E-13	1.5E-09	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.9E-07	µg/m^3	1.9E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	4.5E-09	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Total PCB Aroclors	5.4E-08	µg/m^3	2.6E-10	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-14	6.1E-10	µg/m^3	NA	--	NA
				Aluminum	1.8E-02	µg/m^3	8.8E-05	µg/m^3	NA	--	NA	2.1E-04	µg/m^3	5.0E+00	µg/m^3	4E-05
				Arsenic	5.3E-06	µg/m^3	2.6E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	1E-10	6.0E-08	µg/m^3	1.5E-02	µg/m^3	4E-06
				Cobalt	9.4E-06	µg/m^3	4.6E-08	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	4E-10	1.1E-07	µg/m^3	6.0E-03	µg/m^3	2E-05
				Iron	2.4E-02	µg/m^3	1.2E-04	µg/m^3	NA	--	NA	2.7E-04	µg/m^3	NA	--	NA
				Manganese	5.1E-04	µg/m^3	2.5E-06	µg/m^3	NA	--	NA	5.9E-06	µg/m^3	5.0E-02	µg/m^3	1E-04
				Mercury	1.0E-06	µg/m^3	5.0E-09	µg/m^3	NA	--	NA	1.2E-08	µg/m^3	3.0E-02	µg/m^3	4E-07
				Vanadium	3.9E-05	µg/m^3	1.9E-07	µg/m^3	NA	--	NA	4.5E-07	µg/m^3	NA	--	NA
			Exposure Route Total								5E-10					2E-04
		Exposure Point Total									2E-06					4E-02
	Total of Receptor Risks Across Medium										2E-06					4E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 1	Ingestion	Acenaphthylene	2.2E-02	mg/kg	1.8E-09	mg/kg-day	NA	--	NA	4.3E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.7E-01	mg/kg	6.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	8.8E-01	mg/kg	7.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.0E+00	mg/kg	8.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.0E-01	mg/kg	4.2E-08	mg/kg-day	NA	--	NA	9.8E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	8.9E-01	mg/kg	7.5E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-09	1.7E-07	mg/kg-day	NA	--	NA
				Carbazole	8.1E-02	mg/kg	6.8E-09	mg/kg-day	NA	--	NA	1.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	1.5E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.5E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	1.3E-01	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	2.5E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	1.0E-08	mg/kg-day	NA	--	NA	2.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.6E-01	mg/kg	3.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	9.0E-08	mg/kg-day	NA	--	NA
				Phenanthrene	6.5E-01	mg/kg	5.5E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	5.1E-10	mg/kg-day	NA	--	NA	1.2E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	8.6E-01	mg/kg	7.2E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.7E-07	mg/kg-day	2.0E-05	mg/kg-day	8E-03
				Aluminum	1.4E+04	mg/kg	1.2E-03	mg/kg-day	NA	--	NA	2.8E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Arsenic	8.2E+00	mg/kg	6.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cadmium	1.8E+00	mg/kg	1.5E-07	mg/kg-day	NA	--	NA	3.5E-07	mg/kg-day	1.0E-03	mg/kg-day	4E-04
				Cobalt	1.3E+01	mg/kg	1.1E-06	mg/kg-day	NA	--	NA	2.5E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Iron	2.6E+04	mg/kg	2.2E-03	mg/kg-day	NA	--	NA	5.0E-03	mg/kg-day	7.0E-01	mg/kg-day	7E-03
				Manganese	7.4E+02	mg/kg	6.2E-05	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
				Vanadium	4.7E+01	mg/kg	3.9E-06	mg/kg-day	NA	--	NA	9.2E-06	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								2E-06					4E-02
Floodplain Soil	Surface Soil	EU BB 1	Dermal	Acenaphthylene	2.2E-02	mg/kg	1.0E-09	mg/kg-day	NA	--	NA	2.4E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.7E-01	mg/kg	3.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	8.5E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	8.8E-01	mg/kg	4.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	9.7E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.0E+00	mg/kg	4.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.0E-01	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	5.5E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	8.9E-01	mg/kg	4.2E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	9.8E-08	mg/kg-day	NA	--	NA
				Carbazole	8.1E-02	mg/kg	2.9E-09	mg/kg-day	NA	--	NA	6.9E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	8.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	2.0E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	1.3E-01	mg/kg	4.7E-09	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	4.4E-09	mg/kg-day	NA	--	NA	1.0E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.6E-01	mg/kg	2.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	5.1E-08	mg/kg-day	NA	--	NA
				Phenanthrene	6.5E-01	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	7.2E-08	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	8.6E-01	mg/kg	4.4E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	1.0E-07	mg/kg-day	2.0E-05	mg/kg-day	5E-03
				Aluminum	1.4E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.2E+00	mg/kg	9.0E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	2.1E-07	mg/kg-day	3.0E-04	mg/kg-day	7E-04
				Cadmium	1.8E+00	mg/kg	6.6E-10	mg/kg-day	NA	--	NA	1.5E-09	mg/kg-day	2.5E-05	mg/kg-day	6E-05
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	7.4E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.7E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								7E-07					6E-03

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 1	Inhalation	Acenaphthylene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Benzo(a)anthracene	5.6E-07	$\mu g/m^3$	2.7E-09	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	3E-13	6.4E-09	$\mu g/m^3$	NA	--	NA
				Benzo(a)pyrene	6.4E-07	$\mu g/m^3$	3.1E-09	$\mu g/m^3$	1.1E-03	$(\mu g/m^3)^{-1}$	3E-12	7.3E-09	$\mu g/m^3$	NA	--	NA
				Benzo(b)fluoranthene	7.2E-07	$\mu g/m^3$	3.5E-09	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	4E-13	8.3E-09	$\mu g/m^3$	NA	--	NA
				Benzo(g,h,i)perylene	3.6E-07	$\mu g/m^3$	1.8E-09	$\mu g/m^3$	NA	--	NA	4.1E-09	$\mu g/m^3$	NA	--	NA
				Benzo(k)fluoranthene	6.4E-07	$\mu g/m^3$	3.2E-09	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	3E-13	7.4E-09	$\mu g/m^3$	NA	--	NA
				Carbazole	5.9E-08	$\mu g/m^3$	2.9E-10	$\mu g/m^3$	NA	--	NA	6.7E-10	$\mu g/m^3$	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E-07	$\mu g/m^3$	6.4E-10	$\mu g/m^3$	1.2E-03	$(\mu g/m^3)^{-1}$	8E-13	1.5E-09	$\mu g/m^3$	NA	--	NA
				Dimethyl phthalate	9.4E-08	$\mu g/m^3$	4.6E-10	$\mu g/m^3$	NA	--	NA	1.1E-09	$\mu g/m^3$	NA	--	NA
				di-n-Octyl phthalate	8.7E-08	$\mu g/m^3$	4.3E-10	$\mu g/m^3$	NA	--	NA	9.9E-10	$\mu g/m^3$	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E-07	$\mu g/m^3$	1.6E-09	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	2E-13	3.8E-09	$\mu g/m^3$	NA	--	NA
				Phenanthrene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Endrin aldehyde	4.4E-09	$\mu g/m^3$	2.2E-11	$\mu g/m^3$	NA	--	NA	5.0E-11	$\mu g/m^3$	NA	--	NA
				Total PCB Aroclors	6.2E-07	$\mu g/m^3$	3.0E-09	$\mu g/m^3$	1.0E-04	$(\mu g/m^3)^{-1}$	3E-13	7.1E-09	$\mu g/m^3$	NA	--	NA
				Aluminum	1.0E-02	$\mu g/m^3$	5.0E-05	$\mu g/m^3$	NA	--	NA	1.2E-04	$\mu g/m^3$	5.0E+00	$\mu g/m^3$	2E-05
				Arsenic	5.9E-06	$\mu g/m^3$	2.9E-08	$\mu g/m^3$	4.3E-03	$(\mu g/m^3)^{-1}$	1E-10	6.8E-08	$\mu g/m^3$	1.5E-02	$\mu g/m^3$	5E-06
				Cadmium	1.3E-06	$\mu g/m^3$	6.4E-09	$\mu g/m^3$	1.8E-03	$(\mu g/m^3)^{-1}$	1E-11	1.5E-08	$\mu g/m^3$	2.0E-02	$\mu g/m^3$	7E-07
				Cobalt	9.4E-06	$\mu g/m^3$	4.6E-08	$\mu g/m^3$	9.0E-03	$(\mu g/m^3)^{-1}$	4E-10	1.1E-07	$\mu g/m^3$	6.0E-03	$\mu g/m^3$	2E-05
				Iron	1.9E-02	$\mu g/m^3$	9.1E-05	$\mu g/m^3$	NA	--	NA	2.1E-04	$\mu g/m^3$	NA	--	NA
				Manganese	5.3E-04	$\mu g/m^3$	2.6E-06	$\mu g/m^3$	NA	--	NA	6.1E-06	$\mu g/m^3$	5.0E-02	$\mu g/m^3$	1E-04
				Vanadium	3.4E-05	$\mu g/m^3$	1.7E-07	$\mu g/m^3$	NA	--	NA	3.9E-07	$\mu g/m^3$	NA	--	NA
			Exposure Route Total								6E-10					2E-04
		Exposure Point Total									3E-06					5E-02
	Total of Receptor Risks Across Medium										3E-06					5E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 1	Ingestion	Acenaphthylene	2.2E-02	mg/kg	2.8E-10	mg/kg-day	NA	--	NA	2.2E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.7E-01	mg/kg	9.7E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	7.5E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	8.8E-01	mg/kg	1.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	8.6E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.0E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-09	9.8E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.0E-01	mg/kg	6.3E-09	mg/kg-day	NA	--	NA	4.9E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	8.9E-01	mg/kg	1.1E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-10	8.7E-08	mg/kg-day	NA	--	NA
				Carbazole	8.1E-02	mg/kg	1.0E-09	mg/kg-day	NA	--	NA	7.9E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	2.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.8E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	1.3E-01	mg/kg	1.6E-09	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	1.5E-09	mg/kg-day	NA	--	NA	1.2E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.6E-01	mg/kg	5.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	4.5E-08	mg/kg-day	NA	--	NA
				Phenanthrene	6.5E-01	mg/kg	8.2E-09	mg/kg-day	NA	--	NA	6.4E-08	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	7.7E-11	mg/kg-day	NA	--	NA	6.0E-10	mg/kg-day	NA	--	NA
				Total PCB Aroclors	8.6E-01	mg/kg	1.1E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	8.4E-08	mg/kg-day	2.0E-05	mg/kg-day	4E-03
				Aluminum	1.4E+04	mg/kg	1.8E-04	mg/kg-day	NA	--	NA	1.4E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Arsenic	8.2E+00	mg/kg	1.0E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	8.0E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cadmium	1.8E+00	mg/kg	2.3E-08	mg/kg-day	NA	--	NA	1.8E-07	mg/kg-day	1.0E-03	mg/kg-day	2E-04
				Cobalt	1.3E+01	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Iron	2.6E+04	mg/kg	3.2E-04	mg/kg-day	NA	--	NA	2.5E-03	mg/kg-day	7.0E-01	mg/kg-day	4E-03
				Manganese	7.4E+02	mg/kg	9.3E-06	mg/kg-day	NA	--	NA	7.2E-05	mg/kg-day	2.4E-02	mg/kg-day	3E-03
				Vanadium	4.7E+01	mg/kg	5.9E-07	mg/kg-day	NA	--	NA	4.6E-06	mg/kg-day	5.0E-03	mg/kg-day	9E-04
			Exposure Route Total								3E-07					2E-02
Floodplain Soil	Surface Soil	EU BB 1	Dermal	Acenaphthylene	2.2E-02	mg/kg	2.2E-11	mg/kg-day	NA	--	NA	1.7E-10	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.7E-01	mg/kg	7.8E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-10	6.1E-09	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	8.8E-01	mg/kg	8.9E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	6.9E-09	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.0E+00	mg/kg	1.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-10	7.9E-09	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.0E-01	mg/kg	5.1E-10	mg/kg-day	NA	--	NA	3.9E-09	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	8.9E-01	mg/kg	9.0E-10	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	7E-11	7.0E-09	mg/kg-day	NA	--	NA
				Carbazole	8.1E-02	mg/kg	6.3E-11	mg/kg-day	NA	--	NA	4.9E-10	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	1.8E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-09	1.4E-09	mg/kg-day	NA	--	NA
				Dimethyl phthalate	1.3E-01	mg/kg	1.0E-10	mg/kg-day	NA	--	NA	7.9E-10	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	9.4E-11	mg/kg-day	NA	--	NA	7.3E-10	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.6E-01	mg/kg	4.7E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-10	3.6E-09	mg/kg-day	NA	--	NA
				Phenanthrene	6.5E-01	mg/kg	6.6E-10	mg/kg-day	NA	--	NA	5.1E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	8.6E-01	mg/kg	9.4E-10	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	7.3E-09	mg/kg-day	2.0E-05	mg/kg-day	4E-04
				Aluminum	1.4E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.2E+00	mg/kg	1.9E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-09	1.5E-08	mg/kg-day	3.0E-04	mg/kg-day	5E-05
				Cadmium	1.8E+00	mg/kg	1.4E-11	mg/kg-day	NA	--	NA	1.1E-10	mg/kg-day	2.5E-05	mg/kg-day	4E-06
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	7.4E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.7E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-08					4E-04

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 1	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	5.6E-07	µg/m^3	4.1E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-14	3.2E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	6.4E-07	µg/m^3	4.7E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	5E-13	3.6E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	7.2E-07	µg/m^3	5.3E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-14	4.1E-09	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.6E-07	µg/m^3	2.7E-10	µg/m^3	NA	--	NA	2.1E-09	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	6.4E-07	µg/m^3	4.7E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-14	3.7E-09	µg/m^3	NA	--	NA
				Carbazole	5.9E-08	µg/m^3	4.3E-11	µg/m^3	NA	--	NA	3.4E-10	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E-07	µg/m^3	9.6E-11	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-13	7.4E-10	µg/m^3	NA	--	NA
				Dimethyl phthalate	9.4E-08	µg/m^3	6.9E-11	µg/m^3	NA	--	NA	5.4E-10	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-08	µg/m^3	6.4E-11	µg/m^3	NA	--	NA	5.0E-10	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E-07	µg/m^3	2.4E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-14	1.9E-09	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	4.4E-09	µg/m^3	3.2E-12	µg/m^3	NA	--	NA	2.5E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	6.2E-07	µg/m^3	4.6E-10	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	5E-14	3.6E-09	µg/m^3	NA	--	NA
				Aluminum	1.0E-02	µg/m^3	7.5E-06	µg/m^3	NA	--	NA	5.9E-05	µg/m^3	5.0E+00	µg/m^3	1E-05
				Arsenic	5.9E-06	µg/m^3	4.4E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-11	3.4E-08	µg/m^3	1.5E-02	µg/m^3	2E-06
				Cadmium	1.3E-06	µg/m^3	9.6E-10	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	2E-12	7.4E-09	µg/m^3	2.0E-02	µg/m^3	4E-07
				Cobalt	9.4E-06	µg/m^3	6.9E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-11	5.4E-08	µg/m^3	6.0E-03	µg/m^3	9E-06
				Iron	1.9E-02	µg/m^3	1.4E-05	µg/m^3	NA	--	NA	1.1E-04	µg/m^3	NA	--	NA
				Manganese	5.3E-04	µg/m^3	3.9E-07	µg/m^3	NA	--	NA	3.0E-06	µg/m^3	5.0E-02	µg/m^3	6E-05
				Vanadium	3.4E-05	µg/m^3	2.5E-08	µg/m^3	NA	--	NA	1.9E-07	µg/m^3	NA	--	NA
			Exposure Route Total								8E-11					8E-05
		Exposure Point Total									3E-07					2E-02
	Total of Receptor Risks Across Medium										3E-07					2E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 2	Ingestion	Acenaphthylene	2.4E-02	mg/kg	2.0E-09	mg/kg-day	NA	--	NA	4.7E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	2.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	5.7E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	2.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	6.5E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	3.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	8.0E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	2.1E-08	mg/kg-day	NA	--	NA	4.9E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	2.1E-09	mg/kg-day	NA	--	NA	4.9E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	6.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	1.5E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	1.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	4.5E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	5.7E-08	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	4.6E-10	mg/kg-day	NA	--	NA	1.1E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	6.3E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.5E-07	mg/kg-day	2.0E-05	mg/kg-day	7E-03
				Aluminum	1.3E+04	mg/kg	1.1E-03	mg/kg-day	NA	--	NA	2.6E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Arsenic	1.2E+01	mg/kg	1.0E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	2.3E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Cobalt	5.6E+00	mg/kg	4.7E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Iron	1.6E+04	mg/kg	1.3E-03	mg/kg-day	NA	--	NA	3.1E-03	mg/kg-day	7.0E-01	mg/kg-day	4E-03
				Manganese	4.9E+02	mg/kg	4.1E-05	mg/kg-day	NA	--	NA	9.6E-05	mg/kg-day	2.4E-02	mg/kg-day	4E-03
			Exposure Route Total								2E-06					3E-02
Floodplain Soil	Surface Soil	EU BB 2	Dermal	Acenaphthylene	2.4E-02	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	2.6E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	3.2E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	1.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.6E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	1.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	4.5E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	2.8E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	9.1E-10	mg/kg-day	NA	--	NA	2.1E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	3.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	8.5E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	1.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	2.5E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	1.4E-08	mg/kg-day	NA	--	NA	3.2E-08	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	7.5E-01	mg/kg	3.8E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	8.9E-08	mg/kg-day	2.0E-05	mg/kg-day	4E-03
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	1.2E+01	mg/kg	1.3E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	3.1E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cobalt	5.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								4E-07					5E-03

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 2	Inhalation	Acenaphthylene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Benzo(a)anthracene	2.1E-07	$\mu g/m^3$	1.0E-09	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	1E-13	2.4E-09	$\mu g/m^3$	NA	--	NA
				Benzo(a)pyrene	2.4E-07	$\mu g/m^3$	1.2E-09	$\mu g/m^3$	1.1E-03	$(\mu g/m^3)^{-1}$	1E-12	2.7E-09	$\mu g/m^3$	NA	--	NA
				Benzo(b)fluoranthene	3.0E-07	$\mu g/m^3$	1.5E-09	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	2E-13	3.4E-09	$\mu g/m^3$	NA	--	NA
				Benzo(g,h,i)perylene	1.8E-07	$\mu g/m^3$	8.9E-10	$\mu g/m^3$	NA	--	NA	2.1E-09	$\mu g/m^3$	NA	--	NA
				Carbazole	1.8E-08	$\mu g/m^3$	8.9E-11	$\mu g/m^3$	NA	--	NA	2.1E-10	$\mu g/m^3$	NA	--	NA
				Dibenzo(a,h)anthracene	5.6E-08	$\mu g/m^3$	2.7E-10	$\mu g/m^3$	1.2E-03	$(\mu g/m^3)^{-1}$	3E-13	6.4E-10	$\mu g/m^3$	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-07	$\mu g/m^3$	8.2E-10	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	9E-14	1.9E-09	$\mu g/m^3$	NA	--	NA
				Phenanthrene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Endosulfan sulfate	4.0E-09	$\mu g/m^3$	1.9E-11	$\mu g/m^3$	NA	--	NA	4.5E-11	$\mu g/m^3$	NA	--	NA
				Total PCB Aroclors	5.4E-07	$\mu g/m^3$	2.7E-09	$\mu g/m^3$	1.0E-04	$(\mu g/m^3)^{-1}$	3E-13	6.2E-09	$\mu g/m^3$	NA	--	NA
				Aluminum	9.5E-03	$\mu g/m^3$	4.6E-05	$\mu g/m^3$	NA	--	NA	1.1E-04	$\mu g/m^3$	5.0E+00	$\mu g/m^3$	2E-05
				Arsenic	8.7E-06	$\mu g/m^3$	4.3E-08	$\mu g/m^3$	4.3E-03	$(\mu g/m^3)^{-1}$	2E-10	9.9E-08	$\mu g/m^3$	1.5E-02	$\mu g/m^3$	7E-06
				Cobalt	4.1E-06	$\mu g/m^3$	2.0E-08	$\mu g/m^3$	9.0E-03	$(\mu g/m^3)^{-1}$	2E-10	4.6E-08	$\mu g/m^3$	6.0E-03	$\mu g/m^3$	8E-06
				Iron	1.1E-02	$\mu g/m^3$	5.6E-05	$\mu g/m^3$	NA	--	NA	1.3E-04	$\mu g/m^3$	NA	--	NA
				Manganese	3.6E-04	$\mu g/m^3$	1.7E-06	$\mu g/m^3$	NA	--	NA	4.1E-06	$\mu g/m^3$	5.0E-02	$\mu g/m^3$	8E-05
			Exposure Route Total								4E-10					1E-04
		Exposure Point Total									2E-06					4E-02
	Total of Receptor Risks Across Medium										2E-06					4E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 2	Ingestion	Acenaphthylene	2.4E-02	mg/kg	3.0E-10	mg/kg-day	NA	--	NA	2.3E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	3.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	2.8E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	4.2E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	3.2E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	5.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	4.0E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	3.1E-09	mg/kg-day	NA	--	NA	2.4E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	3.1E-10	mg/kg-day	NA	--	NA	2.4E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	9.7E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	7.5E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	2.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	2.3E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	3.6E-09	mg/kg-day	NA	--	NA	2.8E-08	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	6.9E-11	mg/kg-day	NA	--	NA	5.4E-10	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	9.4E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	7.3E-08	mg/kg-day	2.0E-05	mg/kg-day	4E-03
				Aluminum	1.3E+04	mg/kg	1.6E-04	mg/kg-day	NA	--	NA	1.3E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Arsenic	1.2E+01	mg/kg	1.5E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.2E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cobalt	5.6E+00	mg/kg	7.0E-08	mg/kg-day	NA	--	NA	5.5E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Iron	1.6E+04	mg/kg	2.0E-04	mg/kg-day	NA	--	NA	1.5E-03	mg/kg-day	7.0E-01	mg/kg-day	2E-03
				Manganese	4.9E+02	mg/kg	6.2E-06	mg/kg-day	NA	--	NA	4.8E-05	mg/kg-day	2.4E-02	mg/kg-day	2E-03
			Exposure Route Total								3E-07					1E-02
Floodplain Soil	Surface Soil	EU BB 2	Dermal	Acenaphthylene	2.4E-02	mg/kg	2.4E-11	mg/kg-day	NA	--	NA	1.9E-10	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	2.9E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-10	2.3E-09	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	3.3E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	2.6E-09	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	4.2E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-10	3.2E-09	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	2.5E-10	mg/kg-day	NA	--	NA	2.0E-09	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	1.9E-11	mg/kg-day	NA	--	NA	1.5E-10	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	7.8E-11	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-10	6.1E-10	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	2.3E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-10	1.8E-09	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	2.9E-10	mg/kg-day	NA	--	NA	2.3E-09	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	7.5E-01	mg/kg	8.2E-10	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	6.4E-09	mg/kg-day	2.0E-05	mg/kg-day	3E-04
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	1.2E+01	mg/kg	2.8E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-09	2.2E-08	mg/kg-day	3.0E-04	mg/kg-day	7E-05
				Cobalt	5.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								1E-08					4E-04

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 2	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	2.1E-07	µg/m^3	1.5E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-14	1.2E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-07	µg/m^3	1.8E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-13	1.4E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.0E-07	µg/m^3	2.2E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-14	1.7E-09	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.8E-07	µg/m^3	1.3E-10	µg/m^3	NA	--	NA	1.0E-09	µg/m^3	NA	--	NA
				Carbazole	1.8E-08	µg/m^3	1.3E-11	µg/m^3	NA	--	NA	1.0E-10	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	5.6E-08	µg/m^3	4.1E-11	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	5E-14	3.2E-10	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-07	µg/m^3	1.2E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-14	9.5E-10	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endosulfan sulfate	4.0E-09	µg/m^3	2.9E-12	µg/m^3	NA	--	NA	2.3E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	5.4E-07	µg/m^3	4.0E-10	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	4E-14	3.1E-09	µg/m^3	NA	--	NA
				Aluminum	9.5E-03	µg/m^3	7.0E-06	µg/m^3	NA	--	NA	5.4E-05	µg/m^3	5.0E+00	µg/m^3	1E-05
				Arsenic	8.7E-06	µg/m^3	6.4E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	3E-11	5.0E-08	µg/m^3	1.5E-02	µg/m^3	3E-06
				Cobalt	4.1E-06	µg/m^3	3.0E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-11	2.3E-08	µg/m^3	6.0E-03	µg/m^3	4E-06
				Iron	1.1E-02	µg/m^3	8.4E-06	µg/m^3	NA	--	NA	6.5E-05	µg/m^3	NA	--	NA
				Manganese	3.6E-04	µg/m^3	2.6E-07	µg/m^3	NA	--	NA	2.0E-06	µg/m^3	5.0E-02	µg/m^3	4E-05
			Exposure Route Total								5E-11					6E-05
		Exposure Point Total									3E-07					2E-02
	Total of Receptor Risks Across Medium										3E-07					2E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 3	Ingestion	Acenaphthylene	1.4E-01	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	2.7E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	1.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	1.8E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	2.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	5.3E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	3.1E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	1.7E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	3.9E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.4E+01	mg/kg	4.5E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	6E-08	1.1E-05	mg/kg-day	2.0E-02	mg/kg-day	5E-04
				Carbazole	2.8E-01	mg/kg	2.3E-08	mg/kg-day	NA	--	NA	5.5E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.5E-01	mg/kg	3.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	8.8E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	4.6E-08	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	1.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	2.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.1E+00	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	4.1E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	8.2E-10	mg/kg-day	NA	--	NA	1.9E-09	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	4.9E-10	mg/kg-day	NA	--	NA	1.1E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	3.6E+00	mg/kg	3.0E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	7.0E-07	mg/kg-day	2.0E-05	mg/kg-day	4E-02
				Aluminum	1.0E+04	mg/kg	8.8E-04	mg/kg-day	NA	--	NA	2.0E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Antimony	1.5E+01	mg/kg	1.3E-06	mg/kg-day	NA	--	NA	2.9E-06	mg/kg-day	4.0E-04	mg/kg-day	7E-03
				Arsenic	2.1E+01	mg/kg	1.8E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	4.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	5.6E+00	mg/kg	4.7E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	1.0E-03	mg/kg-day	1E-03
				Cobalt	1.2E+01	mg/kg	1.0E-06	mg/kg-day	NA	--	NA	2.3E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Copper	2.8E+03	mg/kg	2.4E-04	mg/kg-day	NA	--	NA	5.5E-04	mg/kg-day	4.0E-02	mg/kg-day	1E-02
				Iron	1.2E+05	mg/kg	1.0E-02	mg/kg-day	NA	--	NA	2.3E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Lead	1.2E+03	mg/kg	9.9E-05	mg/kg-day	NA	--	NA	2.3E-04	mg/kg-day	NA	--	NA
				Manganese	7.0E+02	mg/kg	5.9E-05	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
				Mercury	2.1E+00	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	4.1E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Nickel	9.2E+01	mg/kg	7.7E-06	mg/kg-day	NA	--	NA	1.8E-05	mg/kg-day	2.0E-02	mg/kg-day	9E-04
				Thallium	4.0E+00	mg/kg	3.4E-07	mg/kg-day	NA	--	NA	7.8E-07	mg/kg-day	1.0E-05	mg/kg-day	8E-02
				Vanadium	2.8E+01	mg/kg	2.3E-06	mg/kg-day	NA	--	NA	5.5E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
				Zinc	1.5E+03	mg/kg	1.2E-04	mg/kg-day	NA	--	NA	2.9E-04	mg/kg-day	3.0E-01	mg/kg-day	1E-03
			Exposure Route Total								5E-06					2E-01

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 3	Dermal	Acenaphthylene	1.4E-01	mg/kg	6.6E-09	mg/kg-day	NA	--	NA	1.5E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	9.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	2.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	9.9E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	2.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	1.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	3.0E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	7.6E-08	mg/kg-day	NA	--	NA	1.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	9.5E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	7E-09	2.2E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.4E+01	mg/kg	2.0E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	4.6E-06	mg/kg-day	2.0E-02	mg/kg-day	2E-04
				Carbazole	2.8E-01	mg/kg	1.0E-08	mg/kg-day	NA	--	NA	2.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.5E-01	mg/kg	2.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	5.0E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	4.7E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	6.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.1E+00	mg/kg	9.9E-08	mg/kg-day	NA	--	NA	2.3E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	3.6E+00	mg/kg	1.8E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	4.3E-07	mg/kg-day	2.0E-05	mg/kg-day	2E-02
				Aluminum	1.0E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.5E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	2.1E+01	mg/kg	2.3E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	5.4E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	5.6E+00	mg/kg	2.0E-09	mg/kg-day	NA	--	NA	4.8E-09	mg/kg-day	2.5E-05	mg/kg-day	2E-04
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	2.8E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.2E+05	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.2E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	7.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.1E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	9.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.5E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								2E-06					2E-02

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 3	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.4E-06	µg/m^3	7.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-13	1.7E-08	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.5E-06	µg/m^3	7.4E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	8E-12	1.7E-08	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.0E-06	µg/m^3	9.6E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-12	2.2E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.2E-06	µg/m^3	5.7E-09	µg/m^3	NA	--	NA	1.3E-08	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.4E-06	µg/m^3	7.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-13	1.7E-08	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	3.9E-05	µg/m^3	1.9E-07	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	5E-13	4.5E-07	µg/m^3	NA	--	NA
				Carbazole	2.0E-07	µg/m^3	9.9E-10	µg/m^3	NA	--	NA	2.3E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.3E-07	µg/m^3	1.6E-09	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-12	3.7E-09	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.0E-07	µg/m^3	1.9E-09	µg/m^3	NA	--	NA	4.5E-09	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.0E-06	µg/m^3	5.0E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-13	1.2E-08	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	7.1E-09	µg/m^3	3.5E-11	µg/m^3	NA	--	NA	8.1E-11	µg/m^3	NA	--	NA
				Endrin ketone	4.2E-09	µg/m^3	2.1E-11	µg/m^3	NA	--	NA	4.8E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	2.6E-06	µg/m^3	1.3E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-12	3.0E-08	µg/m^3	NA	--	NA
				Aluminum	7.6E-03	µg/m^3	3.7E-05	µg/m^3	NA	--	NA	8.7E-05	µg/m^3	5.0E+00	µg/m^3	2E-05
				Antimony	1.1E-05	µg/m^3	5.3E-08	µg/m^3	NA	--	NA	1.2E-07	µg/m^3	NA	--	NA
				Arsenic	1.5E-05	µg/m^3	7.4E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	3E-10	1.7E-07	µg/m^3	1.5E-02	µg/m^3	1E-05
				Cadmium	4.1E-06	µg/m^3	2.0E-08	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	4E-11	4.6E-08	µg/m^3	2.0E-02	µg/m^3	2E-06
				Cobalt	8.7E-06	µg/m^3	4.3E-08	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	4E-10	9.9E-08	µg/m^3	6.0E-03	µg/m^3	2E-05
				Copper	2.0E-03	µg/m^3	1.0E-05	µg/m^3	NA	--	NA	2.3E-05	µg/m^3	NA	--	NA
				Iron	8.6E-02	µg/m^3	4.2E-04	µg/m^3	NA	--	NA	9.8E-04	µg/m^3	NA	--	NA
				Lead	8.6E-04	µg/m^3	4.2E-06	µg/m^3	NA	--	NA	9.8E-06	µg/m^3	NA	--	NA
				Manganese	5.1E-04	µg/m^3	2.5E-06	µg/m^3	NA	--	NA	5.8E-06	µg/m^3	5.0E-02	µg/m^3	1E-04
				Mercury	1.5E-06	µg/m^3	7.4E-09	µg/m^3	NA	--	NA	1.7E-08	µg/m^3	3.0E-02	µg/m^3	6E-07
				Nickel	6.7E-05	µg/m^3	3.3E-07	µg/m^3	2.6E-04	(µg/m^3)$^{-1}$	8E-11	7.6E-07	µg/m^3	9.0E-02	µg/m^3	8E-06
				Thallium	2.9E-06	µg/m^3	1.4E-08	µg/m^3	NA	--	NA	3.3E-08	µg/m^3	NA	--	NA
				Vanadium	2.0E-05	µg/m^3	9.9E-08	µg/m^3	NA	--	NA	2.3E-07	µg/m^3	NA	--	NA
				Zinc	1.1E-03	µg/m^3	5.2E-06	µg/m^3	NA	--	NA	1.2E-05	µg/m^3	NA	--	NA
			Exposure Route Total								8E-10					2E-04
		Exposure Point Total									7E-06					2E-01
	Total of Receptor Risks Across Medium										7E-06					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 3	Ingestion	Acenaphthylene	1.4E-01	mg/kg	1.8E-09	mg/kg-day	NA	--	NA	1.4E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	2.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	2.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	2.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	3.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	2.5E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	2.0E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.4E+01	mg/kg	6.8E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	5.3E-06	mg/kg-day	2.0E-02	mg/kg-day	3E-04
				Carbazole	2.8E-01	mg/kg	3.5E-09	mg/kg-day	NA	--	NA	2.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.5E-01	mg/kg	5.7E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	4.4E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	6.9E-09	mg/kg-day	NA	--	NA	5.4E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	1.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.1E+00	mg/kg	2.6E-08	mg/kg-day	NA	--	NA	2.1E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	1.2E-10	mg/kg-day	NA	--	NA	9.6E-10	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	7.3E-11	mg/kg-day	NA	--	NA	5.7E-10	mg/kg-day	NA	--	NA
				Total PCB Aroclors	3.6E+00	mg/kg	4.5E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	3.5E-07	mg/kg-day	2.0E-05	mg/kg-day	2E-02
				Aluminum	1.0E+04	mg/kg	1.3E-04	mg/kg-day	NA	--	NA	1.0E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Antimony	1.5E+01	mg/kg	1.9E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	4.0E-04	mg/kg-day	4E-03
				Arsenic	2.1E+01	mg/kg	2.6E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	2.1E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Cadmium	5.6E+00	mg/kg	7.0E-08	mg/kg-day	NA	--	NA	5.5E-07	mg/kg-day	1.0E-03	mg/kg-day	5E-04
				Cobalt	1.2E+01	mg/kg	1.5E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Copper	2.8E+03	mg/kg	3.5E-05	mg/kg-day	NA	--	NA	2.8E-04	mg/kg-day	4.0E-02	mg/kg-day	7E-03
				Iron	1.2E+05	mg/kg	1.5E-03	mg/kg-day	NA	--	NA	1.2E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Lead	1.2E+03	mg/kg	1.5E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	NA	--	NA
				Manganese	7.0E+02	mg/kg	8.8E-06	mg/kg-day	NA	--	NA	6.8E-05	mg/kg-day	2.4E-02	mg/kg-day	3E-03
				Mercury	2.1E+00	mg/kg	2.6E-08	mg/kg-day	NA	--	NA	2.1E-07	mg/kg-day	3.0E-04	mg/kg-day	7E-04
				Nickel	9.2E+01	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	9.0E-06	mg/kg-day	2.0E-02	mg/kg-day	5E-04
				Thallium	4.0E+00	mg/kg	5.0E-08	mg/kg-day	NA	--	NA	3.9E-07	mg/kg-day	1.0E-05	mg/kg-day	4E-02
				Vanadium	2.8E+01	mg/kg	3.5E-07	mg/kg-day	NA	--	NA	2.7E-06	mg/kg-day	5.0E-03	mg/kg-day	5E-04
				Zinc	1.5E+03	mg/kg	1.8E-05	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	3.0E-01	mg/kg-day	5E-04
			Exposure Route Total								8E-07					1E-01

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 3	Dermal	Acenaphthylene	1.4E-01	mg/kg	1.4E-10	mg/kg-day	NA	--	NA	1.1E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	2.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.6E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	2.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.7E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	2.7E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	2.1E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	1.6E-09	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	2.0E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-10	1.6E-08	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.4E+01	mg/kg	4.2E-08	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	6E-10	3.3E-07	mg/kg-day	2.0E-02	mg/kg-day	2E-05
				Carbazole	2.8E-01	mg/kg	2.2E-10	mg/kg-day	NA	--	NA	1.7E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.5E-01	mg/kg	4.6E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-09	3.5E-09	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	4.3E-10	mg/kg-day	NA	--	NA	3.3E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	1.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.1E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.1E+00	mg/kg	2.1E-09	mg/kg-day	NA	--	NA	1.7E-08	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	3.6E+00	mg/kg	3.9E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-09	3.1E-08	mg/kg-day	2.0E-05	mg/kg-day	2E-03
				Aluminum	1.0E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.5E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	2.1E+01	mg/kg	4.9E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	3.8E-08	mg/kg-day	3.0E-04	mg/kg-day	1E-04
				Cadmium	5.6E+00	mg/kg	4.4E-11	mg/kg-day	NA	--	NA	3.4E-10	mg/kg-day	2.5E-05	mg/kg-day	1E-05
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	2.8E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.2E+05	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.2E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	7.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.1E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	9.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.5E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								4E-08					2E-03

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 3	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.4E-06	µg/m^3	1.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	8.3E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.5E-06	µg/m^3	1.1E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-12	8.7E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.0E-06	µg/m^3	1.4E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	1.1E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.2E-06	µg/m^3	8.5E-10	µg/m^3	NA	--	NA	6.6E-09	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.4E-06	µg/m^3	1.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	8.3E-09	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	3.9E-05	µg/m^3	2.9E-08	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	7E-14	2.2E-07	µg/m^3	NA	--	NA
				Carbazole	2.0E-07	µg/m^3	1.5E-10	µg/m^3	NA	--	NA	1.2E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.3E-07	µg/m^3	2.4E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-13	1.9E-09	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.0E-07	µg/m^3	2.9E-10	µg/m^3	NA	--	NA	2.3E-09	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.0E-06	µg/m^3	7.4E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-14	5.8E-09	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	7.1E-09	µg/m^3	5.2E-12	µg/m^3	NA	--	NA	4.1E-11	µg/m^3	NA	--	NA
				Endrin ketone	4.2E-09	µg/m^3	3.1E-12	µg/m^3	NA	--	NA	2.4E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	2.6E-06	µg/m^3	1.9E-09	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-13	1.5E-08	µg/m^3	NA	--	NA
				Aluminum	7.6E-03	µg/m^3	5.6E-06	µg/m^3	NA	--	NA	4.3E-05	µg/m^3	5.0E+00	µg/m^3	9E-06
				Antimony	1.1E-05	µg/m^3	8.0E-09	µg/m^3	NA	--	NA	6.2E-08	µg/m^3	NA	--	NA
				Arsenic	1.5E-05	µg/m^3	1.1E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	5E-11	8.7E-08	µg/m^3	1.5E-02	µg/m^3	6E-06
				Cadmium	4.1E-06	µg/m^3	3.0E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	5E-12	2.3E-08	µg/m^3	2.0E-02	µg/m^3	1E-06
				Cobalt	8.7E-06	µg/m^3	6.4E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-11	5.0E-08	µg/m^3	6.0E-03	µg/m^3	8E-06
				Copper	2.0E-03	µg/m^3	1.5E-06	µg/m^3	NA	--	NA	1.2E-05	µg/m^3	NA	--	NA
				Iron	8.6E-02	µg/m^3	6.3E-05	µg/m^3	NA	--	NA	4.9E-04	µg/m^3	NA	--	NA
				Lead	8.6E-04	µg/m^3	6.3E-07	µg/m^3	NA	--	NA	4.9E-06	µg/m^3	NA	--	NA
				Manganese	5.1E-04	µg/m^3	3.7E-07	µg/m^3	NA	--	NA	2.9E-06	µg/m^3	5.0E-02	µg/m^3	6E-05
				Mercury	1.5E-06	µg/m^3	1.1E-09	µg/m^3	NA	--	NA	8.7E-09	µg/m^3	3.0E-02	µg/m^3	3E-07
				Nickel	6.7E-05	µg/m^3	4.9E-08	µg/m^3	2.6E-04	(µg/m^3)$^{-1}$	1E-11	3.8E-07	µg/m^3	9.0E-02	µg/m^3	4E-06
				Thallium	2.9E-06	µg/m^3	2.1E-09	µg/m^3	NA	--	NA	1.7E-08	µg/m^3	NA	--	NA
				Vanadium	2.0E-05	µg/m^3	1.5E-08	µg/m^3	NA	--	NA	1.2E-07	µg/m^3	NA	--	NA
				Zinc	1.1E-03	µg/m^3	7.8E-07	µg/m^3	NA	--	NA	6.0E-06	µg/m^3	NA	--	NA
			Exposure Route Total								1E-10					9E-05
		Exposure Point Total									8E-07					1E-01
	Total of Receptor Risks Across Medium										8E-07					1E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB	Ingestion	Acenaphthylene	6.7E-01	mg/kg	5.6E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.3E+00	mg/kg	1.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	2.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.4E+00	mg/kg	1.2E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	2.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	1.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	9.2E-08	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E-01	mg/kg	4.4E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	1.0E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	2.1E-08	mg/kg-day	NA	--	NA	4.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	1.3E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	3.1E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	2.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	7.9E-01	mg/kg	6.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.1E+00	mg/kg	9.2E-08	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Aldrin	4.1E-02	mg/kg	3.4E-09	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	6E-08	8.0E-09	mg/kg-day	3.0E-05	mg/kg-day	3E-04
				delta-BHC	5.6E-02	mg/kg	4.7E-09	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				Dieldrin	3.5E-01	mg/kg	2.9E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	5E-07	6.8E-08	mg/kg-day	5.0E-05	mg/kg-day	1E-03
				4,4'-DDT	5.2E-01	mg/kg	4.4E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.0E-07	mg/kg-day	5.0E-04	mg/kg-day	2E-04
				Endosulfan sulfate	2.2E-02	mg/kg	1.8E-09	mg/kg-day	NA	--	NA	4.3E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	1.5E-02	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	2.9E-09	mg/kg-day	NA	--	NA
				Endrin ketone	6.5E-02	mg/kg	5.5E-09	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.3E+01	mg/kg	1.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	2.6E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	1.1E+04	mg/kg	9.2E-04	mg/kg-day	NA	--	NA	2.1E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Antimony	4.0E+00	mg/kg	3.4E-07	mg/kg-day	NA	--	NA	7.8E-07	mg/kg-day	4.0E-04	mg/kg-day	2E-03
				Arsenic	1.0E+01	mg/kg	8.7E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	2.0E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Cadmium	9.1E+00	mg/kg	7.6E-07	mg/kg-day	NA	--	NA	1.8E-06	mg/kg-day	1.0E-03	mg/kg-day	2E-03
				Cobalt	8.6E+00	mg/kg	7.2E-07	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Copper	1.3E+02	mg/kg	1.1E-05	mg/kg-day	NA	--	NA	2.6E-05	mg/kg-day	4.0E-02	mg/kg-day	7E-04
				Iron	1.8E+04	mg/kg	1.5E-03	mg/kg-day	NA	--	NA	3.5E-03	mg/kg-day	7.0E-01	mg/kg-day	5E-03
				Lead	2.0E+02	mg/kg	1.7E-05	mg/kg-day	NA	--	NA	3.9E-05	mg/kg-day	NA	--	NA
				Manganese	6.0E+02	mg/kg	5.0E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	2.4E-02	mg/kg-day	5E-03
				Silver	8.1E+00	mg/kg	6.8E-07	mg/kg-day	NA	--	NA	1.6E-06	mg/kg-day	5.0E-03	mg/kg-day	3E-04
				Vanadium	4.0E+01	mg/kg	3.4E-06	mg/kg-day	NA	--	NA	7.8E-06	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								6E-06					2E-01

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB	Dermal	Acenaphthylene	6.7E-01	mg/kg	3.2E-08	mg/kg-day	NA	--	NA	7.4E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.3E+00	mg/kg	6.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.4E+00	mg/kg	6.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	1.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	2.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	5.2E-08	mg/kg-day	NA	--	NA	1.2E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E-01	mg/kg	2.5E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	5.7E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	9.1E-09	mg/kg-day	NA	--	NA	2.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	7.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	1.8E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	4.4E-08	mg/kg-day	NA	--	NA	1.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	7.9E-01	mg/kg	3.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	8.7E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.1E+00	mg/kg	5.2E-08	mg/kg-day	NA	--	NA	1.2E-07	mg/kg-day	NA	--	NA
				Aldrin	4.1E-02	mg/kg	N/A	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				delta-BHC	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Dieldrin	3.5E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	5.2E-01	mg/kg	5.7E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.3E-08	mg/kg-day	5.0E-04	mg/kg-day	3E-05
				Endosulfan sulfate	2.2E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	1.5E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	6.5E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	1.3E+01	mg/kg	6.8E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.6E-06	mg/kg-day	2.0E-05	mg/kg-day	8E-02
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.0E+01	mg/kg	1.1E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	2.6E-07	mg/kg-day	3.0E-04	mg/kg-day	9E-04
				Cadmium	9.1E+00	mg/kg	3.3E-09	mg/kg-day	NA	--	NA	7.7E-09	mg/kg-day	2.5E-05	mg/kg-day	3E-04
				Cobalt	8.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	2.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	6.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Silver	8.1E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-04	mg/kg-day	--
				Vanadium	4.0E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								3E-06					8E-02

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	9.4E-07	µg/m^3	4.6E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-13	1.1E-08	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.0E-06	µg/m^3	5.0E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	5E-12	1.2E-08	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.7E-06	µg/m^3	8.2E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	9E-13	1.9E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	8.0E-07	µg/m^3	3.9E-09	µg/m^3	NA	--	NA	9.1E-09	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	3.8E-07	µg/m^3	1.8E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	4.3E-09	µg/m^3	NA	--	NA
				Carbazole	1.8E-07	µg/m^3	8.9E-10	µg/m^3	NA	--	NA	2.1E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.2E-06	µg/m^3	5.7E-09	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	7E-12	1.3E-08	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-07	µg/m^3	4.3E-09	µg/m^3	NA	--	NA	9.9E-09	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-07	µg/m^3	2.8E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-13	6.5E-09	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Aldrin	3.0E-08	µg/m^3	1.5E-10	µg/m^3	4.9E-03	(µg/m^3)$^{-1}$	7E-13	3.4E-10	µg/m^3	NA	--	NA
				delta-BHC	4.1E-08	µg/m^3	2.0E-10	µg/m^3	NA	--	NA	4.6E-10	µg/m^3	NA	--	NA
				Dieldrin	2.5E-07	µg/m^3	1.2E-09	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	6E-12	2.9E-09	µg/m^3	NA	--	NA
				4,4'-DDT	3.8E-07	µg/m^3	1.8E-09	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	2E-13	4.3E-09	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.6E-08	µg/m^3	7.8E-11	µg/m^3	NA	--	NA	1.8E-10	µg/m^3	NA	--	NA
				Endrin aldehyde	1.1E-08	µg/m^3	5.3E-11	µg/m^3	NA	--	NA	1.2E-10	µg/m^3	NA	--	NA
				Endrin ketone	4.7E-08	µg/m^3	2.3E-10	µg/m^3	NA	--	NA	5.4E-10	µg/m^3	NA	--	NA
				Total PCB Aroclors	9.7E-06	µg/m^3	4.8E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	5E-12	1.1E-07	µg/m^3	NA	--	NA
				Aluminum	8.0E-03	µg/m^3	3.9E-05	µg/m^3	NA	--	NA	9.1E-05	µg/m^3	5.0E+00	µg/m^3	2E-05
				Antimony	2.9E-06	µg/m^3	1.4E-08	µg/m^3	NA	--	NA	3.3E-08	µg/m^3	NA	--	NA
				Arsenic	7.5E-06	µg/m^3	3.7E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-10	8.5E-08	µg/m^3	1.5E-02	µg/m^3	6E-06
				Cadmium	6.6E-06	µg/m^3	3.2E-08	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	6E-11	7.5E-08	µg/m^3	2.0E-02	µg/m^3	4E-06
				Cobalt	6.2E-06	µg/m^3	3.0E-08	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-10	7.1E-08	µg/m^3	6.0E-03	µg/m^3	1E-05
				Copper	9.7E-05	µg/m^3	4.8E-07	µg/m^3	NA	--	NA	1.1E-06	µg/m^3	NA	--	NA
				Iron	1.3E-02	µg/m^3	6.3E-05	µg/m^3	NA	--	NA	1.5E-04	µg/m^3	NA	--	NA
				Lead	1.4E-04	µg/m^3	7.0E-07	µg/m^3	NA	--	NA	1.6E-06	µg/m^3	NA	--	NA
				Manganese	4.3E-04	µg/m^3	2.1E-06	µg/m^3	NA	--	NA	5.0E-06	µg/m^3	5.0E-02	µg/m^3	1E-04
				Silver	5.9E-06	µg/m^3	2.9E-08	µg/m^3	NA	--	NA	6.7E-08	µg/m^3	NA	--	NA
				Vanadium	2.9E-05	µg/m^3	1.4E-07	µg/m^3	NA	--	NA	3.3E-07	µg/m^3	NA	--	NA
			Exposure Route Total								5E-10					1E-04
		Exposure Point Total									9E-06					2E-01
	Total of Receptor Risks Across Medium										9E-06					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB	Ingestion	Acenaphthylene	6.7E-01	mg/kg	8.4E-09	mg/kg-day	NA	--	NA	6.6E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.3E+00	mg/kg	1.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.4E+00	mg/kg	1.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.4E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	2.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.3E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	1.4E-08	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E-01	mg/kg	6.5E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-10	5.1E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	3.1E-09	mg/kg-day	NA	--	NA	2.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	2.0E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.6E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	1.5E-08	mg/kg-day	NA	--	NA	1.2E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	7.9E-01	mg/kg	9.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	7.7E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.1E+00	mg/kg	1.4E-08	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Aldrin	4.1E-02	mg/kg	5.2E-10	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	9E-09	4.0E-09	mg/kg-day	3.0E-05	mg/kg-day	1E-04
				delta-BHC	5.6E-02	mg/kg	7.0E-10	mg/kg-day	NA	--	NA	5.5E-09	mg/kg-day	NA	--	NA
				Dieldrin	3.5E-01	mg/kg	4.4E-09	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	7E-08	3.4E-08	mg/kg-day	5.0E-05	mg/kg-day	7E-04
				4,4'-DDT	5.2E-01	mg/kg	6.5E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	5.1E-08	mg/kg-day	5.0E-04	mg/kg-day	1E-04
				Endosulfan sulfate	2.2E-02	mg/kg	2.8E-10	mg/kg-day	NA	--	NA	2.2E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	1.5E-02	mg/kg	1.9E-10	mg/kg-day	NA	--	NA	1.5E-09	mg/kg-day	NA	--	NA
				Endrin ketone	6.5E-02	mg/kg	8.2E-10	mg/kg-day	NA	--	NA	6.4E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.3E+01	mg/kg	1.7E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.3E-06	mg/kg-day	2.0E-05	mg/kg-day	6E-02
				Aluminum	1.1E+04	mg/kg	1.4E-04	mg/kg-day	NA	--	NA	1.1E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Antimony	4.0E+00	mg/kg	5.0E-08	mg/kg-day	NA	--	NA	3.9E-07	mg/kg-day	4.0E-04	mg/kg-day	1E-03
				Arsenic	1.0E+01	mg/kg	1.3E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.0E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cadmium	9.1E+00	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	8.9E-07	mg/kg-day	1.0E-03	mg/kg-day	9E-04
				Cobalt	8.6E+00	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	8.4E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Copper	1.3E+02	mg/kg	1.7E-06	mg/kg-day	NA	--	NA	1.3E-05	mg/kg-day	4.0E-02	mg/kg-day	3E-04
				Iron	1.8E+04	mg/kg	2.2E-04	mg/kg-day	NA	--	NA	1.7E-03	mg/kg-day	7.0E-01	mg/kg-day	2E-03
				Lead	2.0E+02	mg/kg	2.5E-06	mg/kg-day	NA	--	NA	1.9E-05	mg/kg-day	NA	--	NA
				Manganese	6.0E+02	mg/kg	7.5E-06	mg/kg-day	NA	--	NA	5.9E-05	mg/kg-day	2.4E-02	mg/kg-day	2E-03
				Silver	8.1E+00	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	7.9E-07	mg/kg-day	5.0E-03	mg/kg-day	2E-04
				Vanadium	4.0E+01	mg/kg	5.0E-07	mg/kg-day	NA	--	NA	3.9E-06	mg/kg-day	5.0E-03	mg/kg-day	8E-04
			Exposure Route Total								9E-07					8E-02

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB	Dermal	Acenaphthylene	6.7E-01	mg/kg	6.8E-10	mg/kg-day	NA	--	NA	5.3E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.3E+00	mg/kg	1.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.0E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.4E+00	mg/kg	1.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.1E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	2.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.8E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	8.7E-09	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E-01	mg/kg	5.3E-10	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-11	4.1E-09	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	1.9E-10	mg/kg-day	NA	--	NA	1.5E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	1.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.3E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	9.4E-10	mg/kg-day	NA	--	NA	7.3E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	7.9E-01	mg/kg	8.0E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-10	6.2E-09	mg/kg-day	NA	--	NA
				Phenanthrene	1.1E+00	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	8.7E-09	mg/kg-day	NA	--	NA
				Aldrin	4.1E-02	mg/kg	N/A	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				delta-BHC	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Dieldrin	3.5E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	5.2E-01	mg/kg	1.2E-10	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-11	9.5E-10	mg/kg-day	5.0E-04	mg/kg-day	2E-06
				Endosulfan sulfate	2.2E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	1.5E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	6.5E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	1.3E+01	mg/kg	1.4E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	1.1E-07	mg/kg-day	2.0E-05	mg/kg-day	6E-03
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.0E+01	mg/kg	2.4E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-09	1.9E-08	mg/kg-day	3.0E-04	mg/kg-day	6E-05
				Cadmium	9.1E+00	mg/kg	7.1E-11	mg/kg-day	NA	--	NA	5.5E-10	mg/kg-day	2.5E-05	mg/kg-day	2E-05
				Cobalt	8.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	2.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	6.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Silver	8.1E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-04	mg/kg-day	--
				Vanadium	4.0E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								6E-08					6E-03

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	9.4E-07	µg/m^3	6.9E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-14	5.4E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.0E-06	µg/m^3	7.4E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	8E-13	5.8E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.7E-06	µg/m^3	1.2E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	9.5E-09	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	8.0E-07	µg/m^3	5.8E-10	µg/m^3	NA	--	NA	4.5E-09	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	3.8E-07	µg/m^3	2.8E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-14	2.2E-09	µg/m^3	NA	--	NA
				Carbazole	1.8E-07	µg/m^3	1.3E-10	µg/m^3	NA	--	NA	1.0E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.2E-06	µg/m^3	8.5E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-12	6.6E-09	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-07	µg/m^3	6.4E-10	µg/m^3	NA	--	NA	5.0E-09	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-07	µg/m^3	4.2E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-14	3.3E-09	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Aldrin	3.0E-08	µg/m^3	2.2E-11	µg/m^3	4.9E-03	(µg/m^3)$^{-1}$	1E-13	1.7E-10	µg/m^3	NA	--	NA
				delta-BHC	4.1E-08	µg/m^3	3.0E-11	µg/m^3	NA	--	NA	2.3E-10	µg/m^3	NA	--	NA
				Dieldrin	2.5E-07	µg/m^3	1.9E-10	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	9E-13	1.4E-09	µg/m^3	NA	--	NA
				4,4'-DDT	3.8E-07	µg/m^3	2.8E-10	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	3E-14	2.2E-09	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.6E-08	µg/m^3	1.2E-11	µg/m^3	NA	--	NA	9.1E-11	µg/m^3	NA	--	NA
				Endrin aldehyde	1.1E-08	µg/m^3	8.0E-12	µg/m^3	NA	--	NA	6.2E-11	µg/m^3	NA	--	NA
				Endrin ketone	4.7E-08	µg/m^3	3.5E-11	µg/m^3	NA	--	NA	2.7E-10	µg/m^3	NA	--	NA
				Total PCB Aroclors	9.6E-06	µg/m^3	7.0E-09	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	7E-13	5.5E-08	µg/m^3	NA	--	NA
				Aluminum	8.0E-03	µg/m^3	5.8E-06	µg/m^3	NA	--	NA	4.5E-05	µg/m^3	5.0E+00	µg/m^3	9E-06
				Antimony	2.9E-06	µg/m^3	2.1E-09	µg/m^3	NA	--	NA	1.7E-08	µg/m^3	NA	--	NA
				Arsenic	7.5E-06	µg/m^3	5.5E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-11	4.3E-08	µg/m^3	1.5E-02	µg/m^3	3E-06
				Cadmium	6.6E-06	µg/m^3	4.8E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	9E-12	3.8E-08	µg/m^3	2.0E-02	µg/m^3	2E-06
				Cobalt	6.2E-06	µg/m^3	4.6E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	4E-11	3.6E-08	µg/m^3	6.0E-03	µg/m^3	6E-06
				Copper	9.7E-05	µg/m^3	7.1E-08	µg/m^3	NA	--	NA	5.5E-07	µg/m^3	NA	--	NA
				Iron	1.3E-02	µg/m^3	9.4E-06	µg/m^3	NA	--	NA	7.3E-05	µg/m^3	NA	--	NA
				Lead	1.4E-04	µg/m^3	1.1E-07	µg/m^3	NA	--	NA	8.2E-07	µg/m^3	NA	--	NA
				Manganese	4.3E-04	µg/m^3	3.2E-07	µg/m^3	NA	--	NA	2.5E-06	µg/m^3	5.0E-02	µg/m^3	5E-05
				Silver	5.9E-06	µg/m^3	4.3E-09	µg/m^3	NA	--	NA	3.4E-08	µg/m^3	NA	--	NA
				Vanadium	2.9E-05	µg/m^3	2.1E-08	µg/m^3	NA	--	NA	1.7E-07	µg/m^3	NA	--	NA
			Exposure Route Total								8E-11					7E-05
		Exposure Point Total									1E-06					9E-02
	Total of Receptor Risks Across Medium										1E-06					9E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	1.8E-06	mg/kg-day	NA	--	NA	4.3E-06	mg/kg-day	2.0E-03	mg/kg-day	2E-03
				Acenaphthylene	3.2E-01	mg/kg	2.7E-08	mg/kg-day	NA	--	NA	6.3E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.8E+00	mg/kg	3.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	7.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.7E+00	mg/kg	3.1E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	7.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	4.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.6E+00	mg/kg	2.2E-07	mg/kg-day	NA	--	NA	5.1E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.1E+00	mg/kg	1.8E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	4.1E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.8E+01	mg/kg	5.7E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	8E-08	1.3E-05	mg/kg-day	2.0E-02	mg/kg-day	7E-04
				Carbazole	1.5E-01	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	2.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-01	mg/kg	3.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	8.6E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	3.0E-07	mg/kg-day	NA	--	NA	7.0E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+00	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	2.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.4E+00	mg/kg	2.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	4.4E+00	mg/kg	3.7E-07	mg/kg-day	NA	--	NA	8.6E-07	mg/kg-day	NA	--	NA
				Dieldrin	1.0E+01	mg/kg	8.4E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-05	2.0E-06	mg/kg-day	5.0E-05	mg/kg-day	4E-02
				4,4'-DDE	5.6E+01	mg/kg	4.7E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.1E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.9E-03	mg/kg	1.6E-10	mg/kg-day	NA	--	NA	3.7E-10	mg/kg-day	NA	--	NA
				Endrin aldehyde	8.0E-01	mg/kg	6.7E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.8E+00	mg/kg	1.5E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	3.5E-07	mg/kg-day	1.3E-05	mg/kg-day	3E-02
				Total PCB Aroclors	4.1E+01	mg/kg	3.4E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-06	8.0E-06	mg/kg-day	2.0E-05	mg/kg-day	4E-01
				Aluminum	1.7E+04	mg/kg	1.4E-03	mg/kg-day	NA	--	NA	3.4E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Antimony	4.6E+00	mg/kg	3.9E-07	mg/kg-day	NA	--	NA	9.0E-07	mg/kg-day	4.0E-04	mg/kg-day	2E-03
				Arsenic	2.0E+01	mg/kg	1.7E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	3.9E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	1.5E+01	mg/kg	1.3E-06	mg/kg-day	NA	--	NA	2.9E-06	mg/kg-day	1.0E-03	mg/kg-day	3E-03
				Cobalt	1.4E+01	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	2.7E-06	mg/kg-day	3.0E-04	mg/kg-day	9E-03
				Copper	2.3E+02	mg/kg	1.9E-05	mg/kg-day	NA	--	NA	4.5E-05	mg/kg-day	4.0E-02	mg/kg-day	1E-03
				Iron	3.4E+04	mg/kg	2.9E-03	mg/kg-day	NA	--	NA	6.7E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Lead	2.6E+02	mg/kg	2.2E-05	mg/kg-day	NA	--	NA	5.0E-05	mg/kg-day	NA	--	NA
				Manganese	4.9E+02	mg/kg	4.1E-05	mg/kg-day	NA	--	NA	9.6E-05	mg/kg-day	2.4E-02	mg/kg-day	4E-03
				Vanadium	5.1E+01	mg/kg	4.3E-06	mg/kg-day	NA	--	NA	1.0E-05	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								3E-05					5E-01

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Acenaphthylene	3.2E-01	mg/kg	1.5E-08	mg/kg-day	NA	--	NA	3.5E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.8E+00	mg/kg	1.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.7E+00	mg/kg	1.8E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	2.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	6.0E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.6E+00	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	2.9E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.1E+00	mg/kg	9.9E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	7E-09	2.3E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.8E+01	mg/kg	2.5E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	5.8E-06	mg/kg-day	2.0E-02	mg/kg-day	3E-04
				Carbazole	1.5E-01	mg/kg	5.5E-09	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-01	mg/kg	2.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	4.9E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	3.1E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+00	mg/kg	4.7E-08	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.4E+00	mg/kg	1.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	2.6E-07	mg/kg-day	NA	--	NA
				Phenanthrene	4.4E+00	mg/kg	2.1E-07	mg/kg-day	NA	--	NA	4.9E-07	mg/kg-day	NA	--	NA
				Dieldrin	1.0E+01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	6.1E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.4E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.9E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	8.0E-01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	1.8E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	4.1E+01	mg/kg	2.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	4.9E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	1.7E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	4.6E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	2.0E+01	mg/kg	2.2E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	5.1E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	1.5E+01	mg/kg	5.5E-09	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	2.5E-05	mg/kg-day	5E-04
				Cobalt	1.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	2.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	3.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	5.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								7E-06					2E-01

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	2.8E-06	µg/m^3	1.3E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-12	3.1E-08	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.7E-06	µg/m^3	1.3E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-11	3.1E-08	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.9E-06	µg/m^3	1.9E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-12	4.5E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.9E-06	µg/m^3	9.2E-09	µg/m^3	NA	--	NA	2.2E-08	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.5E-06	µg/m^3	7.4E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-13	1.7E-08	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	4.9E-05	µg/m^3	2.4E-07	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	6E-13	5.6E-07	µg/m^3	NA	--	NA
				Carbazole	1.1E-07	µg/m^3	5.3E-10	µg/m^3	NA	--	NA	1.2E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-07	µg/m^3	1.6E-09	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-12	3.6E-09	µg/m^3	NA	--	NA
				Dimethyl phthalate	2.6E-06	µg/m^3	1.3E-08	µg/m^3	NA	--	NA	3.0E-08	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	9.4E-07	µg/m^3	4.6E-09	µg/m^3	NA	--	NA	1.1E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-06	µg/m^3	8.5E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	9E-13	2.0E-08	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Dieldrin	7.2E-06	µg/m^3	3.5E-08	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	2E-10	8.3E-08	µg/m^3	NA	--	NA
				4,4'-DDE	4.1E-05	µg/m^3	2.0E-07	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	2E-11	4.6E-07	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.4E-09	µg/m^3	6.7E-12	µg/m^3	NA	--	NA	1.6E-11	µg/m^3	NA	--	NA
				Endrin aldehyde	5.8E-07	µg/m^3	2.8E-09	µg/m^3	NA	--	NA	6.6E-09	µg/m^3	NA	--	NA
				Heptachlor epoxide	1.3E-06	µg/m^3	6.4E-09	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	2E-11	1.5E-08	µg/m^3	NA	--	NA
				Total PCB Aroclors	3.0E-05	µg/m^3	1.5E-07	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-11	3.4E-07	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	6.1E-05	µg/m^3	NA	--	NA	1.4E-04	µg/m^3	5.0E+00	µg/m^3	3E-05
				Antimony	3.3E-06	µg/m^3	1.6E-08	µg/m^3	NA	--	NA	3.8E-08	µg/m^3	NA	--	NA
				Arsenic	1.4E-05	µg/m^3	7.1E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	3E-10	1.7E-07	µg/m^3	1.5E-02	µg/m^3	1E-05
				Cadmium	1.1E-05	µg/m^3	5.3E-08	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	1E-10	1.2E-07	µg/m^3	2.0E-02	µg/m^3	6E-06
				Cobalt	1.0E-05	µg/m^3	5.0E-08	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	4E-10	1.2E-07	µg/m^3	6.0E-03	µg/m^3	2E-05
				Copper	1.7E-04	µg/m^3	8.2E-07	µg/m^3	NA	--	NA	1.9E-06	µg/m^3	NA	--	NA
				Iron	2.5E-02	µg/m^3	1.2E-04	µg/m^3	NA	--	NA	2.8E-04	µg/m^3	NA	--	NA
				Lead	1.9E-04	µg/m^3	9.1E-07	µg/m^3	NA	--	NA	2.1E-06	µg/m^3	NA	--	NA
				Manganese	3.6E-04	µg/m^3	1.7E-06	µg/m^3	NA	--	NA	4.1E-06	µg/m^3	5.0E-02	µg/m^3	8E-05
				Vanadium	3.7E-05	µg/m^3	1.8E-07	µg/m^3	NA	--	NA	4.2E-07	µg/m^3	NA	--	NA
			Exposure Route Total								1E-09					1E-04
		Exposure Point Total									4E-05					8E-01
	Total of Receptor Risks Across Medium										4E-05					8E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	2.8E-07	mg/kg-day	NA	--	NA	2.2E-06	mg/kg-day	2.0E-03	mg/kg-day	1E-03
				Acenaphthylene	3.2E-01	mg/kg	4.0E-09	mg/kg-day	NA	--	NA	3.1E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.8E+00	mg/kg	4.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	3.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.7E+00	mg/kg	4.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	3.6E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	6.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	5.3E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.6E+00	mg/kg	3.3E-08	mg/kg-day	NA	--	NA	2.5E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.1E+00	mg/kg	2.6E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	2.1E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.8E+01	mg/kg	8.6E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	6.7E-06	mg/kg-day	2.0E-02	mg/kg-day	3E-04
				Carbazole	1.5E-01	mg/kg	1.9E-09	mg/kg-day	NA	--	NA	1.5E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-01	mg/kg	5.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	4.3E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	4.5E-08	mg/kg-day	NA	--	NA	3.5E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+00	mg/kg	1.6E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.4E+00	mg/kg	3.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.3E-07	mg/kg-day	NA	--	NA
				Phenanthrene	4.4E+00	mg/kg	5.5E-08	mg/kg-day	NA	--	NA	4.3E-07	mg/kg-day	NA	--	NA
				Dieldrin	1.0E+01	mg/kg	1.3E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	2E-06	9.8E-07	mg/kg-day	5.0E-05	mg/kg-day	2E-02
				4,4'-DDE	5.6E+01	mg/kg	7.0E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	5.5E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.9E-03	mg/kg	2.4E-11	mg/kg-day	NA	--	NA	1.9E-10	mg/kg-day	NA	--	NA
				Endrin aldehyde	8.0E-01	mg/kg	1.0E-08	mg/kg-day	NA	--	NA	7.8E-08	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.8E+00	mg/kg	2.3E-08	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.8E-07	mg/kg-day	1.3E-05	mg/kg-day	1E-02
				Total PCB Aroclors	4.1E+01	mg/kg	5.2E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.0E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	1.7E+04	mg/kg	2.2E-04	mg/kg-day	NA	--	NA	1.7E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Antimony	4.6E+00	mg/kg	5.8E-08	mg/kg-day	NA	--	NA	4.5E-07	mg/kg-day	4.0E-04	mg/kg-day	1E-03
				Arsenic	2.0E+01	mg/kg	2.5E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	2.0E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Cadmium	1.5E+01	mg/kg	1.9E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	1.0E-03	mg/kg-day	1E-03
				Cobalt	1.4E+01	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Copper	2.3E+02	mg/kg	2.9E-06	mg/kg-day	NA	--	NA	2.3E-05	mg/kg-day	4.0E-02	mg/kg-day	6E-04
				Iron	3.4E+04	mg/kg	4.3E-04	mg/kg-day	NA	--	NA	3.3E-03	mg/kg-day	7.0E-01	mg/kg-day	5E-03
				Lead	2.6E+02	mg/kg	3.2E-06	mg/kg-day	NA	--	NA	2.5E-05	mg/kg-day	NA	--	NA
				Manganese	4.9E+02	mg/kg	6.2E-06	mg/kg-day	NA	--	NA	4.8E-05	mg/kg-day	2.4E-02	mg/kg-day	2E-03
				Vanadium	5.1E+01	mg/kg	6.4E-07	mg/kg-day	NA	--	NA	5.0E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
			Exposure Route Total								4E-06					3E-01

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Acenaphthylene	3.2E-01	mg/kg	3.2E-10	mg/kg-day	NA	--	NA	2.5E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.8E+00	mg/kg	3.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	3.0E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.7E+00	mg/kg	3.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	2.9E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	5.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	4.3E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.6E+00	mg/kg	2.6E-09	mg/kg-day	NA	--	NA	2.1E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.1E+00	mg/kg	2.1E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-10	1.7E-08	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.8E+01	mg/kg	5.3E-08	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	7E-10	4.1E-07	mg/kg-day	2.0E-02	mg/kg-day	2E-05
				Carbazole	1.5E-01	mg/kg	1.2E-10	mg/kg-day	NA	--	NA	9.1E-10	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-01	mg/kg	4.5E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-09	3.5E-09	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	2.8E-09	mg/kg-day	NA	--	NA	2.2E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+00	mg/kg	1.0E-09	mg/kg-day	NA	--	NA	7.9E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.4E+00	mg/kg	2.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.9E-08	mg/kg-day	NA	--	NA
				Phenanthrene	4.4E+00	mg/kg	4.5E-09	mg/kg-day	NA	--	NA	3.5E-08	mg/kg-day	NA	--	NA
				Dieldrin	1.0E+01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	1.3E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	1.0E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.9E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	8.0E-01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	1.8E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	4.1E+01	mg/kg	4.5E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	3.5E-07	mg/kg-day	2.0E-05	mg/kg-day	2E-02
				Aluminum	1.7E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	4.6E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	2.0E+01	mg/kg	4.7E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	3.6E-08	mg/kg-day	3.0E-04	mg/kg-day	1E-04
				Cadmium	1.5E+01	mg/kg	1.2E-10	mg/kg-day	NA	--	NA	9.1E-10	mg/kg-day	2.5E-05	mg/kg-day	4E-05
				Cobalt	1.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	2.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	3.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	5.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-07					2E-02

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	2.8E-06	µg/m^3	2.0E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	1.6E-08	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.7E-06	µg/m^3	2.0E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-12	1.5E-08	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.9E-06	µg/m^3	2.9E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-13	2.2E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.9E-06	µg/m^3	1.4E-09	µg/m^3	NA	--	NA	1.1E-08	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.5E-06	µg/m^3	1.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	8.7E-09	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	4.9E-05	µg/m^3	3.6E-08	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	9E-14	2.8E-07	µg/m^3	NA	--	NA
				Carbazole	1.1E-07	µg/m^3	8.0E-11	µg/m^3	NA	--	NA	6.2E-10	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-07	µg/m^3	2.3E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-13	1.8E-09	µg/m^3	NA	--	NA
				Dimethyl phthalate	2.6E-06	µg/m^3	1.9E-09	µg/m^3	NA	--	NA	1.5E-08	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	9.4E-07	µg/m^3	6.9E-10	µg/m^3	NA	--	NA	5.4E-09	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-06	µg/m^3	1.3E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	9.9E-09	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Dieldrin	7.2E-06	µg/m^3	5.3E-09	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	2E-11	4.1E-08	µg/m^3	NA	--	NA
				4,4'-DDE	4.1E-05	µg/m^3	3.0E-08	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	3E-12	2.3E-07	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.4E-09	µg/m^3	1.0E-12	µg/m^3	NA	--	NA	7.9E-12	µg/m^3	NA	--	NA
				Endrin aldehyde	5.8E-07	µg/m^3	4.3E-10	µg/m^3	NA	--	NA	3.3E-09	µg/m^3	NA	--	NA
				Heptachlor epoxide	1.3E-06	µg/m^3	9.6E-10	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	2E-12	7.4E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	3.0E-05	µg/m^3	2.2E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-12	1.7E-07	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	9.1E-06	µg/m^3	NA	--	NA	7.1E-05	µg/m^3	5.0E+00	µg/m^3	1E-05
				Antimony	3.3E-06	µg/m^3	2.4E-09	µg/m^3	NA	--	NA	1.9E-08	µg/m^3	NA	--	NA
				Arsenic	1.4E-05	µg/m^3	1.1E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	5E-11	8.3E-08	µg/m^3	1.5E-02	µg/m^3	6E-06
				Cadmium	1.1E-05	µg/m^3	8.0E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	1E-11	6.2E-08	µg/m^3	2.0E-02	µg/m^3	3E-06
				Cobalt	1.0E-05	µg/m^3	7.4E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	7E-11	5.8E-08	µg/m^3	6.0E-03	µg/m^3	1E-05
				Copper	1.7E-04	µg/m^3	1.2E-07	µg/m^3	NA	--	NA	9.5E-07	µg/m^3	NA	--	NA
				Iron	2.5E-02	µg/m^3	1.8E-05	µg/m^3	NA	--	NA	1.4E-04	µg/m^3	NA	--	NA
				Lead	1.9E-04	µg/m^3	1.4E-07	µg/m^3	NA	--	NA	1.1E-06	µg/m^3	NA	--	NA
				Manganese	3.6E-04	µg/m^3	2.6E-07	µg/m^3	NA	--	NA	2.0E-06	µg/m^3	5.0E-02	µg/m^3	4E-05
				Vanadium	3.7E-05	µg/m^3	2.7E-08	µg/m^3	NA	--	NA	2.1E-07	µg/m^3	NA	--	NA
			Exposure Route Total								2E-10					7E-05
		Exposure Point Total									5E-06					3E-01
	Total of Receptor Risks Across Medium										5E-06					3E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB6	Ingestion	Acenaphthylene	1.1E-02	mg/kg	9.2E-10	mg/kg-day	NA	--	NA	2.2E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	1.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	9.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	2.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	1.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	5.7E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Carbazole	3.9E-02	mg/kg	3.3E-09	mg/kg-day	NA	--	NA	7.6E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.0E-01	mg/kg	1.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.9E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	9.9E-09	mg/kg-day	NA	--	NA	2.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	1.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	2.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	1.7E-07	mg/kg-day	NA	--	NA	3.9E-07	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	3.4E-10	mg/kg-day	NA	--	NA	7.8E-10	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	5.2E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	1.2E-05	mg/kg-day	2.0E-05	mg/kg-day	6E-01
				Aluminum	1.6E+04	mg/kg	1.4E-03	mg/kg-day	NA	--	NA	3.2E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Arsenic	2.5E+00	mg/kg	2.1E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	4.9E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	6.1E+00	mg/kg	5.1E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	1.0E-03	mg/kg-day	1E-03
				Cobalt	7.3E+00	mg/kg	6.1E-07	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cyanide	3.4E+00	mg/kg	2.9E-07	mg/kg-day	NA	--	NA	6.7E-07	mg/kg-day	6.0E-04	mg/kg-day	1E-03
				Iron	2.5E+04	mg/kg	2.1E-03	mg/kg-day	NA	--	NA	4.9E-03	mg/kg-day	7.0E-01	mg/kg-day	7E-03
				Manganese	6.2E+02	mg/kg	5.2E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	2.4E-02	mg/kg-day	5E-03
			Exposure Route Total								1E-05					6E-01
Floodplain Soil	Surface Soil	EU BB6	Dermal	Acenaphthylene	1.1E-02	mg/kg	5.2E-10	mg/kg-day	NA	--	NA	1.2E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	9.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	2.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	5.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	1.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	2.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	3.2E-08	mg/kg-day	NA	--	NA	7.5E-08	mg/kg-day	NA	--	NA
				Carbazole	3.9E-02	mg/kg	1.4E-09	mg/kg-day	NA	--	NA	3.3E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.0E-01	mg/kg	9.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	2.2E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	4.3E-09	mg/kg-day	NA	--	NA	1.0E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	6.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	9.5E-08	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.2E+01	mg/kg	3.2E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	7.4E-06	mg/kg-day	2.0E-05	mg/kg-day	4E-01
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.5E+00	mg/kg	2.7E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	6.4E-08	mg/kg-day	3.0E-04	mg/kg-day	2E-04
				Cadmium	6.1E+00	mg/kg	2.2E-09	mg/kg-day	NA	--	NA	5.2E-09	mg/kg-day	2.5E-05	mg/kg-day	2E-04
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Cyanide	3.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	6.2E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								7E-06					4E-01

TABLE 7.7.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB6	Inhalation	Acenaphthylene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Benzo(a)anthracene	1.4E-06	$\mu g/m^3$	7.1E-09	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	8E-13	1.7E-08	$\mu g/m^3$	NA	--	NA
				Benzo(a)pyrene	8.0E-07	$\mu g/m^3$	3.9E-09	$\mu g/m^3$	1.1E-03	$(\mu g/m^3)^{-1}$	4E-12	9.1E-09	$\mu g/m^3$	NA	--	NA
				Benzo(b)fluoranthene	1.7E-06	$\mu g/m^3$	8.2E-09	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	9E-13	1.9E-08	$\mu g/m^3$	NA	--	NA
				Benzo(g,h,i)perylene	4.9E-07	$\mu g/m^3$	2.4E-09	$\mu g/m^3$	NA	--	NA	5.6E-09	$\mu g/m^3$	NA	--	NA
				Carbazole	2.8E-08	$\mu g/m^3$	1.4E-10	$\mu g/m^3$	NA	--	NA	3.2E-10	$\mu g/m^3$	NA	--	NA
				Dibenzo(a,h)anthracene	1.4E-07	$\mu g/m^3$	7.1E-10	$\mu g/m^3$	1.2E-03	$(\mu g/m^3)^{-1}$	9E-13	1.7E-09	$\mu g/m^3$	NA	--	NA
				di-n-Octyl phthalate	8.6E-08	$\mu g/m^3$	4.2E-10	$\mu g/m^3$	NA	--	NA	9.8E-10	$\mu g/m^3$	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.0E-06	$\mu g/m^3$	5.0E-09	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	5E-13	1.2E-08	$\mu g/m^3$	NA	--	NA
				Phenanthrene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Endrin ketone	2.9E-09	$\mu g/m^3$	1.4E-11	$\mu g/m^3$	NA	--	NA	3.3E-11	$\mu g/m^3$	NA	--	NA
				Total PCB Aroclors	4.5E-05	$\mu g/m^3$	2.2E-07	$\mu g/m^3$	1.0E-04	$(\mu g/m^3)^{-1}$	2E-11	5.1E-07	$\mu g/m^3$	NA	--	NA
				Aluminum	1.2E-02	$\mu g/m^3$	5.7E-05	$\mu g/m^3$	NA	--	NA	1.3E-04	$\mu g/m^3$	5.0E+00	$\mu g/m^3$	3E-05
				Arsenic	1.8E-06	$\mu g/m^3$	8.9E-09	$\mu g/m^3$	4.3E-03	$(\mu g/m^3)^{-1}$	4E-11	2.1E-08	$\mu g/m^3$	1.5E-02	$\mu g/m^3$	1E-06
				Cadmium	4.4E-06	$\mu g/m^3$	2.2E-08	$\mu g/m^3$	1.8E-03	$(\mu g/m^3)^{-1}$	4E-11	5.0E-08	$\mu g/m^3$	2.0E-02	$\mu g/m^3$	3E-06
				Cobalt	5.3E-06	$\mu g/m^3$	2.6E-08	$\mu g/m^3$	9.0E-03	$(\mu g/m^3)^{-1}$	2E-10	6.0E-08	$\mu g/m^3$	6.0E-03	$\mu g/m^3$	1E-05
				Cyanide	2.5E-06	$\mu g/m^3$	1.2E-08	$\mu g/m^3$	NA	--	NA	2.8E-08	$\mu g/m^3$	NA	--	NA
				Iron	1.8E-02	$\mu g/m^3$	8.9E-05	$\mu g/m^3$	NA	--	NA	2.1E-04	$\mu g/m^3$	NA	--	NA
				Manganese	4.5E-04	$\mu g/m^3$	2.2E-06	$\mu g/m^3$	NA	--	NA	5.1E-06	$\mu g/m^3$	5.0E-02	$\mu g/m^3$	1E-04
			Exposure Route Total								3E-10					1E-04
		Exposure Point Total									2E-05					1E+00
	Total of Receptor Risks Across Medium										2E-05					1E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB6	Ingestion	Acenaphthylene	1.1E-02	mg/kg	1.4E-10	mg/kg-day	NA	--	NA	1.1E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	2.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	1.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	2.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.3E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	8.6E-09	mg/kg-day	NA	--	NA	6.7E-08	mg/kg-day	NA	--	NA
				Carbazole	3.9E-02	mg/kg	4.9E-10	mg/kg-day	NA	--	NA	3.8E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.0E-01	mg/kg	2.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.0E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	1.5E-09	mg/kg-day	NA	--	NA	1.2E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	1.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	2.5E-08	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	5.0E-11	mg/kg-day	NA	--	NA	3.9E-10	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	7.8E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	6.1E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Aluminum	1.6E+04	mg/kg	2.0E-04	mg/kg-day	NA	--	NA	1.6E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Arsenic	2.5E+00	mg/kg	3.1E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	2.4E-07	mg/kg-day	3.0E-04	mg/kg-day	8E-04
				Cadmium	6.1E+00	mg/kg	7.7E-08	mg/kg-day	NA	--	NA	6.0E-07	mg/kg-day	1.0E-03	mg/kg-day	6E-04
				Cobalt	7.3E+00	mg/kg	9.2E-08	mg/kg-day	NA	--	NA	7.1E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cyanide	3.4E+00	mg/kg	4.3E-08	mg/kg-day	NA	--	NA	3.3E-07	mg/kg-day	6.0E-04	mg/kg-day	6E-04
				Iron	2.5E+04	mg/kg	3.2E-04	mg/kg-day	NA	--	NA	2.5E-03	mg/kg-day	7.0E-01	mg/kg-day	4E-03
				Manganese	6.2E+02	mg/kg	7.8E-06	mg/kg-day	NA	--	NA	6.0E-05	mg/kg-day	2.4E-02	mg/kg-day	3E-03
			Exposure Route Total								2E-06					3E-01
Floodplain Soil	Surface Soil	EU BB6	Dermal	Acenaphthylene	1.1E-02	mg/kg	1.1E-11	mg/kg-day	NA	--	NA	8.7E-11	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	2.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.6E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	1.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-09	8.7E-09	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	2.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.8E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	6.9E-10	mg/kg-day	NA	--	NA	5.4E-09	mg/kg-day	NA	--	NA
				Carbazole	3.9E-02	mg/kg	3.0E-11	mg/kg-day	NA	--	NA	2.4E-10	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.0E-01	mg/kg	2.0E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-09	1.6E-09	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	9.2E-11	mg/kg-day	NA	--	NA	7.2E-10	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	1.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.1E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	2.0E-09	mg/kg-day	NA	--	NA	1.6E-08	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.2E+01	mg/kg	6.8E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	5.3E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.5E+00	mg/kg	5.8E-10	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-10	4.5E-09	mg/kg-day	3.0E-04	mg/kg-day	2E-05
				Cadmium	6.1E+00	mg/kg	4.8E-11	mg/kg-day	NA	--	NA	3.7E-10	mg/kg-day	2.5E-05	mg/kg-day	1E-05
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Cyanide	3.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	6.2E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								2E-07					3E-02

TABLE 7.7.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB6	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.4E-06	µg/m^3	1.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	8.3E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	8.0E-07	µg/m^3	5.8E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	6E-13	4.5E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.7E-06	µg/m^3	1.2E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	9.5E-09	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.9E-07	µg/m^3	3.6E-10	µg/m^3	NA	--	NA	2.8E-09	µg/m^3	NA	--	NA
				Carbazole	2.8E-08	µg/m^3	2.1E-11	µg/m^3	NA	--	NA	1.6E-10	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.4E-07	µg/m^3	1.1E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-13	8.3E-10	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.6E-08	µg/m^3	6.3E-11	µg/m^3	NA	--	NA	4.9E-10	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.0E-06	µg/m^3	7.4E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-14	5.8E-09	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin ketone	2.9E-09	µg/m^3	2.1E-12	µg/m^3	NA	--	NA	1.7E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.5E-05	µg/m^3	3.3E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-12	2.6E-07	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	8.6E-06	µg/m^3	NA	--	NA	6.7E-05	µg/m^3	5.0E+00	µg/m^3	1E-05
				Arsenic	1.8E-06	µg/m^3	1.3E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	6E-12	1.0E-08	µg/m^3	1.5E-02	µg/m^3	7E-07
				Cadmium	4.4E-06	µg/m^3	3.2E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	6E-12	2.5E-08	µg/m^3	2.0E-02	µg/m^3	1E-06
				Cobalt	5.3E-06	µg/m^3	3.9E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-11	3.0E-08	µg/m^3	6.0E-03	µg/m^3	5E-06
				Cyanide	2.5E-06	µg/m^3	1.8E-09	µg/m^3	NA	--	NA	1.4E-08	µg/m^3	NA	--	NA
				Iron	1.8E-02	µg/m^3	1.3E-05	µg/m^3	NA	--	NA	1.0E-04	µg/m^3	NA	--	NA
				Manganese	4.5E-04	µg/m^3	3.3E-07	µg/m^3	NA	--	NA	2.6E-06	µg/m^3	5.0E-02	µg/m^3	5E-05
			Exposure Route Total								5E-11					7E-05
		Exposure Point Total									2E-06					3E-01
	Total of Receptor Risks Across Medium										2E-06					3E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU GB	Ingestion	Benzo(a)anthracene	8.7E-01	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	4.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	9.3E-01	mg/kg	1.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	5.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.4E+00	mg/kg	2.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	7.8E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.1E-01	mg/kg	4.9E-08	mg/kg-day	NA	--	NA	2.9E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	2.8E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	2.7E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	1.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.4E-01	mg/kg	8.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	3.0E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.8E+00	mg/kg	1.7E-07	mg/kg-day	NA	--	NA	1.0E-06	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.4E-02	mg/kg	7.1E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	4.1E-08	mg/kg-day	2.0E-05	mg/kg-day	2E-03
				Aluminum	2.5E+04	mg/kg	2.4E-03	mg/kg-day	NA	--	NA	1.4E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	7.3E+00	mg/kg	7.0E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cobalt	1.3E+01	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	7.3E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Iron	3.3E+04	mg/kg	3.1E-03	mg/kg-day	NA	--	NA	1.8E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Manganese	7.1E+02	mg/kg	6.8E-05	mg/kg-day	NA	--	NA	4.0E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Mercury	1.4E+00	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	7.8E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Vanadium	5.4E+01	mg/kg	5.2E-06	mg/kg-day	NA	--	NA	3.0E-05	mg/kg-day	5.0E-03	mg/kg-day	6E-03
			Exposure Route Total								1E-06					1E-01
Floodplain Soil	Surface Soil	EU GB	Dermal	Benzo(a)anthracene	8.7E-01	mg/kg	8.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	3.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	9.3E-01	mg/kg	9.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.4E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.4E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	5.1E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.1E-01	mg/kg	3.2E-08	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	1.4E-08	mg/kg-day	NA	--	NA	8.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	1.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	6.5E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.4E-01	mg/kg	5.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	2.0E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.8E+00	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	6.5E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.4E-02	mg/kg	5.0E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	2.9E-08	mg/kg-day	2.0E-05	mg/kg-day	1E-03
				Aluminum	2.5E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	7.3E+00	mg/kg	1.0E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	6.1E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	3.3E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	1.4E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Vanadium	5.4E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								4E-07					3E-03

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU GB	Inhalation	Benzo(a)anthracene	6.3E-07	µg/m^3	1.2E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-13	7.2E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	6.7E-07	µg/m^3	1.3E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	4E-12	7.7E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.0E-06	µg/m^3	2.0E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-13	1.2E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.7E-07	µg/m^3	7.2E-10	µg/m^3	NA	--	NA	4.2E-09	µg/m^3	NA	--	NA
				Carbazole	2.1E-07	µg/m^3	4.1E-10	µg/m^3	NA	--	NA	2.4E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E-07	µg/m^3	2.6E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	8E-13	1.5E-09	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.9E-07	µg/m^3	7.7E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	4.5E-09	µg/m^3	NA	--	NA
				Phenanthrene	1.3E-06	µg/m^3	2.6E-09	µg/m^3	NA	--	NA	1.5E-08	µg/m^3	NA	--	NA
				Total PCB Aroclors	5.4E-08	µg/m^3	1.0E-10	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-14	6.1E-10	µg/m^3	NA	--	NA
				Aluminum	1.8E-02	µg/m^3	3.5E-05	µg/m^3	NA	--	NA	2.1E-04	µg/m^3	5.0E+00	µg/m^3	--
				Arsenic	5.3E-06	µg/m^3	1.0E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	4E-11	6.0E-08	µg/m^3	1.5E-02	µg/m^3	4E-06
				Cobalt	9.4E-06	µg/m^3	1.8E-08	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	2E-10	1.1E-07	µg/m^3	6.0E-03	µg/m^3	--
				Iron	2.4E-02	µg/m^3	4.7E-05	µg/m^3	NA	--	NA	2.7E-04	µg/m^3	NA	--	--
				Manganese	5.1E-04	µg/m^3	1.0E-06	µg/m^3	NA	--	NA	5.9E-06	µg/m^3	5.0E-02	µg/m^3	--
				Mercury	1.0E-06	µg/m^3	2.0E-09	µg/m^3	NA	--	NA	1.2E-08	µg/m^3	3.0E-02	µg/m^3	4E-07
				Vanadium	3.9E-05	µg/m^3	7.7E-08	µg/m^3	NA	--	NA	4.5E-07	µg/m^3	NA	--	NA
			Exposure Route Total								2E-10					4E-06
		Exposure Point Total									2E-06					1E-01
	Total of Receptor Risks Across Medium										2E-06					1E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 1	Ingestion	Acenaphthylene	2.2E-02	mg/kg	2.1E-09	mg/kg-day	NA	--	NA	1.2E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.7E-01	mg/kg	1.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	4.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	8.8E-01	mg/kg	1.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	4.9E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.0E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	5.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.0E-01	mg/kg	4.8E-08	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	8.9E-01	mg/kg	1.3E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	5.0E-07	mg/kg-day	NA	--	NA
				Carbazole	8.1E-02	mg/kg	7.8E-09	mg/kg-day	NA	--	NA	4.5E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	2.7E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	1.0E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	1.3E-01	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	7.3E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	6.7E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.6E-01	mg/kg	6.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	2.6E-07	mg/kg-day	NA	--	NA
				Phenanthrene	6.5E-01	mg/kg	6.2E-08	mg/kg-day	NA	--	NA	3.6E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	5.8E-10	mg/kg-day	NA	--	NA	3.4E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	8.6E-01	mg/kg	8.2E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	4.8E-07	mg/kg-day	2.0E-05	mg/kg-day	2E-02
				Aluminum	1.4E+04	mg/kg	1.4E-03	mg/kg-day	NA	--	NA	7.9E-03	mg/kg-day	1.0E+00	mg/kg-day	8E-03
				Arsenic	8.2E+00	mg/kg	7.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.6E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cadmium	1.8E+00	mg/kg	1.7E-07	mg/kg-day	NA	--	NA	1.0E-06	mg/kg-day	1.0E-03	mg/kg-day	1E-03
				Cobalt	1.3E+01	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	7.3E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Iron	2.6E+04	mg/kg	2.5E-03	mg/kg-day	NA	--	NA	1.4E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	7.4E+02	mg/kg	7.1E-05	mg/kg-day	NA	--	NA	4.1E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Vanadium	4.7E+01	mg/kg	4.5E-06	mg/kg-day	NA	--	NA	2.6E-05	mg/kg-day	5.0E-03	mg/kg-day	5E-03
			Exposure Route Total								2E-06					1E-01
Floodplain Soil	Surface Soil	EU BB 1	Dermal	Acenaphthylene	2.2E-02	mg/kg	1.4E-09	mg/kg-day	NA	--	NA	8.0E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.7E-01	mg/kg	7.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	8.8E-01	mg/kg	9.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.0E+00	mg/kg	1.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	3.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.0E-01	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	1.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	8.9E-01	mg/kg	9.1E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-09	3.2E-07	mg/kg-day	NA	--	NA
				Carbazole	8.1E-02	mg/kg	3.9E-09	mg/kg-day	NA	--	NA	2.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	1.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	6.5E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	1.3E-01	mg/kg	6.2E-09	mg/kg-day	NA	--	NA	3.6E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	5.8E-09	mg/kg-day	NA	--	NA	3.4E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.6E-01	mg/kg	4.7E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	1.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	6.5E-01	mg/kg	4.0E-08	mg/kg-day	NA	--	NA	2.4E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	8.6E-01	mg/kg	5.8E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.4E-07	mg/kg-day	2.0E-05	mg/kg-day	2E-02
				Aluminum	1.4E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.2E+00	mg/kg	1.2E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	6.9E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	1.8E+00	mg/kg	8.6E-10	mg/kg-day	NA	--	NA	5.0E-09	mg/kg-day	2.5E-05	mg/kg-day	2E-04
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.6E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	7.4E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.7E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-07					2E-02

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 1	Inhalation	Acenaphthylene	1.6E-08	µg/m^3	3.1E-11	µg/m^3	NA	--	NA	1.8E-10	µg/m^3	NA	--	NA
				Benzo(a)anthracene	5.6E-07	µg/m^3	1.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-13	6.4E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	6.4E-07	µg/m^3	1.2E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	4E-12	7.3E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	7.2E-07	µg/m^3	1.4E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-13	8.3E-09	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.6E-07	µg/m^3	7.1E-10	µg/m^3	NA	--	NA	4.1E-09	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	6.4E-07	µg/m^3	1.3E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-13	7.4E-09	µg/m^3	NA	--	NA
				Carbazole	5.9E-08	µg/m^3	1.1E-10	µg/m^3	NA	--	NA	6.7E-10	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E-07	µg/m^3	2.6E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	8E-13	1.5E-09	µg/m^3	NA	--	NA
				Dimethyl phthalate	9.4E-08	µg/m^3	1.8E-10	µg/m^3	NA	--	NA	1.1E-09	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-08	µg/m^3	1.7E-10	µg/m^3	NA	--	NA	9.9E-10	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E-07	µg/m^3	6.5E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	3.8E-09	µg/m^3	NA	--	NA
				Phenanthrene	4.7E-07	µg/m^3	9.2E-10	µg/m^3	NA	--	NA	5.4E-09	µg/m^3	NA	--	NA
				Endrin aldehyde	4.4E-09	µg/m^3	8.7E-12	µg/m^3	NA	--	NA	5.0E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	6.2E-07	µg/m^3	1.2E-09	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-13	7.1E-09	µg/m^3	NA	--	NA
				Aluminum	1.0E-02	µg/m^3	2.0E-05	µg/m^3	NA	--	NA	1.2E-04	µg/m^3	5.0E+00	µg/m^3	--
				Arsenic	5.9E-06	µg/m^3	1.2E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	5E-11	6.8E-08	µg/m^3	1.5E-02	µg/m^3	5E-06
				Cadmium	1.3E-06	µg/m^3	2.6E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	5E-12	1.5E-08	µg/m^3	2.0E-02	µg/m^3	7E-07
				Cobalt	9.4E-06	µg/m^3	1.8E-08	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	2E-10	1.1E-07	µg/m^3	6.0E-03	µg/m^3	--
				Iron	1.9E-02	µg/m^3	3.6E-05	µg/m^3	NA	--	NA	2.1E-04	µg/m^3	NA	--	--
				Manganese	5.3E-04	µg/m^3	1.0E-06	µg/m^3	NA	--	NA	6.1E-06	µg/m^3	5.0E-02	µg/m^3	--
				Vanadium	3.4E-05	µg/m^3	6.7E-08	µg/m^3	NA	--	NA	3.9E-07	µg/m^3	NA	--	NA
			Exposure Route Total								2E-10					5E-06
		Exposure Point Total									2E-06					1E-01
	Total of Receptor Risks Across Medium										2E-06					1E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 1	Ingestion	Acenaphthylene	2.2E-02	mg/kg	7.9E-10	mg/kg-day	NA	--	NA	6.2E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.7E-01	mg/kg	5.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-09	2.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	8.8E-01	mg/kg	6.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	2.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.0E+00	mg/kg	7.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.0E-01	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	8.9E-01	mg/kg	6.2E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-09	2.5E-07	mg/kg-day	NA	--	NA
				Carbazole	8.1E-02	mg/kg	2.9E-09	mg/kg-day	NA	--	NA	2.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	1.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	5.0E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	1.3E-01	mg/kg	4.7E-09	mg/kg-day	NA	--	NA	3.6E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	4.3E-09	mg/kg-day	NA	--	NA	3.4E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.6E-01	mg/kg	3.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	1.3E-07	mg/kg-day	NA	--	NA
				Phenanthrene	6.5E-01	mg/kg	2.3E-08	mg/kg-day	NA	--	NA	1.8E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	2.2E-10	mg/kg-day	NA	--	NA	1.7E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	8.6E-01	mg/kg	3.1E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	2.4E-07	mg/kg-day	2.0E-05	mg/kg-day	1E-02
				Aluminum	1.4E+04	mg/kg	5.1E-04	mg/kg-day	NA	--	NA	4.0E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Arsenic	8.2E+00	mg/kg	2.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	2.3E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Cadmium	1.8E+00	mg/kg	6.5E-08	mg/kg-day	NA	--	NA	5.0E-07	mg/kg-day	1.0E-03	mg/kg-day	5E-04
				Cobalt	1.3E+01	mg/kg	4.7E-07	mg/kg-day	NA	--	NA	3.6E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Iron	2.6E+04	mg/kg	9.3E-04	mg/kg-day	NA	--	NA	7.2E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Manganese	7.4E+02	mg/kg	2.6E-05	mg/kg-day	NA	--	NA	2.1E-04	mg/kg-day	2.4E-02	mg/kg-day	9E-03
				Vanadium	4.7E+01	mg/kg	1.7E-06	mg/kg-day	NA	--	NA	1.3E-05	mg/kg-day	5.0E-03	mg/kg-day	3E-03
			Exposure Route Total								6E-07					6E-02
Floodplain Soil	Surface Soil	EU BB 1	Dermal	Acenaphthylene	2.2E-02	mg/kg	1.0E-10	mg/kg-day	NA	--	NA	8.0E-10	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.7E-01	mg/kg	7.7E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	2.8E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	8.8E-01	mg/kg	8.8E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	3.2E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.0E+00	mg/kg	1.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	3.6E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.0E-01	mg/kg	2.3E-09	mg/kg-day	NA	--	NA	1.8E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	8.9E-01	mg/kg	8.9E-10	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-10	3.2E-08	mg/kg-day	NA	--	NA
				Carbazole	8.1E-02	mg/kg	2.9E-10	mg/kg-day	NA	--	NA	2.3E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	1.8E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-09	6.5E-09	mg/kg-day	NA	--	NA
				Dimethyl phthalate	1.3E-01	mg/kg	4.7E-10	mg/kg-day	NA	--	NA	3.6E-09	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	4.3E-10	mg/kg-day	NA	--	NA	3.4E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.6E-01	mg/kg	4.6E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-10	1.7E-08	mg/kg-day	NA	--	NA
				Phenanthrene	6.5E-01	mg/kg	3.0E-09	mg/kg-day	NA	--	NA	2.4E-08	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	8.6E-01	mg/kg	4.3E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-09	3.4E-08	mg/kg-day	2.0E-05	mg/kg-day	2E-03
				Aluminum	1.4E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.2E+00	mg/kg	8.8E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	6.9E-08	mg/kg-day	3.0E-04	mg/kg-day	2E-04
				Cadmium	1.8E+00	mg/kg	6.5E-11	mg/kg-day	NA	--	NA	5.0E-10	mg/kg-day	2.5E-05	mg/kg-day	2E-05
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.6E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	7.4E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.7E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								4E-08					2E-03

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 1	Inhalation	Acenaphthylene	1.6E-08	µg/m^3	1.2E-11	µg/m^3	NA	--	NA	9.1E-11	µg/m^3	NA	--	NA
				Benzo(a)anthracene	5.6E-07	µg/m^3	4.1E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	3.2E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	6.4E-07	µg/m^3	4.7E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-12	3.6E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	7.2E-07	µg/m^3	5.3E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	4.1E-09	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.6E-07	µg/m^3	2.7E-10	µg/m^3	NA	--	NA	2.1E-09	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	6.4E-07	µg/m^3	4.7E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	3.7E-09	µg/m^3	NA	--	NA
				Carbazole	5.9E-08	µg/m^3	4.3E-11	µg/m^3	NA	--	NA	3.4E-10	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E-07	µg/m^3	9.6E-11	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-13	7.4E-10	µg/m^3	NA	--	NA
				Dimethyl phthalate	9.4E-08	µg/m^3	6.9E-11	µg/m^3	NA	--	NA	5.4E-10	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-08	µg/m^3	6.4E-11	µg/m^3	NA	--	NA	5.0E-10	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E-07	µg/m^3	2.4E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-14	1.9E-09	µg/m^3	NA	--	NA
				Phenanthrene	4.7E-07	µg/m^3	3.5E-10	µg/m^3	NA	--	NA	2.7E-09	µg/m^3	NA	--	NA
				Endrin aldehyde	4.4E-09	µg/m^3	3.2E-12	µg/m^3	NA	--	NA	2.5E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	6.2E-07	µg/m^3	4.6E-10	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	5E-14	3.6E-09	µg/m^3	NA	--	NA
				Aluminum	1.0E-02	µg/m^3	7.5E-06	µg/m^3	NA	--	NA	5.9E-05	µg/m^3	5.0E+00	µg/m^3	--
				Arsenic	5.9E-06	µg/m^3	4.4E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-11	3.4E-08	µg/m^3	1.5E-02	µg/m^3	2E-06
				Cadmium	1.3E-06	µg/m^3	9.6E-10	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	2E-12	7.4E-09	µg/m^3	2.0E-02	µg/m^3	4E-07
				Cobalt	9.4E-06	µg/m^3	6.9E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-11	5.4E-08	µg/m^3	6.0E-03	µg/m^3	--
				Iron	1.9E-02	µg/m^3	1.4E-05	µg/m^3	NA	--	NA	1.1E-04	µg/m^3	NA	--	--
				Manganese	5.3E-04	µg/m^3	3.9E-07	µg/m^3	NA	--	NA	3.0E-06	µg/m^3	5.0E-02	µg/m^3	--
				Vanadium	3.4E-05	µg/m^3	2.5E-08	µg/m^3	NA	--	NA	1.9E-07	µg/m^3	NA	--	NA
			Exposure Route Total								8E-11					3E-06
		Exposure Point Total									7E-07					6E-02
	Total of Receptor Risks Across Medium										7E-07					6E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 2	Ingestion	Acenaphthylene	2.4E-02	mg/kg	2.3E-09	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	4.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	5.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	1.8E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	6.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	2.3E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	2.4E-09	mg/kg-day	NA	--	NA	1.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	1.2E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	4.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	3.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	1.3E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	2.8E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	5.3E-10	mg/kg-day	NA	--	NA	3.1E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	7.2E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	4.2E-07	mg/kg-day	2.0E-05	mg/kg-day	2E-02
				Aluminum	1.3E+04	mg/kg	1.3E-03	mg/kg-day	NA	--	NA	7.3E-03	mg/kg-day	1.0E+00	mg/kg-day	7E-03
				Arsenic	1.2E+01	mg/kg	1.2E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	6.7E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cobalt	5.6E+00	mg/kg	5.4E-07	mg/kg-day	NA	--	NA	3.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Iron	1.6E+04	mg/kg	1.5E-03	mg/kg-day	NA	--	NA	8.8E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Manganese	4.9E+02	mg/kg	4.7E-05	mg/kg-day	NA	--	NA	2.8E-04	mg/kg-day	2.4E-02	mg/kg-day	1E-02
			Exposure Route Total								2E-06					9E-02
Floodplain Soil	Surface Soil	EU BB 2	Dermal	Acenaphthylene	2.4E-02	mg/kg	1.5E-09	mg/kg-day	NA	--	NA	8.7E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	3.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	3.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	1.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	4.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	1.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	1.6E-08	mg/kg-day	NA	--	NA	9.1E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	7.0E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	7.9E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	2.8E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	2.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	8.4E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	5.0E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	2.9E-07	mg/kg-day	2.0E-05	mg/kg-day	1E-02
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	1.2E+01	mg/kg	1.7E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.0E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cobalt	5.6E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								4E-07					2E-02

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 2	Inhalation	Acenaphthylene	1.7E-08	µg/m^3	3.4E-11	µg/m^3	NA	--	NA	2.0E-10	µg/m^3	NA	--	NA
				Benzo(a)anthracene	2.1E-07	µg/m^3	4.1E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	2.4E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-07	µg/m^3	4.7E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-12	2.7E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.0E-07	µg/m^3	5.8E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	3.4E-09	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.8E-07	µg/m^3	3.5E-10	µg/m^3	NA	--	NA	2.1E-09	µg/m^3	NA	--	NA
				Carbazole	1.8E-08	µg/m^3	3.5E-11	µg/m^3	NA	--	NA	2.1E-10	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	5.6E-08	µg/m^3	1.1E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-13	6.4E-10	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-07	µg/m^3	3.3E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	1.9E-09	µg/m^3	NA	--	NA
				Phenanthrene	2.1E-07	µg/m^3	4.1E-10	µg/m^3	NA	--	NA	2.4E-09	µg/m^3	NA	--	NA
				Endosulfan sulfate	4.0E-09	µg/m^3	7.8E-12	µg/m^3	NA	--	NA	4.5E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	5.4E-07	µg/m^3	1.1E-09	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-13	6.2E-09	µg/m^3	NA	--	NA
				Aluminum	9.5E-03	µg/m^3	1.9E-05	µg/m^3	NA	--	NA	1.1E-04	µg/m^3	5.0E+00	µg/m^3	--
				Arsenic	8.7E-06	µg/m^3	1.7E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	7E-11	9.9E-08	µg/m^3	1.5E-02	µg/m^3	7E-06
				Cobalt	4.1E-06	µg/m^3	7.9E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	7E-11	4.6E-08	µg/m^3	6.0E-03	µg/m^3	--
				Iron	1.1E-02	µg/m^3	2.2E-05	µg/m^3	NA	--	NA	1.3E-04	µg/m^3	NA	--	--
				Manganese	3.6E-04	µg/m^3	7.0E-07	µg/m^3	NA	--	NA	4.1E-06	µg/m^3	5.0E-08	µg/m^3	--
			Exposure Route Total								1E-10					7E-06
		Exposure Point Total									2E-06					1E-01
	Total of Receptor Risks Across Medium										2E-06					1E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 2	Ingestion	Acenaphthylene	2.4E-02	mg/kg	8.6E-10	mg/kg-day	NA	--	NA	6.7E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	2.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	8.1E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	2.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	9.2E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	2.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	9.0E-09	mg/kg-day	NA	--	NA	7.0E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	9.0E-10	mg/kg-day	NA	--	NA	7.0E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	5.4E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-09	2.2E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	1.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	6.4E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	1.0E-08	mg/kg-day	NA	--	NA	8.1E-08	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	2.0E-10	mg/kg-day	NA	--	NA	1.5E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	2.7E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	2.1E-07	mg/kg-day	2.0E-05	mg/kg-day	1E-02
				Aluminum	1.3E+04	mg/kg	4.7E-04	mg/kg-day	NA	--	NA	3.7E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Arsenic	1.2E+01	mg/kg	4.3E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	3.4E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cobalt	5.6E+00	mg/kg	2.0E-07	mg/kg-day	NA	--	NA	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Iron	1.6E+04	mg/kg	5.7E-04	mg/kg-day	NA	--	NA	4.4E-03	mg/kg-day	7.0E-01	mg/kg-day	6E-03
				Manganese	4.9E+02	mg/kg	1.8E-05	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
			Exposure Route Total								8E-07					4E-02
Floodplain Soil	Surface Soil	EU BB 2	Dermal	Acenaphthylene	2.4E-02	mg/kg	1.1E-10	mg/kg-day	NA	--	NA	8.7E-10	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	2.9E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-10	1.1E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	3.3E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-09	1.2E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	4.1E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-10	1.5E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	9.1E-09	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	9.0E-11	mg/kg-day	NA	--	NA	7.0E-10	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	7.7E-11	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-09	2.8E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	2.3E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-10	8.4E-09	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	1.4E-09	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	3.8E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-09	2.9E-08	mg/kg-day	2.0E-05	mg/kg-day	1E-03
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	1.2E+01	mg/kg	1.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.0E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-04
				Cobalt	5.6E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								3E-08					2E-03

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 2	Inhalation	Acenaphthylene	1.7E-08	µg/m^3	1.3E-11	µg/m^3	NA	--	NA	9.9E-11	µg/m^3	NA	--	NA
				Benzo(a)anthracene	2.1E-07	µg/m^3	1.5E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-14	1.2E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-07	µg/m^3	1.8E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	5E-13	1.4E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.0E-07	µg/m^3	2.2E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-14	1.7E-09	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.8E-07	µg/m^3	1.3E-10	µg/m^3	NA	--	NA	1.0E-09	µg/m^3	NA	--	NA
				Carbazole	1.8E-08	µg/m^3	1.3E-11	µg/m^3	NA	--	NA	1.0E-10	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	5.6E-08	µg/m^3	4.1E-11	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-13	3.2E-10	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-07	µg/m^3	1.2E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-14	9.5E-10	µg/m^3	NA	--	NA
				Phenanthrene	2.1E-07	µg/m^3	1.5E-10	µg/m^3	NA	--	NA	1.2E-09	µg/m^3	NA	--	NA
				Endosulfan sulfate	4.0E-09	µg/m^3	2.9E-12	µg/m^3	NA	--	NA	2.3E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	5.4E-07	µg/m^3	4.0E-10	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	4E-14	3.1E-09	µg/m^3	NA	--	NA
				Aluminum	9.5E-03	µg/m^3	7.0E-06	µg/m^3	NA	--	NA	5.4E-05	µg/m^3	5.0E+00	µg/m^3	--
				Arsenic	8.7E-06	µg/m^3	6.4E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	3E-11	5.0E-08	µg/m^3	1.5E-02	µg/m^3	3E-06
				Cobalt	4.1E-06	µg/m^3	3.0E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-11	2.3E-08	µg/m^3	6.0E-03	µg/m^3	--
				Iron	1.1E-02	µg/m^3	8.4E-06	µg/m^3	NA	--	NA	6.5E-05	µg/m^3	NA	--	--
				Manganese	3.6E-04	µg/m^3	2.6E-07	µg/m^3	NA	--	NA	2.0E-06	µg/m^3	5.0E-08	µg/m^3	--
			Exposure Route Total								6E-11					3E-06
		Exposure Point Total									8E-07					4E-02
	Total of Receptor Risks Across Medium										8E-07					4E-02

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 3	Ingestion	Acenaphthylene	1.4E-01	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	7.8E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	3.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	3.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	4.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	1.5E-07	mg/kg-day	NA	--	NA	8.9E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	3.0E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-09	1.1E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.4E+01	mg/kg	5.2E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	7E-08	3.0E-05	mg/kg-day	2.0E-02	mg/kg-day	2E-03
				Carbazole	2.8E-01	mg/kg	2.7E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.5E-01	mg/kg	6.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	2.5E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	5.3E-08	mg/kg-day	NA	--	NA	3.1E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	2.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	7.8E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.1E+00	mg/kg	2.0E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	9.4E-10	mg/kg-day	NA	--	NA	5.5E-09	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	5.6E-10	mg/kg-day	NA	--	NA	3.2E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	3.6E+00	mg/kg	3.5E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	2.0E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	1.0E+04	mg/kg	1.0E-03	mg/kg-day	NA	--	NA	5.9E-03	mg/kg-day	1.0E+00	mg/kg-day	6E-03
				Antimony	1.5E+01	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	8.4E-06	mg/kg-day	4.0E-04	mg/kg-day	2E-02
				Arsenic	2.1E+01	mg/kg	2.0E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Cadmium	5.6E+00	mg/kg	5.4E-07	mg/kg-day	NA	--	NA	3.1E-06	mg/kg-day	1.0E-03	mg/kg-day	3E-03
				Cobalt	1.2E+01	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	6.7E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Copper	2.8E+03	mg/kg	2.7E-04	mg/kg-day	NA	--	NA	1.6E-03	mg/kg-day	4.0E-02	mg/kg-day	4E-02
				Iron	1.2E+05	mg/kg	1.1E-02	mg/kg-day	NA	--	NA	6.7E-02	mg/kg-day	7.0E-01	mg/kg-day	1E-01
				Lead	1.2E+03	mg/kg	1.1E-04	mg/kg-day	NA	--	NA	6.6E-04	mg/kg-day	NA	--	NA
				Manganese	7.0E+02	mg/kg	6.7E-05	mg/kg-day	NA	--	NA	3.9E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Mercury	2.1E+00	mg/kg	2.0E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Nickel	9.2E+01	mg/kg	8.8E-06	mg/kg-day	NA	--	NA	5.1E-05	mg/kg-day	2.0E-02	mg/kg-day	3E-03
				Thallium	4.0E+00	mg/kg	3.8E-07	mg/kg-day	NA	--	NA	2.2E-06	mg/kg-day	1.0E-05	mg/kg-day	2E-01
				Vanadium	2.8E+01	mg/kg	2.7E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	5.0E-03	mg/kg-day	3E-03
				Zinc	1.5E+03	mg/kg	1.4E-04	mg/kg-day	NA	--	NA	8.2E-04	mg/kg-day	3.0E-01	mg/kg-day	3E-03
			Exposure Route Total								5E-06					6E-01

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 3	Dermal	Acenaphthylene	1.4E-01	mg/kg	8.7E-09	mg/kg-day	NA	--	NA	5.1E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	2.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	7.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	2.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	7.6E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	2.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	9.8E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	5.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	2.0E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	7.3E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.4E+01	mg/kg	2.6E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	4E-08	1.5E-05	mg/kg-day	2.0E-02	mg/kg-day	8E-04
				Carbazole	2.8E-01	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	7.8E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.5E-01	mg/kg	4.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	1.6E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	2.6E-08	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	5.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.1E+00	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	7.6E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	3.6E+00	mg/kg	2.4E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.4E-06	mg/kg-day	2.0E-05	mg/kg-day	7E-02
				Aluminum	1.0E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.5E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	2.1E+01	mg/kg	3.0E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.8E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Cadmium	5.6E+00	mg/kg	2.7E-09	mg/kg-day	NA	--	NA	1.6E-08	mg/kg-day	2.5E-05	mg/kg-day	6E-04
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	2.8E+03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.2E+05	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.2E+03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	--
				Manganese	7.0E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.1E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	9.2E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.5E+03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								1E-06					8E-02

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 3	Inhalation	Acenaphthylene	1.0E-07	µg/m^3	2.0E-10	µg/m^3	NA	--	NA	1.2E-09	µg/m^3	NA	--	NA
				Benzo(a)anthracene	1.4E-06	µg/m^3	2.8E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-13	1.7E-08	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.5E-06	µg/m^3	3.0E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	9E-12	1.7E-08	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.0E-06	µg/m^3	3.8E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-12	2.2E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.2E-06	µg/m^3	2.3E-09	µg/m^3	NA	--	NA	1.3E-08	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.4E-06	µg/m^3	2.8E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-13	1.7E-08	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	3.9E-05	µg/m^3	7.7E-08	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	2E-13	4.5E-07	µg/m^3	NA	--	NA
				Carbazole	2.0E-07	µg/m^3	4.0E-10	µg/m^3	NA	--	NA	2.3E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.3E-07	µg/m^3	6.4E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-12	3.7E-09	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.0E-07	µg/m^3	7.8E-10	µg/m^3	NA	--	NA	4.5E-09	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.0E-06	µg/m^3	2.0E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-13	1.2E-08	µg/m^3	NA	--	NA
				Phenanthrene	1.5E-06	µg/m^3	3.0E-09	µg/m^3	NA	--	NA	1.7E-08	µg/m^3	NA	--	NA
				Endrin aldehyde	7.1E-09	µg/m^3	1.4E-11	µg/m^3	NA	--	NA	8.1E-11	µg/m^3	NA	--	NA
				Endrin ketone	4.2E-09	µg/m^3	8.2E-12	µg/m^3	NA	--	NA	4.8E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	2.6E-06	µg/m^3	5.1E-09	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	5E-13	3.0E-08	µg/m^3	NA	--	NA
				Aluminum	7.6E-03	µg/m^3	1.5E-05	µg/m^3	NA	--	NA	8.7E-05	µg/m^3	5.0E+00	µg/m^3	--
				Antimony	1.1E-05	µg/m^3	2.1E-08	µg/m^3	NA	--	NA	1.2E-07	µg/m^3	NA	--	--
				Arsenic	1.5E-05	µg/m^3	3.0E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	1E-10	1.7E-07	µg/m^3	1.5E-02	µg/m^3	1E-05
				Cadmium	4.1E-06	µg/m^3	7.9E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	1E-11	4.6E-08	µg/m^3	2.0E-02	µg/m^3	2E-06
				Cobalt	8.7E-06	µg/m^3	1.7E-08	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	2E-10	9.9E-08	µg/m^3	6.0E-03	µg/m^3	--
				Copper	2.0E-03	µg/m^3	4.0E-06	µg/m^3	NA	--	NA	2.3E-05	µg/m^3	NA	--	--
				Iron	8.6E-02	µg/m^3	1.7E-04	µg/m^3	NA	--	NA	9.8E-04	µg/m^3	NA	--	--
				Lead	8.6E-04	µg/m^3	1.7E-06	µg/m^3	NA	--	NA	9.8E-06	µg/m^3	NA	--	NA
				Manganese	5.1E-04	µg/m^3	9.9E-07	µg/m^3	NA	--	NA	5.8E-06	µg/m^3	5.0E-02	µg/m^3	--
				Mercury	1.5E-06	µg/m^3	3.0E-09	µg/m^3	NA	--	NA	1.7E-08	µg/m^3	3.0E-02	µg/m^3	6E-07
				Nickel	6.7E-05	µg/m^3	1.3E-07	µg/m^3	2.6E-04	(µg/m^3)$^{-1}$	3E-11	7.6E-07	µg/m^3	9.0E-02	µg/m^3	--
				Thallium	2.9E-06	µg/m^3	5.7E-09	µg/m^3	NA	--	NA	3.3E-08	µg/m^3	NA	--	--
				Vanadium	2.0E-05	µg/m^3	4.0E-08	µg/m^3	NA	--	NA	2.3E-07	µg/m^3	NA	--	NA
				Zinc	1.1E-03	µg/m^3	2.1E-06	µg/m^3	NA	--	NA	1.2E-05	µg/m^3	NA	--	NA
			Exposure Route Total								3E-10					1E-05
		Exposure Point Total									6E-06					7E-01
	Total of Receptor Risks Across Medium										6E-06					7E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 3	Ingestion	Acenaphthylene	1.4E-01	mg/kg	5.0E-09	mg/kg-day	NA	--	NA	3.9E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	5.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	1.5E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	5.9E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	1.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	7.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	5.8E-08	mg/kg-day	NA	--	NA	4.5E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	5.6E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.4E+01	mg/kg	1.9E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	1.5E-05	mg/kg-day	2.0E-02	mg/kg-day	8E-04
				Carbazole	2.8E-01	mg/kg	1.0E-08	mg/kg-day	NA	--	NA	7.8E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.5E-01	mg/kg	3.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	1.3E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	9.7E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	3.9E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.1E+00	mg/kg	7.5E-08	mg/kg-day	NA	--	NA	5.9E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	3.5E-10	mg/kg-day	NA	--	NA	2.7E-09	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	2.1E-10	mg/kg-day	NA	--	NA	1.6E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	3.6E+00	mg/kg	1.3E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.0E-06	mg/kg-day	2.0E-05	mg/kg-day	5E-02
				Aluminum	1.0E+04	mg/kg	3.8E-04	mg/kg-day	NA	--	NA	2.9E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Antimony	1.5E+01	mg/kg	5.4E-07	mg/kg-day	NA	--	NA	4.2E-06	mg/kg-day	4.0E-04	mg/kg-day	1E-02
				Arsenic	2.1E+01	mg/kg	7.5E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	5.9E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cadmium	5.6E+00	mg/kg	2.0E-07	mg/kg-day	NA	--	NA	1.6E-06	mg/kg-day	1.0E-03	mg/kg-day	2E-03
				Cobalt	1.2E+01	mg/kg	4.3E-07	mg/kg-day	NA	--	NA	3.4E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Copper	2.8E+03	mg/kg	1.0E-04	mg/kg-day	NA	--	NA	7.9E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Iron	1.2E+05	mg/kg	4.3E-03	mg/kg-day	NA	--	NA	3.3E-02	mg/kg-day	7.0E-01	mg/kg-day	5E-02
				Lead	1.2E+03	mg/kg	4.2E-05	mg/kg-day	NA	--	NA	3.3E-04	mg/kg-day	NA	--	NA
				Manganese	7.0E+02	mg/kg	2.5E-05	mg/kg-day	NA	--	NA	2.0E-04	mg/kg-day	2.4E-02	mg/kg-day	8E-03
				Mercury	2.1E+00	mg/kg	7.5E-08	mg/kg-day	NA	--	NA	5.9E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Nickel	9.2E+01	mg/kg	3.3E-06	mg/kg-day	NA	--	NA	2.6E-05	mg/kg-day	2.0E-02	mg/kg-day	1E-03
				Thallium	4.0E+00	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	1.0E-05	mg/kg-day	1E-01
				Vanadium	2.8E+01	mg/kg	1.0E-06	mg/kg-day	NA	--	NA	7.8E-06	mg/kg-day	5.0E-03	mg/kg-day	2E-03
				Zinc	1.5E+03	mg/kg	5.2E-05	mg/kg-day	NA	--	NA	4.1E-04	mg/kg-day	3.0E-01	mg/kg-day	1E-03
			Exposure Route Total								2E-06					3E-01

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 3	Dermal	Acenaphthylene	1.4E-01	mg/kg	6.5E-10	mg/kg-day	NA	--	NA	5.1E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	2.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	7.3E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	2.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	7.6E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	2.7E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	9.8E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	7.5E-09	mg/kg-day	NA	--	NA	5.8E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	2.0E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	7.3E-08	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.4E+01	mg/kg	1.9E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	1.5E-06	mg/kg-day	2.0E-02	mg/kg-day	8E-05
				Carbazole	2.8E-01	mg/kg	1.0E-09	mg/kg-day	NA	--	NA	7.8E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.5E-01	mg/kg	4.5E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	1.6E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	2.0E-09	mg/kg-day	NA	--	NA	1.5E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	1.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	5.1E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.1E+00	mg/kg	9.8E-09	mg/kg-day	NA	--	NA	7.6E-08	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	3.6E+00	mg/kg	1.8E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	1.4E-07	mg/kg-day	2.0E-05	mg/kg-day	7E-03
				Aluminum	1.0E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.5E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	2.1E+01	mg/kg	2.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	1.8E-07	mg/kg-day	3.0E-04	mg/kg-day	6E-04
				Cadmium	5.6E+00	mg/kg	2.0E-10	mg/kg-day	NA	--	NA	1.6E-09	mg/kg-day	2.5E-05	mg/kg-day	6E-05
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	2.8E+03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.2E+05	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.2E+03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	--
				Manganese	7.0E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.1E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	9.2E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.5E+03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								1E-07					8E-03

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB 3	Inhalation	Acenaphthylene	1.0E-07	µg/m^3	7.4E-11	µg/m^3	NA	--	NA	5.8E-10	µg/m^3	NA	--	NA
				Benzo(a)anthracene	1.4E-06	µg/m^3	1.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-13	8.3E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.5E-06	µg/m^3	1.1E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	3E-12	8.7E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.0E-06	µg/m^3	1.4E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-13	1.1E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.2E-06	µg/m^3	8.5E-10	µg/m^3	NA	--	NA	6.6E-09	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.4E-06	µg/m^3	1.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-13	8.3E-09	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	3.9E-05	µg/m^3	2.9E-08	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	7E-14	2.2E-07	µg/m^3	NA	--	NA
				Carbazole	2.0E-07	µg/m^3	1.5E-10	µg/m^3	NA	--	NA	1.2E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.3E-07	µg/m^3	2.4E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	8E-13	1.9E-09	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.0E-07	µg/m^3	2.9E-10	µg/m^3	NA	--	NA	2.3E-09	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.0E-06	µg/m^3	7.4E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	5.8E-09	µg/m^3	NA	--	NA
				Phenanthrene	1.5E-06	µg/m^3	1.1E-09	µg/m^3	NA	--	NA	8.7E-09	µg/m^3	NA	--	NA
				Endrin aldehyde	7.1E-09	µg/m^3	5.2E-12	µg/m^3	NA	--	NA	4.1E-11	µg/m^3	NA	--	NA
				Endrin ketone	4.2E-09	µg/m^3	3.1E-12	µg/m^3	NA	--	NA	2.4E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	2.6E-06	µg/m^3	1.9E-09	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-13	1.5E-08	µg/m^3	NA	--	NA
				Aluminum	7.6E-03	µg/m^3	5.6E-06	µg/m^3	NA	--	NA	4.3E-05	µg/m^3	5.0E+00	µg/m^3	--
				Antimony	1.1E-05	µg/m^3	8.0E-09	µg/m^3	NA	--	NA	6.2E-08	µg/m^3	NA	--	--
				Arsenic	1.5E-05	µg/m^3	1.1E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	5E-11	8.7E-08	µg/m^3	1.5E-02	µg/m^3	6E-06
				Cadmium	4.1E-06	µg/m^3	3.0E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	5E-12	2.3E-08	µg/m^3	2.0E-02	µg/m^3	1E-06
				Cobalt	8.7E-06	µg/m^3	6.4E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-11	5.0E-08	µg/m^3	6.0E-03	µg/m^3	--
				Copper	2.0E-03	µg/m^3	1.5E-06	µg/m^3	NA	--	NA	1.2E-05	µg/m^3	NA	--	--
				Iron	8.6E-02	µg/m^3	6.3E-05	µg/m^3	NA	--	NA	4.9E-04	µg/m^3	NA	--	--
				Lead	8.6E-04	µg/m^3	6.3E-07	µg/m^3	NA	--	NA	4.9E-06	µg/m^3	NA	--	NA
				Manganese	5.1E-04	µg/m^3	3.7E-07	µg/m^3	NA	--	NA	2.9E-06	µg/m^3	5.0E-02	µg/m^3	--
				Mercury	1.5E-06	µg/m^3	1.1E-09	µg/m^3	NA	--	NA	8.7E-09	µg/m^3	3.0E-02	µg/m^3	3E-07
				Nickel	6.7E-05	µg/m^3	4.9E-08	µg/m^3	2.6E-04	(µg/m^3)$^{-1}$	1E-11	3.8E-07	µg/m^3	9.0E-02	µg/m^3	--
				Thallium	2.9E-06	µg/m^3	2.1E-09	µg/m^3	NA	--	NA	1.7E-08	µg/m^3	NA	--	--
				Vanadium	2.0E-05	µg/m^3	1.5E-08	µg/m^3	NA	--	NA	1.2E-07	µg/m^3	NA	--	NA
				Zinc	1.1E-03	µg/m^3	7.8E-07	µg/m^3	NA	--	NA	6.0E-06	µg/m^3	NA	--	NA
			Exposure Route Total								1E-10					7E-06
		Exposure Point Total									2E-06					3E-01
	Total of Receptor Risks Across Medium										2E-06					3E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB	Ingestion	Acenaphthylene	6.7E-01	mg/kg	6.4E-08	mg/kg-day	NA	--	NA	3.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.3E+00	mg/kg	2.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	7.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.4E+00	mg/kg	2.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	7.8E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	3.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	6.2E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E-01	mg/kg	7.8E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-09	2.9E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	2.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	8.9E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	6.7E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	7.9E-01	mg/kg	1.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	4.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.1E+00	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	6.2E-07	mg/kg-day	NA	--	NA
				Aldrin	4.1E-02	mg/kg	3.9E-09	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	7E-08	2.3E-08	mg/kg-day	3.0E-05	mg/kg-day	8E-04
				delta-BHC	5.6E-02	mg/kg	5.4E-09	mg/kg-day	NA	--	NA	3.1E-08	mg/kg-day	NA	--	NA
				Dieldrin	3.5E-01	mg/kg	3.4E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	5E-07	2.0E-07	mg/kg-day	5.0E-05	mg/kg-day	4E-03
				4,4'-DDT	5.2E-01	mg/kg	5.0E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.9E-07	mg/kg-day	5.0E-04	mg/kg-day	6E-04
				Endosulfan sulfate	2.2E-02	mg/kg	2.1E-09	mg/kg-day	NA	--	NA	1.2E-08	mg/kg-day	NA	--	NA
				Endrin aldehyde	1.5E-02	mg/kg	1.4E-09	mg/kg-day	NA	--	NA	8.4E-09	mg/kg-day	NA	--	NA
				Endrin ketone	6.5E-02	mg/kg	6.2E-09	mg/kg-day	NA	--	NA	3.6E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.3E+01	mg/kg	1.3E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	7.5E-06	mg/kg-day	2.0E-05	mg/kg-day	4E-01
				Aluminum	1.1E+04	mg/kg	1.1E-03	mg/kg-day	NA	--	NA	6.1E-03	mg/kg-day	1.0E+00	mg/kg-day	6E-03
				Antimony	4.0E+00	mg/kg	3.8E-07	mg/kg-day	NA	--	NA	2.2E-06	mg/kg-day	4.0E-04	mg/kg-day	6E-03
				Arsenic	1.0E+01	mg/kg	9.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	5.8E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cadmium	9.1E+00	mg/kg	8.7E-07	mg/kg-day	NA	--	NA	5.1E-06	mg/kg-day	1.0E-03	mg/kg-day	5E-03
				Cobalt	8.6E+00	mg/kg	8.2E-07	mg/kg-day	NA	--	NA	4.8E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Copper	1.3E+02	mg/kg	1.3E-05	mg/kg-day	NA	--	NA	7.5E-05	mg/kg-day	4.0E-02	mg/kg-day	2E-03
				Iron	1.8E+04	mg/kg	1.7E-03	mg/kg-day	NA	--	NA	9.9E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Lead	2.0E+02	mg/kg	1.9E-05	mg/kg-day	NA	--	NA	1.1E-04	mg/kg-day	NA	--	NA
				Manganese	6.0E+02	mg/kg	5.7E-05	mg/kg-day	NA	--	NA	3.3E-04	mg/kg-day	2.4E-02	mg/kg-day	1E-02
				Silver	8.1E+00	mg/kg	7.8E-07	mg/kg-day	NA	--	NA	4.5E-06	mg/kg-day	5.0E-03	mg/kg-day	9E-04
				Vanadium	4.0E+01	mg/kg	3.8E-06	mg/kg-day	NA	--	NA	2.2E-05	mg/kg-day	5.0E-03	mg/kg-day	4E-03
			Exposure Route Total								6E-06					5E-01

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB	Dermal	Acenaphthylene	6.7E-01	mg/kg	4.2E-08	mg/kg-day	NA	--	NA	2.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.3E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	4.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.4E+00	mg/kg	1.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	5.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	2.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	8.4E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	6.9E-08	mg/kg-day	NA	--	NA	4.0E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E-01	mg/kg	5.3E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-10	1.9E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	7.0E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	1.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	5.8E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	5.8E-08	mg/kg-day	NA	--	NA	3.4E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	7.9E-01	mg/kg	8.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	2.9E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.1E+00	mg/kg	6.9E-08	mg/kg-day	NA	--	NA	4.0E-07	mg/kg-day	NA	--	NA
				Aldrin	4.1E-02	mg/kg	N/A	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				delta-BHC	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Dieldrin	3.5E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	5.2E-01	mg/kg	7.5E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	4.4E-08	mg/kg-day	5.0E-04	mg/kg-day	9E-05
				Endosulfan sulfate	2.2E-02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Endrin aldehyde	1.5E-02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Endrin ketone	6.5E-02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.3E+01	mg/kg	9.0E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	5.2E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.0E+01	mg/kg	1.5E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	8.7E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cadmium	9.1E+00	mg/kg	4.4E-09	mg/kg-day	NA	--	NA	2.5E-08	mg/kg-day	2.5E-05	mg/kg-day	1E-03
				Cobalt	8.6E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.3E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.8E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	2.0E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	--
				Manganese	6.0E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Silver	8.1E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	2.0E-04	mg/kg-day	--
				Vanadium	4.0E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								3E-06					3E-01

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB	Inhalation	Acenaphthylene	4.9E-07	µg/m^3	9.5E-10	µg/m^3	NA	--	NA	5.5E-09	µg/m^3	NA	--	NA
				Benzo(a)anthracene	9.4E-07	µg/m^3	1.8E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-13	1.1E-08	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.0E-06	µg/m^3	2.0E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	6E-12	1.2E-08	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.7E-06	µg/m^3	3.3E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-12	1.9E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	8.0E-07	µg/m^3	1.6E-09	µg/m^3	NA	--	NA	9.1E-09	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	3.8E-07	µg/m^3	7.4E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	4.3E-09	µg/m^3	NA	--	NA
				Carbazole	1.8E-07	µg/m^3	3.5E-10	µg/m^3	NA	--	NA	2.1E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.2E-06	µg/m^3	2.3E-09	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	7E-12	1.3E-08	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-07	µg/m^3	1.7E-09	µg/m^3	NA	--	NA	9.9E-09	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-07	µg/m^3	1.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-13	6.5E-09	µg/m^3	NA	--	NA
				Phenanthrene	8.0E-07	µg/m^3	1.6E-09	µg/m^3	NA	--	NA	9.1E-09	µg/m^3	NA	--	NA
				Aldrin	3.0E-08	µg/m^3	5.8E-11	µg/m^3	4.9E-03	(µg/m^3)$^{-1}$	3E-13	3.4E-10	µg/m^3	NA	--	NA
				delta-BHC	4.1E-08	µg/m^3	7.9E-11	µg/m^3	NA	--	NA	4.6E-10	µg/m^3	NA	--	NA
				Dieldrin	2.5E-07	µg/m^3	5.0E-10	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	--	2.9E-09	µg/m^3	NA	--	--
				4,4'-DDT	3.8E-07	µg/m^3	7.4E-10	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	7E-14	4.3E-09	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.6E-08	µg/m^3	3.1E-11	µg/m^3	NA	--	NA	1.8E-10	µg/m^3	NA	--	NA
				Endrin aldehyde	1.1E-08	µg/m^3	2.1E-11	µg/m^3	NA	--	NA	1.2E-10	µg/m^3	NA	--	NA
				Endrin ketone	4.7E-08	µg/m^3	9.2E-11	µg/m^3	NA	--	NA	5.4E-10	µg/m^3	NA	--	NA
				Total PCB Aroclors	9.7E-06	µg/m^3	1.9E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-12	1.1E-07	µg/m^3	NA	--	NA
				Aluminum	8.0E-03	µg/m^3	1.6E-05	µg/m^3	NA	--	NA	9.1E-05	µg/m^3	5.0E+00	µg/m^3	--
				Antimony	2.9E-06	µg/m^3	5.7E-09	µg/m^3	NA	--	NA	3.3E-08	µg/m^3	NA	--	--
				Arsenic	7.5E-06	µg/m^3	1.5E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	6E-11	8.5E-08	µg/m^3	1.5E-02	µg/m^3	6E-06
				Cadmium	6.6E-06	µg/m^3	1.3E-08	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	2E-11	7.5E-08	µg/m^3	2.0E-02	µg/m^3	4E-06
				Cobalt	6.2E-06	µg/m^3	1.2E-08	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	1E-10	7.1E-08	µg/m^3	6.0E-03	µg/m^3	--
				Copper	9.7E-05	µg/m^3	1.9E-07	µg/m^3	NA	--	NA	1.1E-06	µg/m^3	NA	--	--
				Iron	1.3E-02	µg/m^3	2.5E-05	µg/m^3	NA	--	NA	1.5E-04	µg/m^3	NA	--	--
				Lead	1.4E-04	µg/m^3	2.8E-07	µg/m^3	NA	--	NA	1.6E-06	µg/m^3	NA	--	NA
				Manganese	4.3E-04	µg/m^3	8.5E-07	µg/m^3	NA	--	NA	5.0E-06	µg/m^3	5.0E-02	µg/m^3	--
				Silver	5.9E-06	µg/m^3	1.1E-08	µg/m^3	NA	--	NA	6.7E-08	µg/m^3	NA	--	NA
				Vanadium	2.9E-05	µg/m^3	5.7E-08	µg/m^3	NA	--	NA	3.3E-07	µg/m^3	NA	--	NA
			Exposure Route Total								2E-10					9E-06
		Exposure Point Total									8E-06					7E-01
	Total of Receptor Risks Across Medium										8E-06					7E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB	Ingestion	Acenaphthylene	6.7E-01	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.3E+00	mg/kg	9.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	3.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.4E+00	mg/kg	9.7E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	3.9E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	1.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	6.4E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	4.0E-08	mg/kg-day	NA	--	NA	3.1E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E-01	mg/kg	3.6E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	6E-10	1.5E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	9.0E-09	mg/kg-day	NA	--	NA	7.0E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	1.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	4.5E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	4.3E-08	mg/kg-day	NA	--	NA	3.4E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	7.9E-01	mg/kg	5.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-09	2.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.1E+00	mg/kg	4.0E-08	mg/kg-day	NA	--	NA	3.1E-07	mg/kg-day	NA	--	NA
				Aldrin	4.1E-02	mg/kg	1.5E-09	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	3E-08	1.1E-08	mg/kg-day	3.0E-05	mg/kg-day	4E-04
				delta-BHC	5.6E-02	mg/kg	2.0E-09	mg/kg-day	NA	--	NA	1.6E-08	mg/kg-day	NA	--	NA
				Dieldrin	3.5E-01	mg/kg	1.3E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	2E-07	9.8E-08	mg/kg-day	5.0E-05	mg/kg-day	2E-03
				4,4'-DDT	5.2E-01	mg/kg	1.9E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	1.5E-07	mg/kg-day	5.0E-04	mg/kg-day	3E-04
				Endosulfan sulfate	2.2E-02	mg/kg	7.9E-10	mg/kg-day	NA	--	NA	6.2E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	1.5E-02	mg/kg	5.4E-10	mg/kg-day	NA	--	NA	4.2E-09	mg/kg-day	NA	--	NA
				Endrin ketone	6.5E-02	mg/kg	2.3E-09	mg/kg-day	NA	--	NA	1.8E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.3E+01	mg/kg	4.7E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	3.7E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	1.1E+04	mg/kg	3.9E-04	mg/kg-day	NA	--	NA	3.1E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Antimony	4.0E+00	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	4.0E-04	mg/kg-day	3E-03
				Arsenic	1.0E+01	mg/kg	3.7E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	2.9E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	9.1E+00	mg/kg	3.3E-07	mg/kg-day	NA	--	NA	2.5E-06	mg/kg-day	1.0E-03	mg/kg-day	3E-03
				Cobalt	8.6E+00	mg/kg	3.1E-07	mg/kg-day	NA	--	NA	2.4E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Copper	1.3E+02	mg/kg	4.8E-06	mg/kg-day	NA	--	NA	3.7E-05	mg/kg-day	4.0E-02	mg/kg-day	9E-04
				Iron	1.8E+04	mg/kg	6.4E-04	mg/kg-day	NA	--	NA	5.0E-03	mg/kg-day	7.0E-01	mg/kg-day	7E-03
				Lead	2.0E+02	mg/kg	7.1E-06	mg/kg-day	NA	--	NA	5.5E-05	mg/kg-day	NA	--	NA
				Manganese	6.0E+02	mg/kg	2.2E-05	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	2.4E-02	mg/kg-day	7E-03
				Silver	8.1E+00	mg/kg	2.9E-07	mg/kg-day	NA	--	NA	2.3E-06	mg/kg-day	5.0E-03	mg/kg-day	5E-04
				Vanadium	4.0E+01	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								2E-06					2E-01

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB	Dermal	Acenaphthylene	6.7E-01	mg/kg	3.1E-09	mg/kg-day	NA	--	NA	2.4E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.3E+00	mg/kg	1.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	4.7E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.4E+00	mg/kg	1.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	5.1E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	2.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	8.4E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	5.1E-09	mg/kg-day	NA	--	NA	4.0E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E-01	mg/kg	5.2E-10	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-11	1.9E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	9.0E-10	mg/kg-day	NA	--	NA	7.0E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	1.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	5.8E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	4.3E-09	mg/kg-day	NA	--	NA	3.4E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	7.9E-01	mg/kg	7.9E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	2.9E-08	mg/kg-day	NA	--	NA
				Phenanthrene	1.1E+00	mg/kg	5.1E-09	mg/kg-day	NA	--	NA	4.0E-08	mg/kg-day	NA	--	NA
				Aldrin	4.1E-02	mg/kg	N/A	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				delta-BHC	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Dieldrin	3.5E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	5.2E-01	mg/kg	5.6E-10	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-10	4.4E-09	mg/kg-day	5.0E-04	mg/kg-day	9E-06
				Endosulfan sulfate	2.2E-02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Endrin aldehyde	1.5E-02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Endrin ketone	6.5E-02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.3E+01	mg/kg	6.6E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	5.2E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.0E+01	mg/kg	1.1E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	8.7E-08	mg/kg-day	3.0E-04	mg/kg-day	3E-04
				Cadmium	9.1E+00	mg/kg	3.3E-10	mg/kg-day	NA	--	NA	2.5E-09	mg/kg-day	2.5E-05	mg/kg-day	1E-04
				Cobalt	8.6E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.3E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.8E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	2.0E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	--
				Manganese	6.0E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Silver	8.1E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	2.0E-04	mg/kg-day	--
				Vanadium	4.0E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-07					3E-02

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB	Inhalation	Acenaphthylene	4.9E-07	µg/m^3	3.6E-10	µg/m^3	NA	--	NA	2.8E-09	µg/m^3	NA	--	NA
				Benzo(a)anthracene	9.4E-07	µg/m^3	6.9E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	5.4E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.0E-06	µg/m^3	7.4E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-12	5.8E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.7E-06	µg/m^3	1.2E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-13	9.5E-09	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	8.0E-07	µg/m^3	5.8E-10	µg/m^3	NA	--	NA	4.5E-09	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	3.8E-07	µg/m^3	2.8E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-14	2.2E-09	µg/m^3	NA	--	NA
				Carbazole	1.8E-07	µg/m^3	1.3E-10	µg/m^3	NA	--	NA	1.0E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.2E-06	µg/m^3	8.5E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-12	6.6E-09	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-07	µg/m^3	6.4E-10	µg/m^3	NA	--	NA	5.0E-09	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-07	µg/m^3	4.2E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	3.3E-09	µg/m^3	NA	--	NA
				Phenanthrene	8.0E-07	µg/m^3	5.8E-10	µg/m^3	NA	--	NA	4.5E-09	µg/m^3	NA	--	NA
				Aldrin	3.0E-08	µg/m^3	2.2E-11	µg/m^3	4.9E-03	(µg/m^3)$^{-1}$	1E-13	1.7E-10	µg/m^3	NA	--	NA
				delta-BHC	4.1E-08	µg/m^3	3.0E-11	µg/m^3	NA	--	NA	2.3E-10	µg/m^3	NA	--	NA
				Dieldrin	2.5E-07	µg/m^3	1.9E-10	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	--	1.4E-09	µg/m^3	NA	--	--
				4,4'-DDT	3.8E-07	µg/m^3	2.8E-10	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	3E-14	2.2E-09	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.6E-08	µg/m^3	1.2E-11	µg/m^3	NA	--	NA	9.1E-11	µg/m^3	NA	--	NA
				Endrin aldehyde	1.1E-08	µg/m^3	8.0E-12	µg/m^3	NA	--	NA	6.2E-11	µg/m^3	NA	--	NA
				Endrin ketone	4.7E-08	µg/m^3	3.5E-11	µg/m^3	NA	--	NA	2.7E-10	µg/m^3	NA	--	NA
				Total PCB Aroclors	9.6E-06	µg/m^3	7.0E-09	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	7E-13	5.5E-08	µg/m^3	NA	--	NA
				Aluminum	8.0E-03	µg/m^3	5.8E-06	µg/m^3	NA	--	NA	4.5E-05	µg/m^3	5.0E+00	µg/m^3	--
				Antimony	2.9E-06	µg/m^3	2.1E-09	µg/m^3	NA	--	NA	1.7E-08	µg/m^3	NA	--	--
				Arsenic	7.5E-06	µg/m^3	5.5E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-11	4.3E-08	µg/m^3	1.5E-02	µg/m^3	3E-06
				Cadmium	6.6E-06	µg/m^3	4.8E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	9E-12	3.8E-08	µg/m^3	2.0E-02	µg/m^3	2E-06
				Cobalt	6.2E-06	µg/m^3	4.6E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	4E-11	3.6E-08	µg/m^3	6.0E-03	µg/m^3	--
				Copper	9.7E-05	µg/m^3	7.1E-08	µg/m^3	NA	--	NA	5.5E-07	µg/m^3	NA	--	--
				Iron	1.3E-02	µg/m^3	9.4E-06	µg/m^3	NA	--	NA	7.3E-05	µg/m^3	NA	--	--
				Lead	1.4E-04	µg/m^3	1.1E-07	µg/m^3	NA	--	NA	8.2E-07	µg/m^3	NA	--	NA
				Manganese	4.3E-04	µg/m^3	3.2E-07	µg/m^3	NA	--	NA	2.5E-06	µg/m^3	5.0E-02	µg/m^3	--
				Silver	5.9E-06	µg/m^3	4.3E-09	µg/m^3	NA	--	NA	3.4E-08	µg/m^3	NA	--	NA
				Vanadium	2.9E-05	µg/m^3	2.1E-08	µg/m^3	NA	--	NA	1.7E-07	µg/m^3	NA	--	NA
			Exposure Route Total								8E-11					5E-06
		Exposure Point Total									2E-06					3E-01
	Total of Receptor Risks Across Medium										2E-06					3E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	2.1E-06	mg/kg-day	NA	--	NA	1.2E-05	mg/kg-day	2.0E-03	mg/kg-day	6E-03
				Acenaphthylene	3.2E-01	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	1.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.8E+00	mg/kg	5.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	2.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.7E+00	mg/kg	5.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	2.1E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	8.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.6E+00	mg/kg	2.5E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.1E+00	mg/kg	3.2E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-09	1.2E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.8E+01	mg/kg	6.5E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	9E-08	3.8E-05	mg/kg-day	2.0E-02	mg/kg-day	2E-03
				Carbazole	1.5E-01	mg/kg	1.4E-08	mg/kg-day	NA	--	NA	8.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-01	mg/kg	6.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	2.5E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	3.5E-07	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+00	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	7.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.4E+00	mg/kg	3.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.3E-06	mg/kg-day	NA	--	NA
				Phenanthrene	4.4E+00	mg/kg	4.2E-07	mg/kg-day	NA	--	NA	2.5E-06	mg/kg-day	NA	--	NA
				Dieldrin	1.0E+01	mg/kg	9.6E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	2E-05	5.6E-06	mg/kg-day	5.0E-05	mg/kg-day	1E-01
				4,4'-DDE	5.6E+01	mg/kg	5.4E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	3.1E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.9E-03	mg/kg	1.8E-10	mg/kg-day	NA	--	NA	1.1E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	8.0E-01	mg/kg	7.7E-08	mg/kg-day	NA	--	NA	4.5E-07	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.8E+00	mg/kg	1.7E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.0E-06	mg/kg-day	1.3E-05	mg/kg-day	8E-02
				Total PCB Aroclors	4.1E+01	mg/kg	3.9E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	2.3E-05	mg/kg-day	2.0E-05	mg/kg-day	1E+00
				Aluminum	1.7E+04	mg/kg	1.6E-03	mg/kg-day	NA	--	NA	9.6E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Antimony	4.6E+00	mg/kg	4.4E-07	mg/kg-day	NA	--	NA	2.6E-06	mg/kg-day	4.0E-04	mg/kg-day	6E-03
				Arsenic	2.0E+01	mg/kg	1.9E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	1.1E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Cadmium	1.5E+01	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	8.4E-06	mg/kg-day	1.0E-03	mg/kg-day	8E-03
				Cobalt	1.4E+01	mg/kg	1.3E-06	mg/kg-day	NA	--	NA	7.8E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-02
				Copper	2.3E+02	mg/kg	2.2E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	4.0E-02	mg/kg-day	3E-03
				Iron	3.4E+04	mg/kg	3.3E-03	mg/kg-day	NA	--	NA	1.9E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Lead	2.6E+02	mg/kg	2.5E-05	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	NA	--	NA
				Manganese	4.9E+02	mg/kg	4.7E-05	mg/kg-day	NA	--	NA	2.8E-04	mg/kg-day	2.4E-02	mg/kg-day	1E-02
				Vanadium	5.1E+01	mg/kg	4.9E-06	mg/kg-day	NA	--	NA	2.9E-05	mg/kg-day	5.0E-03	mg/kg-day	6E-03
			Exposure Route Total								3E-05					1E+00

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Acenaphthylene	3.2E-01	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	1.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.8E+00	mg/kg	3.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.4E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.7E+00	mg/kg	3.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	5.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	2.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.6E+00	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	9.4E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.1E+00	mg/kg	2.1E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	7.6E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.8E+01	mg/kg	3.3E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	5E-08	1.9E-05	mg/kg-day	2.0E-02	mg/kg-day	1E-03
				Carbazole	1.5E-01	mg/kg	7.2E-09	mg/kg-day	NA	--	NA	4.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-01	mg/kg	4.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	1.6E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.7E-07	mg/kg-day	NA	--	NA	1.0E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+00	mg/kg	6.2E-08	mg/kg-day	NA	--	NA	3.6E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.4E+00	mg/kg	2.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	8.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	4.4E+00	mg/kg	2.7E-07	mg/kg-day	NA	--	NA	1.6E-06	mg/kg-day	NA	--	NA
				Dieldrin	1.0E+01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	8.1E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	4.7E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.9E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Endrin aldehyde	8.0E-01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.8E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	4.1E+01	mg/kg	2.8E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	1.6E-05	mg/kg-day	2.0E-05	mg/kg-day	8E-01
				Aluminum	1.7E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	4.6E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	2.0E+01	mg/kg	2.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.7E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Cadmium	1.5E+01	mg/kg	7.2E-09	mg/kg-day	NA	--	NA	4.2E-08	mg/kg-day	2.5E-05	mg/kg-day	2E-03
				Cobalt	1.4E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	2.3E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	3.4E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	5.1E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								7E-06					8E-01

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	1.6E-05	µg/m^3	3.1E-08	µg/m^3	NA	--	NA	1.8E-07	µg/m^3	NA	--	--
				Acenaphthylene	2.3E-07	µg/m^3	4.5E-10	µg/m^3	NA	--	NA	2.6E-09	µg/m^3	NA	--	NA
				Benzo(a)anthracene	2.8E-06	µg/m^3	5.4E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-12	3.1E-08	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.7E-06	µg/m^3	5.2E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-11	3.1E-08	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.9E-06	µg/m^3	7.7E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-12	4.5E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.9E-06	µg/m^3	3.7E-09	µg/m^3	NA	--	NA	2.2E-08	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.5E-06	µg/m^3	3.0E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	9E-13	1.7E-08	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	4.9E-05	µg/m^3	9.6E-08	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	2E-13	5.6E-07	µg/m^3	NA	--	NA
				Carbazole	1.1E-07	µg/m^3	2.1E-10	µg/m^3	NA	--	NA	1.2E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-07	µg/m^3	6.2E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-12	3.6E-09	µg/m^3	NA	--	NA
				Dimethyl phthalate	2.6E-06	µg/m^3	5.1E-09	µg/m^3	NA	--	NA	3.0E-08	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	9.4E-07	µg/m^3	1.8E-09	µg/m^3	NA	--	NA	1.1E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-06	µg/m^3	3.4E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-12	2.0E-08	µg/m^3	NA	--	NA
				Phenanthrene	3.2E-06	µg/m^3	6.2E-09	µg/m^3	NA	--	NA	3.6E-08	µg/m^3	NA	--	NA
				Dieldrin	7.2E-06	µg/m^3	1.4E-08	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	--	8.3E-08	µg/m^3	NA	--	--
				4,4'-DDE	4.1E-05	µg/m^3	7.9E-08	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	8E-12	4.6E-07	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.4E-09	µg/m^3	2.7E-12	µg/m^3	NA	--	NA	1.6E-11	µg/m^3	NA	--	NA
				Endrin aldehyde	5.8E-07	µg/m^3	1.1E-09	µg/m^3	NA	--	NA	6.6E-09	µg/m^3	NA	--	NA
				Heptachlor epoxide	1.3E-06	µg/m^3	2.6E-09	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	--	1.5E-08	µg/m^3	NA	--	--
				Total PCB Aroclors	3.0E-05	µg/m^3	5.8E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	6E-12	3.4E-07	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	2.4E-05	µg/m^3	NA	--	NA	1.4E-04	µg/m^3	5.0E+00	µg/m^3	--
				Antimony	3.3E-06	µg/m^3	6.5E-09	µg/m^3	NA	--	NA	3.8E-08	µg/m^3	NA	--	--
				Arsenic	1.4E-05	µg/m^3	2.8E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	1E-10	1.7E-07	µg/m^3	1.5E-02	µg/m^3	1E-05
				Cadmium	1.1E-05	µg/m^3	2.1E-08	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	4E-11	1.2E-07	µg/m^3	2.0E-02	µg/m^3	6E-06
				Cobalt	1.0E-05	µg/m^3	2.0E-08	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	2E-10	1.2E-07	µg/m^3	6.0E-03	µg/m^3	--
				Copper	1.7E-04	µg/m^3	3.3E-07	µg/m^3	NA	--	NA	1.9E-06	µg/m^3	NA	--	--
				Iron	2.5E-02	µg/m^3	4.8E-05	µg/m^3	NA	--	NA	2.8E-04	µg/m^3	NA	--	--
				Lead	1.9E-04	µg/m^3	3.6E-07	µg/m^3	NA	--	NA	2.1E-06	µg/m^3	NA	--	NA
				Manganese	3.6E-04	µg/m^3	7.0E-07	µg/m^3	NA	--	NA	4.1E-06	µg/m^3	5.0E-02	µg/m^3	--
				Vanadium	3.7E-05	µg/m^3	7.2E-08	µg/m^3	NA	--	NA	4.2E-07	µg/m^3	NA	--	NA
			Exposure Route Total								4E-10					2E-05
		Exposure Point Total									4E-05					2E+00
	Total of Receptor Risks Across Medium										4E-05					2E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	7.9E-07	mg/kg-day	NA	--	NA	6.2E-06	mg/kg-day	2.0E-03	mg/kg-day	3E-03
				Acenaphthylene	3.2E-01	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	8.9E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.8E+00	mg/kg	2.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.7E+00	mg/kg	2.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	3.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.6E+00	mg/kg	9.3E-08	mg/kg-day	NA	--	NA	7.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.1E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	5.9E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.8E+01	mg/kg	2.4E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	1.9E-05	mg/kg-day	2.0E-02	mg/kg-day	1E-03
				Carbazole	1.5E-01	mg/kg	5.4E-09	mg/kg-day	NA	--	NA	4.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-01	mg/kg	3.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	1.2E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	1.0E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+00	mg/kg	4.7E-08	mg/kg-day	NA	--	NA	3.6E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.4E+00	mg/kg	1.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	6.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	4.4E+00	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Dieldrin	1.0E+01	mg/kg	3.6E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	6E-06	2.8E-06	mg/kg-day	5.0E-05	mg/kg-day	6E-02
				4,4'-DDE	5.6E+01	mg/kg	2.0E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	1.6E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.9E-03	mg/kg	6.8E-11	mg/kg-day	NA	--	NA	5.3E-10	mg/kg-day	NA	--	NA
				Endrin aldehyde	8.0E-01	mg/kg	2.9E-08	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.8E+00	mg/kg	6.5E-08	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	5.0E-07	mg/kg-day	1.3E-05	mg/kg-day	4E-02
				Total PCB Aroclors	4.1E+01	mg/kg	1.5E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	1.1E-05	mg/kg-day	2.0E-05	mg/kg-day	6E-01
				Aluminum	1.7E+04	mg/kg	6.2E-04	mg/kg-day	NA	--	NA	4.8E-03	mg/kg-day	1.0E+00	mg/kg-day	5E-03
				Antimony	4.6E+00	mg/kg	1.7E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	4.0E-04	mg/kg-day	3E-03
				Arsenic	2.0E+01	mg/kg	7.2E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	5.6E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cadmium	1.5E+01	mg/kg	5.4E-07	mg/kg-day	NA	--	NA	4.2E-06	mg/kg-day	1.0E-03	mg/kg-day	4E-03
				Cobalt	1.4E+01	mg/kg	5.0E-07	mg/kg-day	NA	--	NA	3.9E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Copper	2.3E+02	mg/kg	8.3E-06	mg/kg-day	NA	--	NA	6.4E-05	mg/kg-day	4.0E-02	mg/kg-day	2E-03
				Iron	3.4E+04	mg/kg	1.2E-03	mg/kg-day	NA	--	NA	9.5E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Lead	2.6E+02	mg/kg	9.2E-06	mg/kg-day	NA	--	NA	7.2E-05	mg/kg-day	NA	--	NA
				Manganese	4.9E+02	mg/kg	1.8E-05	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
				Vanadium	5.1E+01	mg/kg	1.8E-06	mg/kg-day	NA	--	NA	1.4E-05	mg/kg-day	5.0E-03	mg/kg-day	3E-03
			Exposure Route Total								1E-05					7E-01

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Acenaphthylene	3.2E-01	mg/kg	1.5E-09	mg/kg-day	NA	--	NA	1.2E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.8E+00	mg/kg	3.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	1.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.7E+00	mg/kg	3.7E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	1.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	5.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.6E+00	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	9.4E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.1E+00	mg/kg	2.1E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	7.6E-08	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.8E+01	mg/kg	2.4E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	1.9E-06	mg/kg-day	2.0E-02	mg/kg-day	1E-04
				Carbazole	1.5E-01	mg/kg	5.4E-10	mg/kg-day	NA	--	NA	4.2E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-01	mg/kg	4.4E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	1.6E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	1.0E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+00	mg/kg	4.7E-09	mg/kg-day	NA	--	NA	3.6E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.4E+00	mg/kg	2.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	8.7E-08	mg/kg-day	NA	--	NA
				Phenanthrene	4.4E+00	mg/kg	2.1E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Dieldrin	1.0E+01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	6.0E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	4.7E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.9E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Endrin aldehyde	8.0E-01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.8E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	4.1E+01	mg/kg	2.1E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.6E-06	mg/kg-day	2.0E-05	mg/kg-day	8E-02
				Aluminum	1.7E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	4.6E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	2.0E+01	mg/kg	2.2E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	1.7E-07	mg/kg-day	3.0E-04	mg/kg-day	6E-04
				Cadmium	1.5E+01	mg/kg	5.4E-10	mg/kg-day	NA	--	NA	4.2E-09	mg/kg-day	2.5E-05	mg/kg-day	2E-04
				Cobalt	1.4E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	2.3E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	3.4E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	5.1E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-07					8E-02

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	1.6E-05	µg/m^3	1.2E-08	µg/m^3	NA	--	NA	9.1E-08	µg/m^3	NA	--	--
				Acenaphthylene	2.3E-07	µg/m^3	1.7E-10	µg/m^3	NA	--	NA	1.3E-09	µg/m^3	NA	--	NA
				Benzo(a)anthracene	2.8E-06	µg/m^3	2.0E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-13	1.6E-08	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.7E-06	µg/m^3	2.0E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	6E-12	1.5E-08	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.9E-06	µg/m^3	2.9E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-13	2.2E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.9E-06	µg/m^3	1.4E-09	µg/m^3	NA	--	NA	1.1E-08	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.5E-06	µg/m^3	1.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-13	8.7E-09	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	4.9E-05	µg/m^3	3.6E-08	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	9E-14	2.8E-07	µg/m^3	NA	--	NA
				Carbazole	1.1E-07	µg/m^3	8.0E-11	µg/m^3	NA	--	NA	6.2E-10	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-07	µg/m^3	2.3E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	7E-13	1.8E-09	µg/m^3	NA	--	NA
				Dimethyl phthalate	2.6E-06	µg/m^3	1.9E-09	µg/m^3	NA	--	NA	1.5E-08	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	9.4E-07	µg/m^3	6.9E-10	µg/m^3	NA	--	NA	5.4E-09	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-06	µg/m^3	1.3E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-13	9.9E-09	µg/m^3	NA	--	NA
				Phenanthrene	3.2E-06	µg/m^3	2.3E-09	µg/m^3	NA	--	NA	1.8E-08	µg/m^3	NA	--	NA
				Dieldrin	7.2E-06	µg/m^3	5.3E-09	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	--	4.1E-08	µg/m^3	NA	--	--
				4,4'-DDE	4.1E-05	µg/m^3	3.0E-08	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	3E-12	2.3E-07	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.4E-09	µg/m^3	1.0E-12	µg/m^3	NA	--	NA	7.9E-12	µg/m^3	NA	--	NA
				Endrin aldehyde	5.8E-07	µg/m^3	4.3E-10	µg/m^3	NA	--	NA	3.3E-09	µg/m^3	NA	--	NA
				Heptachlor epoxide	1.3E-06	µg/m^3	9.6E-10	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	--	7.4E-09	µg/m^3	NA	--	--
				Total PCB Aroclors	3.0E-05	µg/m^3	2.2E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-12	1.7E-07	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	9.1E-06	µg/m^3	NA	--	NA	7.1E-05	µg/m^3	5.0E+00	µg/m^3	--
				Antimony	3.3E-06	µg/m^3	2.4E-09	µg/m^3	NA	--	NA	1.9E-08	µg/m^3	NA	--	--
				Arsenic	1.4E-05	µg/m^3	1.1E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	5E-11	8.3E-08	µg/m^3	1.5E-02	µg/m^3	6E-06
				Cadmium	1.1E-05	µg/m^3	8.0E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	1E-11	6.2E-08	µg/m^3	2.0E-02	µg/m^3	3E-06
				Cobalt	1.0E-05	µg/m^3	7.4E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	7E-11	5.8E-08	µg/m^3	6.0E-03	µg/m^3	--
				Copper	1.7E-04	µg/m^3	1.2E-07	µg/m^3	NA	--	NA	9.5E-07	µg/m^3	NA	--	--
				Iron	2.5E-02	µg/m^3	1.8E-05	µg/m^3	NA	--	NA	1.4E-04	µg/m^3	NA	--	--
				Lead	1.9E-04	µg/m^3	1.4E-07	µg/m^3	NA	--	NA	1.1E-06	µg/m^3	NA	--	NA
				Manganese	3.6E-04	µg/m^3	2.6E-07	µg/m^3	NA	--	NA	2.0E-06	µg/m^3	5.0E-02	µg/m^3	--
				Vanadium	3.7E-05	µg/m^3	2.7E-08	µg/m^3	NA	--	NA	2.1E-07	µg/m^3	NA	--	NA
			Exposure Route Total								1E-10					9E-06
		Exposure Point Total									1E-05					8E-01
	Total of Receptor Risks Across Medium										1E-05					8E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB6	Ingestion	Acenaphthylene	1.1E-02	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	6.2E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	3.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	1.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	6.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	3.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	6.5E-08	mg/kg-day	NA	--	NA	3.8E-07	mg/kg-day	NA	--	NA
				Carbazole	3.9E-02	mg/kg	3.7E-09	mg/kg-day	NA	--	NA	2.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.0E-01	mg/kg	3.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	1.1E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	6.6E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	2.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	7.8E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	1.9E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	3.8E-10	mg/kg-day	NA	--	NA	2.2E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	5.9E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	3.5E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				Aluminum	1.6E+04	mg/kg	1.5E-03	mg/kg-day	NA	--	NA	9.0E-03	mg/kg-day	1.0E+00	mg/kg-day	9E-03
				Arsenic	2.5E+00	mg/kg	2.4E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cadmium	6.1E+00	mg/kg	5.8E-07	mg/kg-day	NA	--	NA	3.4E-06	mg/kg-day	1.0E-03	mg/kg-day	3E-03
				Cobalt	7.3E+00	mg/kg	7.0E-07	mg/kg-day	NA	--	NA	4.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cyanide	3.4E+00	mg/kg	3.3E-07	mg/kg-day	NA	--	NA	1.9E-06	mg/kg-day	6.0E-04	mg/kg-day	3E-03
				Iron	2.5E+04	mg/kg	2.4E-03	mg/kg-day	NA	--	NA	1.4E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	6.2E+02	mg/kg	5.9E-05	mg/kg-day	NA	--	NA	3.4E-04	mg/kg-day	2.4E-02	mg/kg-day	1E-02
			Exposure Route Total								1E-05					2E+00
Floodplain Soil	Surface Soil	EU BB6	Dermal	Acenaphthylene	1.1E-02	mg/kg	6.9E-10	mg/kg-day	NA	--	NA	4.0E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	2.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	7.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	1.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	4.0E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	2.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	8.4E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	4.2E-08	mg/kg-day	NA	--	NA	2.5E-07	mg/kg-day	NA	--	NA
				Carbazole	3.9E-02	mg/kg	1.9E-09	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.0E-01	mg/kg	2.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	7.3E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	5.7E-09	mg/kg-day	NA	--	NA	3.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	5.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	7.3E-07	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	4.2E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	2.4E-05	mg/kg-day	2.0E-05	mg/kg-day	1E+00
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.5E+00	mg/kg	3.6E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	2.1E-07	mg/kg-day	3.0E-04	mg/kg-day	7E-04
				Cadmium	6.1E+00	mg/kg	2.9E-09	mg/kg-day	NA	--	NA	1.7E-08	mg/kg-day	2.5E-05	mg/kg-day	7E-04
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Cyanide	3.4E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.5E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	6.2E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								9E-06					1E+00

TABLE 7.8.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB6	Inhalation	Acenaphthylene	8.0E-09	µg/m^3	1.6E-11	µg/m^3	NA	--	NA	9.1E-11	µg/m^3	NA	--	NA
				Benzo(a)anthracene	1.4E-06	µg/m^3	2.8E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-13	1.7E-08	µg/m^3	NA	--	NA
				Benzo(a)pyrene	8.0E-07	µg/m^3	1.6E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	5E-12	9.1E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.7E-06	µg/m^3	3.3E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-12	1.9E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.9E-07	µg/m^3	9.6E-10	µg/m^3	NA	--	NA	5.6E-09	µg/m^3	NA	--	NA
				Carbazole	2.8E-08	µg/m^3	5.5E-11	µg/m^3	NA	--	NA	3.2E-10	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.4E-07	µg/m^3	2.8E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	9E-13	1.7E-09	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.6E-08	µg/m^3	1.7E-10	µg/m^3	NA	--	NA	9.8E-10	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.0E-06	µg/m^3	2.0E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-13	1.2E-08	µg/m^3	NA	--	NA
				Phenanthrene	1.4E-06	µg/m^3	2.8E-09	µg/m^3	NA	--	NA	1.7E-08	µg/m^3	NA	--	NA
				Endrin ketone	2.9E-09	µg/m^3	5.7E-12	µg/m^3	NA	--	NA	3.3E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.5E-05	µg/m^3	8.8E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	9E-12	5.1E-07	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	2.3E-05	µg/m^3	NA	--	NA	1.3E-04	µg/m^3	5.0E+00	µg/m^3	--
				Arsenic	1.8E-06	µg/m^3	3.5E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-11	2.1E-08	µg/m^3	1.5E-02	µg/m^3	1E-06
				Cadmium	4.4E-06	µg/m^3	8.7E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	2E-11	5.0E-08	µg/m^3	2.0E-02	µg/m^3	3E-06
				Cobalt	5.3E-06	µg/m^3	1.0E-08	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	9E-11	6.0E-08	µg/m^3	6.0E-03	µg/m^3	--
				Cyanide	2.5E-06	µg/m^3	4.8E-09	µg/m^3	NA	--	NA	2.8E-08	µg/m^3	NA	--	NA
				Iron	1.8E-02	µg/m^3	3.6E-05	µg/m^3	NA	--	NA	2.1E-04	µg/m^3	NA	--	--
				Manganese	4.5E-04	µg/m^3	8.7E-07	µg/m^3	NA	--	NA	5.1E-06	µg/m^3	5.0E-02	µg/m^3	--
			Exposure Route Total								1E-10					4E-06
		Exposure Point Total									2E-05					3E+00
	Total of Receptor Risks Across Medium										2E-05					3E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB6	Ingestion	Acenaphthylene	1.1E-02	mg/kg	4.0E-10	mg/kg-day	NA	--	NA	3.1E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	5.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	7.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	1.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	6.4E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Carbazole	3.9E-02	mg/kg	1.4E-09	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.0E-01	mg/kg	1.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	5.6E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	4.2E-09	mg/kg-day	NA	--	NA	3.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	9.7E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	3.9E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	7.2E-08	mg/kg-day	NA	--	NA	5.6E-07	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	1.4E-10	mg/kg-day	NA	--	NA	1.1E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	2.2E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	1.7E-05	mg/kg-day	2.0E-05	mg/kg-day	9E-01
				Aluminum	1.6E+04	mg/kg	5.8E-04	mg/kg-day	NA	--	NA	4.5E-03	mg/kg-day	1.0E+00	mg/kg-day	5E-03
				Arsenic	2.5E+00	mg/kg	9.0E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	7.0E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	6.1E+00	mg/kg	2.2E-07	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	1.0E-03	mg/kg-day	2E-03
				Cobalt	7.3E+00	mg/kg	2.6E-07	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Cyanide	3.4E+00	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	9.5E-07	mg/kg-day	6.0E-04	mg/kg-day	2E-03
				Iron	2.5E+04	mg/kg	9.0E-04	mg/kg-day	NA	--	NA	7.0E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Manganese	6.2E+02	mg/kg	2.2E-05	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	2.4E-02	mg/kg-day	7E-03
			Exposure Route Total								5E-06					9E-01
Floodplain Soil	Surface Soil	EU BB6	Dermal	Acenaphthylene	1.1E-02	mg/kg	5.1E-11	mg/kg-day	NA	--	NA	4.0E-10	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	2.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	7.3E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	1.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	4.0E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	2.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	8.4E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	3.2E-09	mg/kg-day	NA	--	NA	2.5E-08	mg/kg-day	NA	--	NA
				Carbazole	3.9E-02	mg/kg	1.4E-10	mg/kg-day	NA	--	NA	1.1E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.0E-01	mg/kg	2.0E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-09	7.3E-09	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	4.2E-10	mg/kg-day	NA	--	NA	3.3E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	1.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	5.1E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	9.3E-09	mg/kg-day	NA	--	NA	7.3E-08	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	3.1E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	2.4E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.5E+00	mg/kg	2.7E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-09	2.1E-08	mg/kg-day	3.0E-04	mg/kg-day	7E-05
				Cadmium	6.1E+00	mg/kg	2.2E-10	mg/kg-day	NA	--	NA	1.7E-09	mg/kg-day	2.5E-05	mg/kg-day	7E-05
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Cyanide	3.4E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.5E+04	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	6.2E+02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								7E-07					1E-01

TABLE 7.8.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent (7 to 18 years old)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB6	Inhalation	Acenaphthylene	8.0E-09	µg/m^3	5.8E-12	µg/m^3	NA	--	NA	4.5E-11	µg/m^3	NA	--	NA
				Benzo(a)anthracene	1.4E-06	µg/m^3	1.1E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-13	8.3E-09	µg/m^3	NA	--	NA
				Benzo(a)pyrene	8.0E-07	µg/m^3	5.8E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-12	4.5E-09	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.7E-06	µg/m^3	1.2E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-13	9.5E-09	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.9E-07	µg/m^3	3.6E-10	µg/m^3	NA	--	NA	2.8E-09	µg/m^3	NA	--	NA
				Carbazole	2.8E-08	µg/m^3	2.1E-11	µg/m^3	NA	--	NA	1.6E-10	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.4E-07	µg/m^3	1.1E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-13	8.3E-10	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.6E-08	µg/m^3	6.3E-11	µg/m^3	NA	--	NA	4.9E-10	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.0E-06	µg/m^3	7.4E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	5.8E-09	µg/m^3	NA	--	NA
				Phenanthrene	1.4E-06	µg/m^3	1.1E-09	µg/m^3	NA	--	NA	8.3E-09	µg/m^3	NA	--	NA
				Endrin ketone	2.9E-09	µg/m^3	2.1E-12	µg/m^3	NA	--	NA	1.7E-11	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.5E-05	µg/m^3	3.3E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-12	2.6E-07	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	8.6E-06	µg/m^3	NA	--	NA	6.7E-05	µg/m^3	5.0E+00	µg/m^3	--
				Arsenic	1.8E-06	µg/m^3	1.3E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	6E-12	1.0E-08	µg/m^3	1.5E-02	µg/m^3	7E-07
				Cadmium	4.4E-06	µg/m^3	3.2E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	6E-12	2.5E-08	µg/m^3	2.0E-02	µg/m^3	1E-06
				Cobalt	5.3E-06	µg/m^3	3.9E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-11	3.0E-08	µg/m^3	6.0E-03	µg/m^3	--
				Cyanide	2.5E-06	µg/m^3	1.8E-09	µg/m^3	NA	--	NA	1.4E-08	µg/m^3	NA	--	NA
				Iron	1.8E-02	µg/m^3	1.3E-05	µg/m^3	NA	--	NA	1.0E-04	µg/m^3	NA	--	--
				Manganese	4.5E-04	µg/m^3	3.3E-07	µg/m^3	NA	--	NA	2.6E-06	µg/m^3	5.0E-02	µg/m^3	--
			Exposure Route Total								5E-11					2E-06
		Exposure Point Total									5E-06					1E+00
	Total of Receptor Risks Across Medium										5E-06					1E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU GB	Ingestion	Acenaphthylene	2.0E-01	mg/kg	2.2E-09	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.5E-01	mg/kg	8.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	5.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	7.8E-01	mg/kg	8.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	6.0E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.1E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-09	8.9E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.5E-01	mg/kg	4.9E-09	mg/kg-day	NA	--	NA	3.4E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	3.2E-09	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-01	mg/kg	3.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	2.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.8E-01	mg/kg	5.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.8E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.6E-01	mg/kg	9.6E-09	mg/kg-day	NA	--	NA	6.7E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.3E-02	mg/kg	5.9E-10	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-09	4.1E-08	mg/kg-day	6.0E-05	mg/kg-day	7E-04
				Aluminum	2.2E+04	mg/kg	2.4E-04	mg/kg-day	NA	--	NA	1.7E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Arsenic	5.7E+00	mg/kg	6.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	4.4E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cobalt	1.2E+01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	9.3E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Iron	3.0E+04	mg/kg	3.3E-04	mg/kg-day	NA	--	NA	2.3E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Manganese	6.4E+02	mg/kg	7.1E-06	mg/kg-day	NA	--	NA	5.0E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Mercury	2.2E+00	mg/kg	2.5E-08	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Vanadium	4.8E+01	mg/kg	5.3E-07	mg/kg-day	NA	--	NA	3.7E-05	mg/kg-day	5.0E-03	mg/kg-day	7E-03
			Exposure Route Total								2E-07					1E-01
Floodplain Soil	All Soil	EU GB	Dermal	Acenaphthylene	2.0E-01	mg/kg	8.6E-10	mg/kg-day	NA	--	NA	6.0E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.5E-01	mg/kg	3.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	2.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	7.8E-01	mg/kg	3.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.4E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.1E+00	mg/kg	5.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.5E-01	mg/kg	1.9E-09	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	9.6E-10	mg/kg-day	NA	--	NA	6.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-01	mg/kg	1.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	9.7E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.8E-01	mg/kg	2.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.6E-01	mg/kg	3.7E-09	mg/kg-day	NA	--	NA	2.6E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.3E-02	mg/kg	2.5E-10	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-10	1.7E-08	mg/kg-day	6.0E-05	mg/kg-day	3E-04
				Aluminum	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	5.7E+00	mg/kg	5.7E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-09	4.0E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	3.0E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	6.4E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.2E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Vanadium	4.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-08					2E-03

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU GB	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	5.4E-07	µg/m^3	4.2E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-14	1.3E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	5.7E-07	µg/m^3	4.4E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	5E-13	1.4E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	8.3E-07	µg/m^3	6.5E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-14	2.0E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.2E-07	µg/m^3	2.5E-10	µg/m^3	NA	--	NA	7.9E-08	µg/m^3	NA	--	NA
				Carbazole	2.1E-07	µg/m^3	1.6E-10	µg/m^3	NA	--	NA	5.1E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	2.3E-07	µg/m^3	1.8E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-13	5.7E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.5E-07	µg/m^3	2.7E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-14	8.6E-08	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Total PCB Aroclors	3.8E-08	µg/m^3	3.0E-11	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-15	9.4E-09	µg/m^3	NA	--	NA
				Aluminum	1.6E-02	µg/m^3	1.2E-05	µg/m^3	NA	--	NA	3.8E-03	µg/m^3	5.0E+00	µg/m^3	8E-04
				Arsenic	4.1E-06	µg/m^3	3.2E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	1E-11	1.0E-06	µg/m^3	1.5E-02	µg/m^3	7E-05
				Cobalt	8.7E-06	µg/m^3	6.8E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-11	2.1E-06	µg/m^3	6.0E-03	µg/m^3	4E-04
				Iron	2.2E-02	µg/m^3	1.7E-05	µg/m^3	NA	--	NA	5.3E-03	µg/m^3	NA	--	NA
				Manganese	4.6E-04	µg/m^3	3.6E-07	µg/m^3	NA	--	NA	1.1E-04	µg/m^3	5.0E-02	µg/m^3	2E-03
				Mercury	1.6E-06	µg/m^3	1.3E-09	µg/m^3	NA	--	NA	3.9E-07	µg/m^3	3.0E-02	µg/m^3	1E-05
				Vanadium	3.5E-05	µg/m^3	2.7E-08	µg/m^3	NA	--	NA	8.5E-06	µg/m^3	NA	--	NA
			Exposure Route Total								8E-11					3E-03
		Exposure Point Total									3E-07					1E-01
	Total of Receptor Risks Across Medium										3E-07					1E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB1	Ingestion	Acenaphthylene	3.7E-02	mg/kg	4.1E-10	mg/kg-day	NA	--	NA	2.9E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.0E+00	mg/kg	1.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	8.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	1.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	8.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.2E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	9.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.1E-01	mg/kg	6.7E-09	mg/kg-day	NA	--	NA	4.7E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.1E+00	mg/kg	1.2E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	9E-10	8.2E-07	mg/kg-day	NA	--	NA
				Carbazole	4.6E-02	mg/kg	5.1E-10	mg/kg-day	NA	--	NA	3.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	2.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.7E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	9.2E+00	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	7.1E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	9.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-01	mg/kg	6.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	4.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.9E-01	mg/kg	9.8E-09	mg/kg-day	NA	--	NA	6.9E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	6.8E-11	mg/kg-day	NA	--	NA	4.7E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.5E-01	mg/kg	6.1E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	4.3E-07	mg/kg-day	6.0E-05	mg/kg-day	7E-03
				Aluminum	1.3E+04	mg/kg	1.5E-04	mg/kg-day	NA	--	NA	1.0E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	8.6E+00	mg/kg	9.5E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	6.7E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cobalt	1.2E+01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	9.0E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Iron	2.2E+04	mg/kg	2.5E-04	mg/kg-day	NA	--	NA	1.7E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	5.5E+02	mg/kg	6.1E-06	mg/kg-day	NA	--	NA	4.3E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Vanadium	4.3E+01	mg/kg	4.8E-07	mg/kg-day	NA	--	NA	3.4E-05	mg/kg-day	5.0E-03	mg/kg-day	7E-03
			Exposure Route Total								3E-07					9E-02
Floodplain Soil	All Soil	EU BB1	Dermal	Acenaphthylene	3.7E-02	mg/kg	1.6E-10	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.0E+00	mg/kg	4.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	3.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	4.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	3.4E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.2E+00	mg/kg	5.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.8E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.1E-01	mg/kg	2.6E-09	mg/kg-day	NA	--	NA	1.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.1E+00	mg/kg	4.6E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	3.2E-07	mg/kg-day	NA	--	NA
				Carbazole	4.6E-02	mg/kg	1.5E-10	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	9.5E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	6.7E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	9.2E+00	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	2.1E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	4.0E-10	mg/kg-day	NA	--	NA	2.8E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-01	mg/kg	2.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.9E-01	mg/kg	3.8E-09	mg/kg-day	NA	--	NA	2.7E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.5E-01	mg/kg	2.6E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-09	1.8E-07	mg/kg-day	6.0E-05	mg/kg-day	3E-03
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.6E+00	mg/kg	8.6E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	6.0E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								7E-08					5E-03

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB1	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	7.6E-07	µg/m^3	5.9E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-14	1.8E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	8.1E-07	µg/m^3	6.4E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	7E-13	2.0E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	9.0E-07	µg/m^3	7.0E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-14	2.2E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.4E-07	µg/m^3	3.4E-10	µg/m^3	NA	--	NA	1.1E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	7.7E-07	µg/m^3	6.0E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-14	1.9E-07	µg/m^3	NA	--	NA
				Carbazole	3.3E-08	µg/m^3	2.6E-11	µg/m^3	NA	--	NA	8.1E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E-07	µg/m^3	1.3E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-13	3.9E-08	µg/m^3	NA	--	NA
				Dimethyl phthalate	6.7E-06	µg/m^3	5.2E-09	µg/m^3	NA	--	NA	1.6E-06	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-08	µg/m^3	6.8E-11	µg/m^3	NA	--	NA	2.1E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.1E-07	µg/m^3	3.2E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-14	1.0E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	4.4E-09	µg/m^3	3.5E-12	µg/m^3	NA	--	NA	1.1E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.0E-07	µg/m^3	3.1E-10	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-14	9.7E-08	µg/m^3	NA	--	NA
				Aluminum	9.6E-03	µg/m^3	7.6E-06	µg/m^3	NA	--	NA	2.4E-03	µg/m^3	5.0E+00	µg/m^3	5E-04
				Arsenic	6.2E-06	µg/m^3	4.9E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-11	1.5E-06	µg/m^3	1.5E-02	µg/m^3	1E-04
				Cobalt	8.4E-06	µg/m^3	6.6E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-11	2.1E-06	µg/m^3	6.0E-03	µg/m^3	3E-04
				Iron	1.6E-02	µg/m^3	1.3E-05	µg/m^3	NA	--	NA	3.9E-03	µg/m^3	NA	--	NA
				Manganese	4.0E-04	µg/m^3	3.1E-07	µg/m^3	NA	--	NA	9.8E-05	µg/m^3	5.0E-02	µg/m^3	2E-03
				Vanadium	3.1E-05	µg/m^3	2.5E-08	µg/m^3	NA	--	NA	7.6E-06	µg/m^3	NA	--	NA
			Exposure Route Total								8E-11					3E-03
		Exposure Point Total									4E-07					1E-01
	Total of Receptor Risks Across Medium										4E-07					1E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB2	Ingestion	Acenaphthylene	2.4E-02	mg/kg	2.7E-10	mg/kg-day	NA	--	NA	1.9E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	3.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	2.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	3.7E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	2.6E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	4.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	3.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	2.8E-09	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	2.8E-10	mg/kg-day	NA	--	NA	1.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	8.5E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	6.0E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	2.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.8E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	3.2E-09	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	6.1E-11	mg/kg-day	NA	--	NA	4.3E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	8.3E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	5.8E-07	mg/kg-day	6.0E-05	mg/kg-day	1E-02
				Aluminum	1.3E+04	mg/kg	1.5E-04	mg/kg-day	NA	--	NA	1.0E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	1.2E+01	mg/kg	1.3E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	9.3E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-02
				Cobalt	5.6E+00	mg/kg	6.2E-08	mg/kg-day	NA	--	NA	4.3E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Iron	1.6E+04	mg/kg	1.7E-04	mg/kg-day	NA	--	NA	1.2E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	4.9E+02	mg/kg	5.4E-06	mg/kg-day	NA	--	NA	3.8E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
			Exposure Route Total								3E-07					9E-02
Floodplain Soil	All Soil	EU BB2	Dermal	Acenaphthylene	2.4E-02	mg/kg	1.0E-10	mg/kg-day	NA	--	NA	7.3E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	1.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-10	8.8E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	1.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.0E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	1.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	7.6E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	8.3E-11	mg/kg-day	NA	--	NA	5.8E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	3.3E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	2.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	9.9E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-10	7.0E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	8.8E-08	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	3.5E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	2.4E-07	mg/kg-day	6.0E-05	mg/kg-day	4E-03
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	1.2E+01	mg/kg	1.2E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	8.4E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cobalt	5.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								4E-08					7E-03

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB2	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	2.1E-07	µg/m^3	1.6E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-14	5.1E-08	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-07	µg/m^3	1.9E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-13	5.8E-08	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.0E-07	µg/m^3	2.3E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-14	7.2E-08	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.8E-07	µg/m^3	1.4E-10	µg/m^3	NA	--	NA	4.4E-08	µg/m^3	NA	--	NA
				Carbazole	1.8E-08	µg/m^3	1.4E-11	µg/m^3	NA	--	NA	4.4E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	5.6E-08	µg/m^3	4.4E-11	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	5E-14	1.4E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-07	µg/m^3	1.3E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-14	4.1E-08	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endosulfan sulfate	4.0E-09	µg/m^3	3.1E-12	µg/m^3	NA	--	NA	9.7E-10	µg/m^3	NA	--	NA
				Total PCB Aroclors	5.4E-07	µg/m^3	4.3E-10	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	4E-14	1.3E-07	µg/m^3	NA	--	NA
				Aluminum	9.5E-03	µg/m^3	7.4E-06	µg/m^3	NA	--	NA	2.3E-03	µg/m^3	5.0E+00	µg/m^3	5E-04
				Arsenic	8.7E-06	µg/m^3	6.8E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	3E-11	2.1E-06	µg/m^3	1.5E-02	µg/m^3	1E-04
				Cobalt	4.1E-06	µg/m^3	3.2E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-11	9.9E-07	µg/m^3	6.0E-03	µg/m^3	2E-04
				Iron	1.1E-02	µg/m^3	9.0E-06	µg/m^3	NA	--	NA	2.8E-03	µg/m^3	NA	--	NA
				Manganese	3.6E-04	µg/m^3	2.8E-07	µg/m^3	NA	--	NA	8.7E-05	µg/m^3	5.0E-02	µg/m^3	2E-03
			Exposure Route Total								6E-11					3E-03
		Exposure Point Total									3E-07					1E-01
	Total of Receptor Risks Across Medium										3E-07					1E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Ingestion	Acenaphthylene	1.2E-01	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	9.0E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	2.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.0E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	3.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	2.6E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	3.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	2.7E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	2.1E-08	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	3.4E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	2.4E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	9.7E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-07	6.8E-04	mg/kg-day	2.0E-01	mg/kg-day	3E-03
				Carbazole	3.7E-01	mg/kg	4.1E-09	mg/kg-day	NA	--	NA	2.9E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	7.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	5.1E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	6.1E-09	mg/kg-day	NA	--	NA	4.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	1.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.4E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	2.9E-08	mg/kg-day	NA	--	NA	2.1E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	1.1E-10	mg/kg-day	NA	--	NA	7.6E-09	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	6.4E-11	mg/kg-day	NA	--	NA	4.5E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.0E+00	mg/kg	5.6E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.9E-06	mg/kg-day	6.0E-05	mg/kg-day	6E-02
				Aluminum	1.1E+04	mg/kg	1.3E-04	mg/kg-day	NA	--	NA	8.8E-03	mg/kg-day	1.0E+00	mg/kg-day	9E-03
				Antimony	1.1E+02	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	8.5E-05	mg/kg-day	4.0E-04	mg/kg-day	2E-01
				Arsenic	1.7E+01	mg/kg	1.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.3E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Cadmium	5.0E+00	mg/kg	5.6E-08	mg/kg-day	NA	--	NA	3.9E-06	mg/kg-day	1.0E-03	mg/kg-day	4E-03
				Cobalt	1.2E+01	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	9.5E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Copper	1.7E+03	mg/kg	1.9E-05	mg/kg-day	NA	--	NA	1.4E-03	mg/kg-day	4.0E-02	mg/kg-day	3E-02
				Iron	9.6E+04	mg/kg	1.1E-03	mg/kg-day	NA	--	NA	7.5E-02	mg/kg-day	7.0E-01	mg/kg-day	1E-01
				Lead	1.4E+03	mg/kg	1.5E-05	mg/kg-day	NA	--	NA	1.1E-03	mg/kg-day	NA	--	NA
				Manganese	7.1E+02	mg/kg	7.8E-06	mg/kg-day	NA	--	NA	5.5E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Mercury	2.4E+00	mg/kg	2.7E-08	mg/kg-day	NA	--	NA	1.9E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Nickel	1.1E+02	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	8.4E-05	mg/kg-day	2.0E-02	mg/kg-day	4E-03
				Thallium	4.0E+00	mg/kg	4.4E-08	mg/kg-day	NA	--	NA	3.1E-06	mg/kg-day	3.0E-05	mg/kg-day	1E-01
				Vanadium	2.8E+01	mg/kg	3.1E-07	mg/kg-day	NA	--	NA	2.2E-05	mg/kg-day	5.0E-03	mg/kg-day	4E-03
				Zinc	1.3E+03	mg/kg	1.5E-05	mg/kg-day	NA	--	NA	1.0E-03	mg/kg-day	3.0E-01	mg/kg-day	3E-03
			Exposure Route Total								9E-07					6E-01

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Dermal	Acenaphthylene	1.2E-01	mg/kg	5.0E-10	mg/kg-day	NA	--	NA	3.5E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	1.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	7.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	1.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	8.3E-09	mg/kg-day	NA	--	NA	5.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-09	9.4E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	2.9E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	4E-08	2.0E-04	mg/kg-day	2.0E-01	mg/kg-day	1E-03
				Carbazole	3.7E-01	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	8.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	2.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.0E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	1.8E-09	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	7.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	5.3E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	8.0E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.0E+00	mg/kg	2.3E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	1.6E-06	mg/kg-day	6.0E-05	mg/kg-day	3E-02
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.7E+01	mg/kg	1.7E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	1.2E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	5.0E+00	mg/kg	1.7E-10	mg/kg-day	NA	--	NA	1.2E-08	mg/kg-day	2.5E-05	mg/kg-day	5E-04
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Copper	1.7E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	9.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								3E-07					3E-02

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.9E-06	µg/m^3	1.5E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	4.6E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-06	µg/m^3	1.9E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-12	5.8E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.6E-06	µg/m^3	2.0E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	6.3E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.4E-06	µg/m^3	1.1E-09	µg/m^3	NA	--	NA	3.4E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	2.2E-06	µg/m^3	1.8E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	5.5E-07	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.4E-04	µg/m^3	5.0E-07	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	1E-12	1.6E-04	µg/m^3	NA	--	NA
				Carbazole	2.7E-07	µg/m^3	2.1E-10	µg/m^3	NA	--	NA	6.6E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	4.7E-07	µg/m^3	3.7E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	4E-13	1.2E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.0E-07	µg/m^3	3.1E-10	µg/m^3	NA	--	NA	9.7E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.3E-06	µg/m^3	1.0E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	3.1E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	7.1E-09	µg/m^3	5.6E-12	µg/m^3	NA	--	NA	1.7E-09	µg/m^3	NA	--	NA
				Endrin ketone	4.2E-09	µg/m^3	3.3E-12	µg/m^3	NA	--	NA	1.0E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	3.6E-06	µg/m^3	2.8E-09	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-13	8.9E-07	µg/m^3	NA	--	NA
				Aluminum	8.3E-03	µg/m^3	6.5E-06	µg/m^3	NA	--	NA	2.0E-03	µg/m^3	5.0E+00	µg/m^3	4E-04
				Antimony	7.9E-05	µg/m^3	6.2E-08	µg/m^3	NA	--	NA	1.9E-05	µg/m^3	NA	--	NA
				Arsenic	1.2E-05	µg/m^3	9.7E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	4E-11	3.0E-06	µg/m^3	1.5E-02	µg/m^3	2E-04
				Cadmium	3.7E-06	µg/m^3	2.9E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	5E-12	8.9E-07	µg/m^3	2.0E-02	µg/m^3	4E-05
				Cobalt	8.9E-06	µg/m^3	7.0E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-11	2.2E-06	µg/m^3	6.0E-03	µg/m^3	4E-04
				Copper	1.3E-03	µg/m^3	9.9E-07	µg/m^3	NA	--	NA	3.1E-04	µg/m^3	NA	--	NA
				Iron	7.0E-02	µg/m^3	5.5E-05	µg/m^3	NA	--	NA	1.7E-02	µg/m^3	NA	--	NA
				Lead	9.9E-04	µg/m^3	7.8E-07	µg/m^3	NA	--	NA	2.4E-04	µg/m^3	NA	--	NA
				Manganese	5.1E-04	µg/m^3	4.0E-07	µg/m^3	NA	--	NA	1.2E-04	µg/m^3	5.0E-02	µg/m^3	2E-03
				Mercury	1.8E-06	µg/m^3	1.4E-09	µg/m^3	NA	--	NA	4.3E-07	µg/m^3	3.0E-02	µg/m^3	1E-05
				Nickel	7.8E-05	µg/m^3	6.1E-08	µg/m^3	2.6E-04	(µg/m^3)$^{-1}$	2E-11	1.9E-05	µg/m^3	2.0E-01	µg/m^3	1E-04
				Thallium	2.9E-06	µg/m^3	2.3E-09	µg/m^3	NA	--	NA	7.1E-07	µg/m^3	NA	--	NA
				Vanadium	2.0E-05	µg/m^3	1.6E-08	µg/m^3	NA	--	NA	5.0E-06	µg/m^3	NA	--	NA
				Zinc	9.5E-04	µg/m^3	7.5E-07	µg/m^3	NA	--	NA	2.3E-04	µg/m^3	NA	--	NA
			Exposure Route Total								1E-10					4E-03
		Exposure Point Total									1E-06					7E-01
	Total of Receptor Risks Across Medium										1E-06					7E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.9.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Ingestion	Acenaphthylene	1.2E-01	mg/kg	4.3E-10	mg/kg-day	NA	--	NA	3.0E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	9.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	6.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	1.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	8.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	9.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	7.1E-09	mg/kg-day	NA	--	NA	5.0E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	1.1E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-10	8.0E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	3.2E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	5E-08	2.3E-04	mg/kg-day	2.0E-01	mg/kg-day	1E-03
				Carbazole	3.7E-01	mg/kg	1.4E-09	mg/kg-day	NA	--	NA	9.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	2.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.7E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	2.0E-09	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	6.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	4.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	9.8E-09	mg/kg-day	NA	--	NA	6.9E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	3.6E-11	mg/kg-day	NA	--	NA	2.5E-09	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	2.1E-11	mg/kg-day	NA	--	NA	1.5E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.0E+00	mg/kg	1.9E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	1.3E-06	mg/kg-day	6.0E-05	mg/kg-day	2E-02
				Aluminum	1.1E+04	mg/kg	4.2E-05	mg/kg-day	NA	--	NA	2.9E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Antimony	1.1E+02	mg/kg	4.0E-07	mg/kg-day	NA	--	NA	2.8E-05	mg/kg-day	4.0E-04	mg/kg-day	7E-02
				Arsenic	1.7E+01	mg/kg	6.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	4.4E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	5.0E+00	mg/kg	1.9E-08	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	1.0E-03	mg/kg-day	1E-03
				Cobalt	1.2E+01	mg/kg	4.5E-08	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Copper	1.7E+03	mg/kg	6.5E-06	mg/kg-day	NA	--	NA	4.5E-04	mg/kg-day	4.0E-02	mg/kg-day	1E-02
				Iron	9.6E+04	mg/kg	3.6E-04	mg/kg-day	NA	--	NA	2.5E-02	mg/kg-day	7.0E-01	mg/kg-day	4E-02
				Lead	1.4E+03	mg/kg	5.1E-06	mg/kg-day	NA	--	NA	3.5E-04	mg/kg-day	NA	--	NA
				Manganese	7.1E+02	mg/kg	2.6E-06	mg/kg-day	NA	--	NA	1.8E-04	mg/kg-day	2.4E-02	mg/kg-day	8E-03
				Mercury	2.4E+00	mg/kg	9.0E-09	mg/kg-day	NA	--	NA	6.3E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Nickel	1.1E+02	mg/kg	4.0E-07	mg/kg-day	NA	--	NA	2.8E-05	mg/kg-day	2.0E-02	mg/kg-day	1E-03
				Thallium	4.0E+00	mg/kg	1.5E-08	mg/kg-day	NA	--	NA	1.0E-06	mg/kg-day	3.0E-05	mg/kg-day	3E-02
				Vanadium	2.8E+01	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	7.2E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
				Zinc	1.3E+03	mg/kg	4.9E-06	mg/kg-day	NA	--	NA	3.4E-04	mg/kg-day	3.0E-01	mg/kg-day	1E-03
			Exposure Route Total								3E-07					2E-01

TABLE 7.9.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Dermal	Acenaphthylene	1.2E-01	mg/kg	5.6E-11	mg/kg-day	NA	--	NA	3.9E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	1.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-10	8.7E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	1.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	1.7E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	9.3E-10	mg/kg-day	NA	--	NA	6.5E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	1.5E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-10	1.0E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	3.2E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	5E-09	2.3E-05	mg/kg-day	2.0E-01	mg/kg-day	1E-04
				Carbazole	3.7E-01	mg/kg	1.4E-10	mg/kg-day	NA	--	NA	9.6E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	3.1E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	2.2E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	2.0E-10	mg/kg-day	NA	--	NA	1.4E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	8.4E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-10	5.9E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	8.9E-08	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.0E+00	mg/kg	2.6E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-09	1.8E-07	mg/kg-day	6.0E-05	mg/kg-day	3E-03
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.7E+01	mg/kg	1.9E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-09	1.3E-07	mg/kg-day	3.0E-04	mg/kg-day	4E-04
				Cadmium	5.0E+00	mg/kg	1.9E-11	mg/kg-day	NA	--	NA	1.3E-09	mg/kg-day	2.5E-05	mg/kg-day	5E-05
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Copper	1.7E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	9.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								3E-08					4E-03

TABLE 7.9.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.9E-06	µg/m^3	3.7E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-14	3.6E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-06	µg/m^3	4.7E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	5E-13	4.6E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.6E-06	µg/m^3	5.0E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-14	4.9E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.4E-06	µg/m^3	2.7E-10	µg/m^3	NA	--	NA	2.7E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	2.2E-06	µg/m^3	4.4E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-14	4.3E-07	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.4E-04	µg/m^3	1.2E-07	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	3E-13	1.2E-04	µg/m^3	NA	--	NA
				Carbazole	2.7E-07	µg/m^3	5.3E-11	µg/m^3	NA	--	NA	5.2E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	4.7E-07	µg/m^3	9.3E-11	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-13	9.1E-08	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.0E-07	µg/m^3	7.8E-11	µg/m^3	NA	--	NA	7.7E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.3E-06	µg/m^3	2.5E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-14	2.5E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	7.1E-09	µg/m^3	1.4E-12	µg/m^3	NA	--	NA	1.4E-09	µg/m^3	NA	--	NA
				Endrin ketone	4.2E-09	µg/m^3	8.2E-13	µg/m^3	NA	--	NA	8.1E-10	µg/m^3	NA	--	NA
				Total PCB Aroclors	3.6E-06	µg/m^3	7.1E-10	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	7E-14	7.0E-07	µg/m^3	NA	--	NA
				Aluminum	8.3E-03	µg/m^3	1.6E-06	µg/m^3	NA	--	NA	1.6E-03	µg/m^3	5.0E+00	µg/m^3	3E-04
				Antimony	7.9E-05	µg/m^3	1.6E-08	µg/m^3	NA	--	NA	1.5E-05	µg/m^3	NA	--	NA
				Arsenic	1.2E-05	µg/m^3	2.4E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	1E-11	2.4E-06	µg/m^3	1.5E-02	µg/m^3	2E-04
				Cadmium	3.7E-06	µg/m^3	7.2E-10	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	1E-12	7.0E-07	µg/m^3	2.0E-02	µg/m^3	4E-05
				Cobalt	8.9E-06	µg/m^3	1.7E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	2E-11	1.7E-06	µg/m^3	6.0E-03	µg/m^3	3E-04
				Copper	1.3E-03	µg/m^3	2.5E-07	µg/m^3	NA	--	NA	2.4E-04	µg/m^3	NA	--	NA
				Iron	7.0E-02	µg/m^3	1.4E-05	µg/m^3	NA	--	NA	1.3E-02	µg/m^3	NA	--	NA
				Lead	9.9E-04	µg/m^3	1.9E-07	µg/m^3	NA	--	NA	1.9E-04	µg/m^3	NA	--	NA
				Manganese	5.1E-04	µg/m^3	1.0E-07	µg/m^3	NA	--	NA	9.9E-05	µg/m^3	5.0E-02	µg/m^3	2E-03
				Mercury	1.8E-06	µg/m^3	3.5E-10	µg/m^3	NA	--	NA	3.4E-07	µg/m^3	3.0E-02	µg/m^3	1E-05
				Nickel	7.8E-05	µg/m^3	1.5E-08	µg/m^3	2.6E-04	(µg/m^3)$^{-1}$	4E-12	1.5E-05	µg/m^3	2.0E-01	µg/m^3	8E-05
				Thallium	2.9E-06	µg/m^3	5.7E-10	µg/m^3	NA	--	NA	5.6E-07	µg/m^3	NA	--	NA
				Vanadium	2.0E-05	µg/m^3	4.0E-09	µg/m^3	NA	--	NA	3.9E-06	µg/m^3	NA	--	NA
				Zinc	9.5E-04	µg/m^3	1.9E-07	µg/m^3	NA	--	NA	1.8E-04	µg/m^3	NA	--	NA
			Exposure Route Total								3E-11					3E-03
		Exposure Point Total									3E-07					2E-01
	Total of Receptor Risks Across Medium										3E-07					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Ingestion	Acenaphthylene	6.7E-01	mg/kg	7.4E-09	mg/kg-day	NA	--	NA	5.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	6.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	4.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	6.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	4.6E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	1.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	7.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	5.1E-09	mg/kg-day	NA	--	NA	3.6E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	5.3E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-10	3.7E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	2.8E-09	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	1.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.2E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	9.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	5.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	8.6E-09	mg/kg-day	NA	--	NA	6.0E-07	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	1.4E-10	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.0E-08	mg/kg-day	3.0E-05	mg/kg-day	3E-04
				delta-BHC	5.6E-02	mg/kg	6.2E-10	mg/kg-day	NA	--	NA	4.3E-08	mg/kg-day	NA	--	NA
				Dieldrin	2.2E-01	mg/kg	2.4E-09	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.7E-07	mg/kg-day	1.0E-04	mg/kg-day	2E-03
				4,4'-DDT	2.3E-01	mg/kg	2.5E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	9E-10	1.8E-07	mg/kg-day	5.0E-04	mg/kg-day	4E-04
				Endosulfan sulfate	2.2E-02	mg/kg	2.4E-10	mg/kg-day	NA	--	NA	1.7E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	2.1E+01	mg/kg	2.3E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.6E-05	mg/kg-day	6.0E-05	mg/kg-day	3E-01
				Aluminum	9.4E+03	mg/kg	1.0E-04	mg/kg-day	NA	--	NA	7.3E-03	mg/kg-day	1.0E+00	mg/kg-day	7E-03
				Antimony	1.1E+01	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	8.5E-06	mg/kg-day	4.0E-04	mg/kg-day	2E-02
				Arsenic	1.5E+01	mg/kg	1.7E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Cadmium	5.4E+00	mg/kg	6.0E-08	mg/kg-day	NA	--	NA	4.2E-06	mg/kg-day	1.0E-03	mg/kg-day	4E-03
				Cobalt	7.0E+00	mg/kg	7.8E-08	mg/kg-day	NA	--	NA	5.4E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Copper	9.5E+01	mg/kg	1.1E-06	mg/kg-day	NA	--	NA	7.4E-05	mg/kg-day	4.0E-02	mg/kg-day	2E-03
				Iron	1.6E+04	mg/kg	1.8E-04	mg/kg-day	NA	--	NA	1.2E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Lead	1.3E+02	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	1.0E-04	mg/kg-day	NA	--	NA
				Manganese	5.1E+02	mg/kg	5.7E-06	mg/kg-day	NA	--	NA	4.0E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Silver	4.4E+00	mg/kg	4.9E-08	mg/kg-day	NA	--	NA	3.4E-06	mg/kg-day	5.0E-03	mg/kg-day	7E-04
				Vanadium	3.3E+01	mg/kg	3.7E-07	mg/kg-day	NA	--	NA	2.6E-05	mg/kg-day	5.0E-03	mg/kg-day	5E-03
				Zinc	2.6E+02	mg/kg	2.8E-06	mg/kg-day	NA	--	NA	2.0E-04	mg/kg-day	3.0E-01	mg/kg-day	7E-04
			Exposure Route Total								9E-07					4E-01

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Dermal	Acenaphthylene	6.7E-01	mg/kg	2.9E-09	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	2.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	2.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.8E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	4.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	2.0E-09	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	2.1E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-10	1.5E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	8.3E-10	mg/kg-day	NA	--	NA	5.8E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	6.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	4.8E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	4.0E-09	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	1.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	3.4E-09	mg/kg-day	NA	--	NA	2.4E-07	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	N/A	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				delta-BHC	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Dieldrin	2.2E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				4,4'-DDT	2.3E-01	mg/kg	2.3E-10	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8E-11	1.6E-08	mg/kg-day	5.0E-04	mg/kg-day	3E-05
				Endosulfan sulfate	2.2E-02	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	2.1E+01	mg/kg	9.7E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	6.8E-06	mg/kg-day	6.0E-05	mg/kg-day	1E-01
				Aluminum	9.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	1.5E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.0E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cadmium	5.4E+00	mg/kg	1.8E-10	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	2.5E-05	mg/kg-day	5E-04
				Cobalt	7.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Copper	9.5E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Silver	4.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								3E-07					1E-01

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	3.9E-07	µg/m^3	3.1E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-14	9.5E-08	µg/m^3	NA	--	NA
				Benzo(a)pyrene	4.3E-07	µg/m^3	3.4E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	4E-13	1.1E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	6.7E-07	µg/m^3	5.3E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-14	1.6E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.3E-07	µg/m^3	2.6E-10	µg/m^3	NA	--	NA	8.1E-08	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	3.5E-07	µg/m^3	2.7E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-14	8.5E-08	µg/m^3	NA	--	NA
				Carbazole	1.8E-07	µg/m^3	1.4E-10	µg/m^3	NA	--	NA	4.4E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.2E-06	µg/m^3	9.1E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-12	2.8E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-07	µg/m^3	6.8E-10	µg/m^3	NA	--	NA	2.1E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E-07	µg/m^3	2.6E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-14	8.0E-08	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Aldrin	9.4E-09	µg/m^3	7.4E-12	µg/m^3	4.9E-03	(µg/m^3)$^{-1}$	4E-14	2.3E-09	µg/m^3	NA	--	NA
				delta-BHC	4.1E-08	µg/m^3	3.2E-11	µg/m^3	NA	--	NA	9.9E-09	µg/m^3	NA	--	NA
				Dieldrin	1.6E-07	µg/m^3	1.2E-10	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	6E-13	3.9E-08	µg/m^3	NA	--	NA
				4,4'-DDT	1.7E-07	µg/m^3	1.3E-10	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	1E-14	4.1E-08	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.6E-08	µg/m^3	1.2E-11	µg/m^3	NA	--	NA	3.9E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	1.5E-05	µg/m^3	1.2E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-12	3.7E-06	µg/m^3	NA	--	NA
				Aluminum	6.8E-03	µg/m^3	5.3E-06	µg/m^3	NA	--	NA	1.7E-03	µg/m^3	5.0E+00	µg/m^3	3E-04
				Antimony	8.0E-06	µg/m^3	6.2E-09	µg/m^3	NA	--	NA	1.9E-06	µg/m^3	NA	--	NA
				Arsenic	1.1E-05	µg/m^3	8.5E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	4E-11	2.7E-06	µg/m^3	1.5E-02	µg/m^3	2E-04
				Cadmium	3.9E-06	µg/m^3	3.1E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	6E-12	9.5E-07	µg/m^3	2.0E-02	µg/m^3	5E-05
				Cobalt	5.1E-06	µg/m^3	4.0E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	4E-11	1.2E-06	µg/m^3	6.0E-03	µg/m^3	2E-04
				Copper	6.9E-05	µg/m^3	5.4E-08	µg/m^3	NA	--	NA	1.7E-05	µg/m^3	NA	--	NA
				Iron	1.2E-02	µg/m^3	9.0E-06	µg/m^3	NA	--	NA	2.8E-03	µg/m^3	NA	--	NA
				Lead	9.3E-05	µg/m^3	7.3E-08	µg/m^3	NA	--	NA	2.3E-05	µg/m^3	NA	--	NA
				Manganese	3.7E-04	µg/m^3	2.9E-07	µg/m^3	NA	--	NA	9.1E-05	µg/m^3	5.0E-02	µg/m^3	2E-03
				Silver	3.2E-06	µg/m^3	2.5E-09	µg/m^3	NA	--	NA	7.8E-07	µg/m^3	NA	--	NA
				Vanadium	2.4E-05	µg/m^3	1.9E-08	µg/m^3	NA	--	NA	5.9E-06	µg/m^3	NA	--	NA
				Zinc	1.9E-04	µg/m^3	1.5E-07	µg/m^3	NA	--	NA	4.5E-05	µg/m^3	NA	--	NA
			Exposure Route Total								8E-11					3E-03
		Exposure Point Total									1E-06					5E-01
	Total of Receptor Risks Across Medium										1E-06					5E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	2.4E-07	mg/kg-day	NA	--	NA	1.7E-05	mg/kg-day	2.0E-02	mg/kg-day	9E-04
				Acenaphthylene	2.1E-01	mg/kg	2.3E-09	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	2.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.4E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	3.0E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	2.1E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	4.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	3.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	1.4E-08	mg/kg-day	NA	--	NA	9.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	1.1E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-10	8.0E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	5.8E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	8E-09	4.1E-05	mg/kg-day	2.0E-01	mg/kg-day	2E-04
				Carbazole	1.0E-01	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	7.8E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	3.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.1E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	4.0E-08	mg/kg-day	NA	--	NA	2.8E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	8.6E-08	mg/kg-day	NA	--	NA	6.0E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	9.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	8.2E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-06	5.7E-06	mg/kg-day	1.0E-04	mg/kg-day	6E-02
				4,4'-DDE	5.6E+01	mg/kg	6.2E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	4.3E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	2.7E-11	mg/kg-day	NA	--	NA	1.9E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	5.2E+00	mg/kg	5.8E-08	mg/kg-day	NA	--	NA	4.0E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.3E+00	mg/kg	1.5E-08	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.0E-06	mg/kg-day	1.3E-05	mg/kg-day	8E-02
				Total PCB Aroclors	3.3E+01	mg/kg	3.7E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	2.6E-05	mg/kg-day	6.0E-05	mg/kg-day	4E-01
				Aluminum	1.6E+04	mg/kg	1.8E-04	mg/kg-day	NA	--	NA	1.2E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Antimony	2.9E+00	mg/kg	3.2E-08	mg/kg-day	NA	--	NA	2.2E-06	mg/kg-day	4.0E-04	mg/kg-day	6E-03
				Arsenic	1.5E+01	mg/kg	1.7E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Cadmium	1.2E+01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	9.1E-06	mg/kg-day	1.0E-03	mg/kg-day	9E-03
				Cobalt	1.3E+01	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	1.0E-05	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Copper	1.7E+02	mg/kg	1.9E-06	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	4.0E-02	mg/kg-day	3E-03
				Iron	2.8E+04	mg/kg	3.1E-04	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Lead	1.9E+02	mg/kg	2.1E-06	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	NA	--	NA
				Manganese	5.3E+02	mg/kg	5.9E-06	mg/kg-day	NA	--	NA	4.1E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Vanadium	4.4E+01	mg/kg	4.9E-07	mg/kg-day	NA	--	NA	3.4E-05	mg/kg-day	5.0E-03	mg/kg-day	7E-03
			Exposure Route Total								3E-06					7E-01

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-02	mg/kg-day	--
				Acenaphthylene	2.1E-01	mg/kg	9.0E-10	mg/kg-day	NA	--	NA	6.3E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	7.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	5.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	1.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	8.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	1.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	5.5E-09	mg/kg-day	NA	--	NA	3.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	4.5E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	3.1E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	1.8E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	1.2E-05	mg/kg-day	2.0E-01	mg/kg-day	6E-05
				Carbazole	1.0E-01	mg/kg	3.4E-10	mg/kg-day	NA	--	NA	2.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	1.2E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-09	8.1E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	8.4E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	2.6E-08	mg/kg-day	NA	--	NA	1.8E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.6E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	9.3E-09	mg/kg-day	NA	--	NA	6.5E-07	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	5.6E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	3.9E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Endrin aldehyde	5.2E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.3E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	3.3E+01	mg/kg	1.6E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.1E-05	mg/kg-day	6.0E-05	mg/kg-day	2E-01
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	2.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	1.5E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	1.2E+01	mg/kg	3.9E-10	mg/kg-day	NA	--	NA	2.7E-08	mg/kg-day	2.5E-05	mg/kg-day	1E-03
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Copper	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-07					2E-01

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.3E-06	µg/m^3	1.0E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	3.2E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.9E-06	µg/m^3	1.5E-09	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-12	4.7E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.9E-06	µg/m^3	2.2E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	7.0E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	9.2E-07	µg/m^3	7.2E-10	µg/m^3	NA	--	NA	2.2E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	7.5E-07	µg/m^3	5.9E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-14	1.8E-07	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	3.8E-05	µg/m^3	3.0E-08	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	7E-14	9.3E-06	µg/m^3	NA	--	NA
				Carbazole	7.3E-08	µg/m^3	5.7E-11	µg/m^3	NA	--	NA	1.8E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.9E-07	µg/m^3	1.5E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-13	4.7E-08	µg/m^3	NA	--	NA
				Dimethyl phthalate	2.6E-06	µg/m^3	2.0E-09	µg/m^3	NA	--	NA	6.4E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	5.7E-06	µg/m^3	4.4E-09	µg/m^3	NA	--	NA	1.4E-06	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	8.5E-07	µg/m^3	6.7E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-14	2.1E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Dieldrin	5.4E-06	µg/m^3	4.2E-09	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	2E-11	1.3E-06	µg/m^3	NA	--	NA
				4,4'-DDE	4.1E-05	µg/m^3	3.2E-08	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	3E-12	9.9E-06	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.7E-09	µg/m^3	1.4E-12	µg/m^3	NA	--	NA	4.2E-10	µg/m^3	NA	--	NA
				Endrin aldehyde	3.8E-06	µg/m^3	2.9E-09	µg/m^3	NA	--	NA	9.2E-07	µg/m^3	NA	--	NA
				Heptachlor epoxide	9.7E-07	µg/m^3	7.6E-10	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	2E-12	2.4E-07	µg/m^3	NA	--	NA
				Total PCB Aroclors	2.4E-05	µg/m^3	1.9E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-12	5.9E-06	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	9.0E-06	µg/m^3	NA	--	NA	2.8E-03	µg/m^3	5.0E+00	µg/m^3	6E-04
				Antimony	2.1E-06	µg/m^3	1.6E-09	µg/m^3	NA	--	NA	5.1E-07	µg/m^3	NA	--	NA
				Arsenic	1.1E-05	µg/m^3	8.7E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	4E-11	2.7E-06	µg/m^3	1.5E-02	µg/m^3	2E-04
				Cadmium	8.5E-06	µg/m^3	6.7E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	1E-11	2.1E-06	µg/m^3	2.0E-02	µg/m^3	1E-04
				Cobalt	9.4E-06	µg/m^3	7.4E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	7E-11	2.3E-06	µg/m^3	6.0E-03	µg/m^3	4E-04
				Copper	1.2E-04	µg/m^3	9.6E-08	µg/m^3	NA	--	NA	3.0E-05	µg/m^3	NA	--	NA
				Iron	2.1E-02	µg/m^3	1.6E-05	µg/m^3	NA	--	NA	5.0E-03	µg/m^3	NA	--	NA
				Lead	1.4E-04	µg/m^3	1.1E-07	µg/m^3	NA	--	NA	3.4E-05	µg/m^3	NA	--	NA
				Manganese	3.9E-04	µg/m^3	3.0E-07	µg/m^3	NA	--	NA	9.4E-05	µg/m^3	5.0E-02	µg/m^3	2E-03
				Vanadium	3.2E-05	µg/m^3	2.5E-08	µg/m^3	NA	--	NA	7.8E-06	µg/m^3	NA	--	NA
			Exposure Route Total								1E-10					3E-03
		Exposure Point Total									3E-06					9E-01
	Total of Receptor Risks Across Medium										3E-06					9E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.9.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	8.1E-08	mg/kg-day	NA	--	NA	5.7E-06	mg/kg-day	2.0E-02	mg/kg-day	3E-04
				Acenaphthylene	2.1E-01	mg/kg	7.7E-10	mg/kg-day	NA	--	NA	5.4E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	6.7E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	4.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	9.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	6.9E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	4.7E-09	mg/kg-day	NA	--	NA	3.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	3.8E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	2.7E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	1.9E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	1.4E-05	mg/kg-day	2.0E-01	mg/kg-day	7E-05
				Carbazole	1.0E-01	mg/kg	3.7E-10	mg/kg-day	NA	--	NA	2.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	9.9E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	6.9E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	9.3E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	2.9E-08	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	4.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	3.0E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	8.0E-09	mg/kg-day	NA	--	NA	5.6E-07	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	2.7E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.9E-06	mg/kg-day	1.0E-04	mg/kg-day	2E-02
				4,4'-DDE	5.6E+01	mg/kg	2.1E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	1.4E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	8.9E-12	mg/kg-day	NA	--	NA	6.2E-10	mg/kg-day	NA	--	NA
				Endrin aldehyde	5.2E+00	mg/kg	1.9E-08	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.3E+00	mg/kg	5.0E-09	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	3.5E-07	mg/kg-day	1.3E-05	mg/kg-day	3E-02
				Total PCB Aroclors	3.3E+01	mg/kg	1.2E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	8.6E-06	mg/kg-day	6.0E-05	mg/kg-day	1E-01
				Aluminum	1.6E+04	mg/kg	5.9E-05	mg/kg-day	NA	--	NA	4.1E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Antimony	2.9E+00	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	7.5E-07	mg/kg-day	4.0E-04	mg/kg-day	2E-03
				Arsenic	1.5E+01	mg/kg	5.6E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	4.0E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	1.2E+01	mg/kg	4.3E-08	mg/kg-day	NA	--	NA	3.0E-06	mg/kg-day	1.0E-03	mg/kg-day	3E-03
				Cobalt	1.3E+01	mg/kg	4.8E-08	mg/kg-day	NA	--	NA	3.4E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Copper	1.7E+02	mg/kg	6.3E-07	mg/kg-day	NA	--	NA	4.4E-05	mg/kg-day	4.0E-02	mg/kg-day	1E-03
				Iron	2.8E+04	mg/kg	1.0E-04	mg/kg-day	NA	--	NA	7.3E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Lead	1.9E+02	mg/kg	7.2E-07	mg/kg-day	NA	--	NA	5.0E-05	mg/kg-day	NA	--	NA
				Manganese	5.3E+02	mg/kg	2.0E-06	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
				Vanadium	4.4E+01	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								1E-06					2E-01

TABLE 7.9.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-02	mg/kg-day	--
				Acenaphthylene	2.1E-01	mg/kg	1.0E-10	mg/kg-day	NA	--	NA	7.0E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	8.7E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-10	6.1E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	1.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-09	9.0E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	1.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.3E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	6.1E-10	mg/kg-day	NA	--	NA	4.3E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	5.0E-10	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-11	3.5E-08	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	1.9E-08	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	1.4E-06	mg/kg-day	2.0E-01	mg/kg-day	7E-06
				Carbazole	1.0E-01	mg/kg	3.7E-11	mg/kg-day	NA	--	NA	2.6E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	1.3E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-10	9.0E-09	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	9.3E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	2.9E-09	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.6E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-10	3.9E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	1.0E-09	mg/kg-day	NA	--	NA	7.3E-08	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	6.2E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	4.3E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Endrin aldehyde	5.2E+00	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.3E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	3.3E+01	mg/kg	1.7E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	1.2E-06	mg/kg-day	6.0E-05	mg/kg-day	2E-02
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	2.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	1.7E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-09	1.2E-07	mg/kg-day	3.0E-04	mg/kg-day	4E-04
				Cadmium	1.2E+01	mg/kg	4.3E-11	mg/kg-day	NA	--	NA	3.0E-09	mg/kg-day	2.5E-05	mg/kg-day	1E-04
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Copper	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-08					2E-02

TABLE 7.9.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.3E-06	µg/m^3	2.6E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-14	2.5E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.9E-06	µg/m^3	3.8E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	4E-13	3.7E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.9E-06	µg/m^3	5.6E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-14	5.5E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	9.2E-07	µg/m^3	1.8E-10	µg/m^3	NA	--	NA	1.8E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	7.5E-07	µg/m^3	1.5E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-14	1.4E-07	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	3.8E-05	µg/m^3	7.5E-09	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	2E-14	7.4E-06	µg/m^3	NA	--	NA
				Carbazole	7.3E-08	µg/m^3	1.4E-11	µg/m^3	NA	--	NA	1.4E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.9E-07	µg/m^3	3.8E-11	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	5E-14	3.7E-08	µg/m^3	NA	--	NA
				Dimethyl phthalate	2.6E-06	µg/m^3	5.1E-10	µg/m^3	NA	--	NA	5.0E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	5.7E-06	µg/m^3	1.1E-09	µg/m^3	NA	--	NA	1.1E-06	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	8.5E-07	µg/m^3	1.7E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-14	1.6E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Dieldrin	5.4E-06	µg/m^3	1.1E-09	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	5E-12	1.0E-06	µg/m^3	NA	--	NA
				4,4'-DDE	4.1E-05	µg/m^3	7.9E-09	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	8E-13	7.8E-06	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.7E-09	µg/m^3	3.4E-13	µg/m^3	NA	--	NA	3.3E-10	µg/m^3	NA	--	NA
				Endrin aldehyde	3.8E-06	µg/m^3	7.4E-10	µg/m^3	NA	--	NA	7.2E-07	µg/m^3	NA	--	NA
				Heptachlor epoxide	9.7E-07	µg/m^3	1.9E-10	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	5E-13	1.9E-07	µg/m^3	NA	--	NA
				Total PCB Aroclors	2.4E-05	µg/m^3	4.7E-09	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	5E-13	4.7E-06	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	2.3E-06	µg/m^3	NA	--	NA	2.2E-03	µg/m^3	5.0E+00	µg/m^3	4E-04
				Antimony	2.1E-06	µg/m^3	4.1E-10	µg/m^3	NA	--	NA	4.0E-07	µg/m^3	NA	--	NA
				Arsenic	1.1E-05	µg/m^3	2.2E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	9E-12	2.1E-06	µg/m^3	1.5E-02	µg/m^3	1E-04
				Cadmium	8.5E-06	µg/m^3	1.7E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	3E-12	1.6E-06	µg/m^3	2.0E-02	µg/m^3	8E-05
				Cobalt	9.4E-06	µg/m^3	1.8E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	2E-11	1.8E-06	µg/m^3	6.0E-03	µg/m^3	3E-04
				Copper	1.2E-04	µg/m^3	2.4E-08	µg/m^3	NA	--	NA	2.4E-05	µg/m^3	NA	--	NA
				Iron	2.1E-02	µg/m^3	4.0E-06	µg/m^3	NA	--	NA	4.0E-03	µg/m^3	NA	--	NA
				Lead	1.4E-04	µg/m^3	2.7E-08	µg/m^3	NA	--	NA	2.7E-05	µg/m^3	NA	--	NA
				Manganese	3.9E-04	µg/m^3	7.6E-08	µg/m^3	NA	--	NA	7.4E-05	µg/m^3	5.0E-02	µg/m^3	1E-03
				Vanadium	3.2E-05	µg/m^3	6.3E-09	µg/m^3	NA	--	NA	6.2E-06	µg/m^3	NA	--	NA
			Exposure Route Total								4E-11					2E-03
		Exposure Point Total									1E-06					3E-01
	Total of Receptor Risks Across Medium										1E-06					3E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Ingestion	Acenaphthylene	2.9E-02	mg/kg	3.2E-10	mg/kg-day	NA	--	NA	2.2E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	2.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	1.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	2.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.9E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	7.3E-09	mg/kg-day	NA	--	NA	5.1E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	2.3E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	1.6E-06	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	9.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	2.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.6E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	9.5E-09	mg/kg-day	NA	--	NA	6.7E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	6.5E-10	mg/kg-day	NA	--	NA	4.5E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	9.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	3.9E-08	mg/kg-day	NA	--	NA	2.7E-06	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	4.4E-11	mg/kg-day	NA	--	NA	3.1E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	6.9E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.8E-05	mg/kg-day	6.0E-05	mg/kg-day	8E-01
				Aluminum	1.5E+04	mg/kg	1.6E-04	mg/kg-day	NA	--	NA	1.1E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	2.9E+00	mg/kg	3.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	2.3E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Cadmium	4.0E+00	mg/kg	4.4E-08	mg/kg-day	NA	--	NA	3.1E-06	mg/kg-day	1.0E-03	mg/kg-day	3E-03
				Cobalt	7.3E+00	mg/kg	8.1E-08	mg/kg-day	NA	--	NA	5.7E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Cyanide	1.7E+00	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	6.0E-04	mg/kg-day	2E-03
				Iron	2.8E+04	mg/kg	3.1E-04	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Lead	1.7E+02	mg/kg	1.9E-06	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	NA	--	NA
				Manganese	5.5E+02	mg/kg	6.1E-06	mg/kg-day	NA	--	NA	4.3E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
			Exposure Route Total								2E-06					9E-01

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Dermal	Acenaphthylene	2.9E-02	mg/kg	1.2E-10	mg/kg-day	NA	--	NA	8.7E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	9.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	6.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	6.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	4.8E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	1.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	7.4E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	2.8E-09	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	8.8E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	6E-10	6.2E-07	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	3.9E-10	mg/kg-day	NA	--	NA	2.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	8.9E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	6.2E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	2.9E-09	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	1.9E-10	mg/kg-day	NA	--	NA	1.4E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	1.5E-08	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	2.9E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	2.0E-05	mg/kg-day	6.0E-05	mg/kg-day	3E-01
				Aluminum	1.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.9E+00	mg/kg	2.9E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-09	2.0E-07	mg/kg-day	3.0E-04	mg/kg-day	7E-04
				Cadmium	4.0E+00	mg/kg	1.3E-10	mg/kg-day	NA	--	NA	9.3E-09	mg/kg-day	2.5E-05	mg/kg-day	4E-04
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Cyanide	1.7E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								7E-07					3E-01

TABLE 7.9.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.6E-06	µg/m^3	1.3E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	3.9E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.2E-06	µg/m^3	9.0E-10	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-12	2.8E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.8E-06	µg/m^3	1.4E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-13	4.3E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.7E-07	µg/m^3	3.7E-10	µg/m^3	NA	--	NA	1.2E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.5E-06	µg/m^3	1.2E-09	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-13	3.6E-07	µg/m^3	NA	--	NA
				Carbazole	8.6E-08	µg/m^3	6.7E-11	µg/m^3	NA	--	NA	2.1E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.5E-07	µg/m^3	1.2E-10	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-13	3.6E-08	µg/m^3	NA	--	NA
				Dimethyl phthalate	6.2E-07	µg/m^3	4.9E-10	µg/m^3	NA	--	NA	1.5E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.2E-08	µg/m^3	3.3E-11	µg/m^3	NA	--	NA	1.0E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	8.8E-07	µg/m^3	6.9E-10	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-14	2.1E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin ketone	2.9E-09	µg/m^3	2.3E-12	µg/m^3	NA	--	NA	7.1E-10	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.5E-05	µg/m^3	3.5E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	4E-12	1.1E-05	µg/m^3	NA	--	NA
				Aluminum	1.1E-02	µg/m^3	8.2E-06	µg/m^3	NA	--	NA	2.6E-03	µg/m^3	5.0E+00	µg/m^3	5E-04
				Arsenic	2.1E-06	µg/m^3	1.7E-09	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	7E-12	5.2E-07	µg/m^3	1.5E-02	µg/m^3	3E-05
				Cadmium	2.9E-06	µg/m^3	2.3E-09	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	4E-12	7.1E-07	µg/m^3	2.0E-02	µg/m^3	4E-05
				Cobalt	5.3E-06	µg/m^3	4.2E-09	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	4E-11	1.3E-06	µg/m^3	6.0E-03	µg/m^3	2E-04
				Cyanide	1.2E-06	µg/m^3	9.4E-10	µg/m^3	NA	--	NA	2.9E-07	µg/m^3	NA	--	NA
				Iron	2.0E-02	µg/m^3	1.6E-05	µg/m^3	NA	--	NA	5.0E-03	µg/m^3	NA	--	NA
				Lead	1.2E-04	µg/m^3	9.7E-08	µg/m^3	NA	--	NA	3.0E-05	µg/m^3	NA	--	NA
				Manganese	4.0E-04	µg/m^3	3.1E-07	µg/m^3	NA	--	NA	9.8E-05	µg/m^3	5.0E-02	µg/m^3	2E-03
			Exposure Route Total								5E-11					3E-03
		Exposure Point Total									2E-06					1E+00
	Total of Receptor Risks Across Medium										2E-06					1E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU GB	Ingestion	Acenaphthylene	2.0E-01	mg/kg	9.4E-08	mg/kg-day	NA	--	NA	2.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.5E-01	mg/kg	3.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	7.8E-01	mg/kg	3.7E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.1E+00	mg/kg	5.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.6E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.5E-01	mg/kg	2.1E-07	mg/kg-day	NA	--	NA	6.1E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	4.0E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-01	mg/kg	1.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	4.4E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.8E-01	mg/kg	2.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	6.6E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.6E-01	mg/kg	4.1E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.3E-02	mg/kg	2.5E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	7.3E-08	mg/kg-day	2.0E-05	mg/kg-day	4E-03
				Aluminum	2.2E+04	mg/kg	1.0E-02	mg/kg-day	NA	--	NA	3.0E-02	mg/kg-day	1.0E+00	mg/kg-day	3E-02
				Arsenic	5.7E+00	mg/kg	2.7E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	7.8E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-02
				Cobalt	1.2E+01	mg/kg	5.6E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	3.0E-04	mg/kg-day	5E-02
				Iron	3.0E+04	mg/kg	1.4E-02	mg/kg-day	NA	--	NA	4.1E-02	mg/kg-day	7.0E-01	mg/kg-day	6E-02
				Manganese	6.4E+02	mg/kg	3.0E-04	mg/kg-day	NA	--	NA	8.8E-04	mg/kg-day	2.4E-02	mg/kg-day	4E-02
				Mercury	2.2E+00	mg/kg	1.0E-06	mg/kg-day	NA	--	NA	3.0E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Vanadium	4.8E+01	mg/kg	2.3E-05	mg/kg-day	NA	--	NA	6.6E-05	mg/kg-day	5.0E-03	mg/kg-day	1E-02
			Exposure Route Total								5E-05					2E-01
Floodplain Soil	All Soil	EU GB	Dermal	Acenaphthylene	2.0E-01	mg/kg	4.9E-08	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.5E-01	mg/kg	1.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-07	5.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	7.8E-01	mg/kg	1.9E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	5.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.1E+00	mg/kg	2.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-07	8.1E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.5E-01	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	3.2E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	5.4E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-01	mg/kg	7.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	2.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.8E-01	mg/kg	1.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	3.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.6E-01	mg/kg	2.1E-07	mg/kg-day	NA	--	NA	6.1E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.3E-02	mg/kg	1.4E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	4.1E-08	mg/kg-day	2.0E-05	mg/kg-day	2E-03
				Aluminum	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	5.7E+00	mg/kg	3.2E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	9.3E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	3.0E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	6.4E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.2E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Vanadium	4.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-05					5E-03

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU GB	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	5.4E-07	µg/m^3	1.8E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-11	5.2E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	5.7E-07	µg/m^3	1.9E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	5E-10	5.4E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	8.3E-07	µg/m^3	2.7E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-11	8.0E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.2E-07	µg/m^3	1.1E-07	µg/m^3	NA	--	NA	3.1E-07	µg/m^3	NA	--	NA
				Carbazole	2.1E-07	µg/m^3	6.9E-08	µg/m^3	NA	--	NA	2.0E-07	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	2.3E-07	µg/m^3	7.6E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-10	2.2E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.5E-07	µg/m^3	1.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	3.4E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Total PCB Aroclors	3.8E-08	µg/m^3	1.3E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-12	3.7E-08	µg/m^3	NA	--	NA
				Aluminum	1.6E-02	µg/m^3	5.2E-03	µg/m^3	NA	--	NA	1.5E-02	µg/m^3	5.0E+00	µg/m^3	3E-03
				Arsenic	4.1E-06	µg/m^3	1.4E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	7E-09	4.0E-06	µg/m^3	1.5E-02	µg/m^3	3E-04
				Cobalt	8.7E-06	µg/m^3	2.8E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-08	8.3E-06	µg/m^3	6.0E-03	µg/m^3	1E-03
				Iron	2.2E-02	µg/m^3	7.2E-03	µg/m^3	NA	--	NA	2.1E-02	µg/m^3	NA	--	NA
				Manganese	4.6E-04	µg/m^3	1.5E-04	µg/m^3	NA	--	NA	4.5E-04	µg/m^3	5.0E-02	µg/m^3	9E-03
				Mercury	1.6E-06	µg/m^3	5.3E-07	µg/m^3	NA	--	NA	1.5E-06	µg/m^3	3.0E-02	µg/m^3	5E-05
				Vanadium	3.5E-05	µg/m^3	1.1E-05	µg/m^3	NA	--	NA	3.4E-05	µg/m^3	NA	--	NA
			Exposure Route Total								4E-08					1E-02
		Exposure Point Total									6E-05					3E-01
	Total of Receptor Risks Across Medium										6E-05					3E-01

Notes
Cancer risks for the resident adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.
NA = Not Available
N/A = Not Applicable

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB1	Ingestion	Acenaphthylene	3.7E-02	mg/kg	1.7E-08	mg/kg-day	NA	--	NA	5.1E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.0E+00	mg/kg	4.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.4E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	5.3E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.2E+00	mg/kg	5.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-06	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.1E-01	mg/kg	2.8E-07	mg/kg-day	NA	--	NA	8.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.1E+00	mg/kg	5.0E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-07	1.4E-06	mg/kg-day	NA	--	NA
				Carbazole	4.6E-02	mg/kg	2.2E-08	mg/kg-day	NA	--	NA	6.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	1.0E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	3.0E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	9.2E+00	mg/kg	4.3E-06	mg/kg-day	NA	--	NA	1.3E-05	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	5.6E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-01	mg/kg	2.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	7.8E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.9E-01	mg/kg	4.2E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	2.9E-09	mg/kg-day	NA	--	NA	8.4E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.5E-01	mg/kg	2.6E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	7.5E-07	mg/kg-day	2.0E-05	mg/kg-day	4E-02
				Aluminum	1.3E+04	mg/kg	6.3E-03	mg/kg-day	NA	--	NA	1.8E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Arsenic	8.6E+00	mg/kg	4.0E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Cobalt	1.2E+01	mg/kg	5.5E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	3.0E-04	mg/kg-day	5E-02
				Iron	2.2E+04	mg/kg	1.0E-02	mg/kg-day	NA	--	NA	3.1E-02	mg/kg-day	7.0E-01	mg/kg-day	4E-02
				Manganese	5.5E+02	mg/kg	2.6E-04	mg/kg-day	NA	--	NA	7.6E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
				Vanadium	4.3E+01	mg/kg	2.0E-05	mg/kg-day	NA	--	NA	5.9E-05	mg/kg-day	5.0E-03	mg/kg-day	1E-02
			Exposure Route Total								7E-05					2E-01
Floodplain Soil	All Soil	EU BB1	Dermal	Acenaphthylene	3.7E-02	mg/kg	9.1E-09	mg/kg-day	NA	--	NA	2.6E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.0E+00	mg/kg	2.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-07	7.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	2.7E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	8.0E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.2E+00	mg/kg	3.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	8.8E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.1E-01	mg/kg	1.5E-07	mg/kg-day	NA	--	NA	4.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.1E+00	mg/kg	2.6E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-08	7.5E-07	mg/kg-day	NA	--	NA
				Carbazole	4.6E-02	mg/kg	8.6E-09	mg/kg-day	NA	--	NA	2.5E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	5.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.6E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	9.2E+00	mg/kg	1.7E-06	mg/kg-day	NA	--	NA	5.0E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	2.2E-08	mg/kg-day	NA	--	NA	6.6E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-01	mg/kg	1.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	4.0E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.9E-01	mg/kg	2.2E-07	mg/kg-day	NA	--	NA	6.3E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	5.5E-01	mg/kg	1.4E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	4.2E-07	mg/kg-day	2.0E-05	mg/kg-day	2E-02
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.6E+00	mg/kg	4.8E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-05					3E-02

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB1	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	7.6E-07	µg/m^3	2.5E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-11	7.3E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	8.1E-07	µg/m^3	2.7E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	7E-10	7.8E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	9.0E-07	µg/m^3	3.0E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-11	8.6E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.4E-07	µg/m^3	1.4E-07	µg/m^3	NA	--	NA	4.2E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	7.7E-07	µg/m^3	2.5E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-11	7.4E-07	µg/m^3	NA	--	NA
				Carbazole	3.3E-08	µg/m^3	1.1E-08	µg/m^3	NA	--	NA	3.2E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E-07	µg/m^3	5.3E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-10	1.5E-07	µg/m^3	NA	--	NA
				Dimethyl phthalate	6.7E-06	µg/m^3	2.2E-06	µg/m^3	NA	--	NA	6.4E-06	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-08	µg/m^3	2.9E-08	µg/m^3	NA	--	NA	8.3E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.1E-07	µg/m^3	1.4E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	3.9E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	4.4E-09	µg/m^3	1.5E-09	µg/m^3	NA	--	NA	4.2E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.0E-07	µg/m^3	1.3E-07	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-11	3.8E-07	µg/m^3	NA	--	NA
				Aluminum	9.6E-03	µg/m^3	3.2E-03	µg/m^3	NA	--	NA	9.3E-03	µg/m^3	5.0E+00	µg/m^3	2E-03
				Arsenic	6.2E-06	µg/m^3	2.1E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	1E-08	6.0E-06	µg/m^3	1.5E-02	µg/m^3	4E-04
				Cobalt	8.4E-06	µg/m^3	2.8E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-08	8.1E-06	µg/m^3	6.0E-03	µg/m^3	1E-03
				Iron	1.6E-02	µg/m^3	5.3E-03	µg/m^3	NA	--	NA	1.6E-02	µg/m^3	NA	--	NA
				Manganese	4.0E-04	µg/m^3	1.3E-04	µg/m^3	NA	--	NA	3.9E-04	µg/m^3	5.0E-02	µg/m^3	8E-03
				Vanadium	3.1E-05	µg/m^3	1.0E-05	µg/m^3	NA	--	NA	3.0E-05	µg/m^3	NA	--	NA
			Exposure Route Total								4E-08					1E-02
		Exposure Point Total									8E-05					3E-01
	Total of Receptor Risks Across Medium										8E-05					3E-01

Notes
Cancer risks for the resident adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.
NA = Not Available
N/A = Not Applicable

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB2	Ingestion	Acenaphthylene	2.4E-02	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	3.3E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	1.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-07	4.0E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	1.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	4.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	1.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	5.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	3.4E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	3.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	3.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.1E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	1.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	3.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	4.0E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	2.6E-09	mg/kg-day	NA	--	NA	7.5E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	3.5E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.0E-06	mg/kg-day	2.0E-05	mg/kg-day	5E-02
				Aluminum	1.3E+04	mg/kg	6.2E-03	mg/kg-day	NA	--	NA	1.8E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Arsenic	1.2E+01	mg/kg	5.6E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	1.6E-05	mg/kg-day	3.0E-04	mg/kg-day	5E-02
				Cobalt	5.6E+00	mg/kg	2.6E-06	mg/kg-day	NA	--	NA	7.7E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-02
				Iron	1.6E+04	mg/kg	7.4E-03	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Manganese	4.9E+02	mg/kg	2.3E-04	mg/kg-day	NA	--	NA	6.7E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
			Exposure Route Total								4E-05					2E-01
Floodplain Soil	All Soil	EU BB2	Dermal	Acenaphthylene	2.4E-02	mg/kg	5.8E-09	mg/kg-day	NA	--	NA	1.7E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	7.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	2.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	8.0E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	2.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	1.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	2.9E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	6.1E-08	mg/kg-day	NA	--	NA	1.8E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	4.7E-09	mg/kg-day	NA	--	NA	1.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	1.9E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	5.5E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	5.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.6E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	7.1E-08	mg/kg-day	NA	--	NA	2.1E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	7.5E-01	mg/kg	2.0E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	5.7E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	1.2E+01	mg/kg	6.7E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	2.0E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Cobalt	5.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								8E-06					4E-02

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB2	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	2.1E-07	µg/m^3	6.9E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	2.0E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-07	µg/m^3	7.9E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-10	2.3E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.0E-07	µg/m^3	9.8E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	2.8E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.8E-07	µg/m^3	6.0E-08	µg/m^3	NA	--	NA	1.7E-07	µg/m^3	NA	--	NA
				Carbazole	1.8E-08	µg/m^3	6.0E-09	µg/m^3	NA	--	NA	1.7E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	5.6E-08	µg/m^3	1.8E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	5E-11	5.4E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-07	µg/m^3	5.5E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	1.6E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endosulfan sulfate	4.0E-09	µg/m^3	1.3E-09	µg/m^3	NA	--	NA	3.8E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	5.4E-07	µg/m^3	1.8E-07	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-11	5.2E-07	µg/m^3	NA	--	NA
				Aluminum	9.5E-03	µg/m^3	3.1E-03	µg/m^3	NA	--	NA	9.1E-03	µg/m^3	5.0E+00	µg/m^3	2E-03
				Arsenic	8.7E-06	µg/m^3	2.9E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-08	8.3E-06	µg/m^3	1.5E-02	µg/m^3	6E-04
				Cobalt	4.1E-06	µg/m^3	1.3E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	2E-08	3.9E-06	µg/m^3	6.0E-03	µg/m^3	6E-04
				Iron	1.1E-02	µg/m^3	3.8E-03	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	NA	--	NA
				Manganese	3.6E-04	µg/m^3	1.2E-04	µg/m^3	NA	--	NA	3.4E-04	µg/m^3	5.0E-02	µg/m^3	7E-03
			Exposure Route Total								3E-08					1E-02
		Exposure Point Total									5E-05					3E-01
	Total of Receptor Risks Across Medium										5E-05					3E-01

Notes
Cancer risks for the resident adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.
NA = Not Available
N/A = Not Applicable

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Ingestion	Acenaphthylene	1.2E-01	mg/kg	5.4E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	1.2E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-06	3.6E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	1.5E-06	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-05	4.5E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	1.7E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-05	4.9E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	9.1E-07	mg/kg-day	NA	--	NA	2.6E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	1.5E-06	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	9E-07	4.2E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	4.1E-04	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-05	1.2E-03	mg/kg-day	2.0E-02	mg/kg-day	6E-02
				Carbazole	3.7E-01	mg/kg	1.7E-07	mg/kg-day	NA	--	NA	5.1E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	3.1E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	9.0E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	2.6E-07	mg/kg-day	NA	--	NA	7.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	8.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-06	2.4E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	3.6E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	4.6E-09	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	2.7E-09	mg/kg-day	NA	--	NA	7.9E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.0E+00	mg/kg	2.4E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	6.9E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Aluminum	1.1E+04	mg/kg	5.4E-03	mg/kg-day	NA	--	NA	1.6E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Antimony	1.1E+02	mg/kg	5.2E-05	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	4.0E-04	mg/kg-day	4E-01
				Arsenic	1.7E+01	mg/kg	8.1E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	2.4E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
				Cadmium	5.0E+00	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	6.9E-06	mg/kg-day	1.0E-03	mg/kg-day	7E-03
				Cobalt	1.2E+01	mg/kg	5.8E-06	mg/kg-day	NA	--	NA	1.7E-05	mg/kg-day	3.0E-04	mg/kg-day	6E-02
				Copper	1.7E+03	mg/kg	8.2E-04	mg/kg-day	NA	--	NA	2.4E-03	mg/kg-day	4.0E-02	mg/kg-day	6E-02
				Iron	9.6E+04	mg/kg	4.5E-02	mg/kg-day	NA	--	NA	1.3E-01	mg/kg-day	7.0E-01	mg/kg-day	2E-01
				Lead	1.4E+03	mg/kg	6.4E-04	mg/kg-day	NA	--	NA	1.9E-03	mg/kg-day	NA	--	NA
				Manganese	7.1E+02	mg/kg	3.3E-04	mg/kg-day	NA	--	NA	9.7E-04	mg/kg-day	2.4E-02	mg/kg-day	4E-02
				Mercury	2.4E+00	mg/kg	1.1E-06	mg/kg-day	NA	--	NA	3.3E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Nickel	1.1E+02	mg/kg	5.1E-05	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	2.0E-02	mg/kg-day	7E-03
				Thallium	4.0E+00	mg/kg	1.9E-06	mg/kg-day	NA	--	NA	5.5E-06	mg/kg-day	1.0E-05	mg/kg-day	5E-01
				Vanadium	2.8E+01	mg/kg	1.3E-05	mg/kg-day	NA	--	NA	3.8E-05	mg/kg-day	5.0E-03	mg/kg-day	8E-03
				Zinc	1.3E+03	mg/kg	6.2E-04	mg/kg-day	NA	--	NA	1.8E-03	mg/kg-day	3.0E-01	mg/kg-day	6E-03
			Exposure Route Total								2E-04					2E+00

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Dermal	Acenaphthylene	1.2E-01	mg/kg	2.8E-08	mg/kg-day	NA	--	NA	8.2E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	6.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.8E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	8.0E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	2.3E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	8.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	2.5E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	4.7E-07	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	7.5E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-07	2.2E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	1.6E-04	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	6E-06	4.8E-04	mg/kg-day	2.0E-02	mg/kg-day	2E-02
				Carbazole	3.7E-01	mg/kg	7.0E-08	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	1.6E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	4.7E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	3.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	4.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	1.3E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	6.5E-07	mg/kg-day	NA	--	NA	1.9E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	5.0E+00	mg/kg	1.3E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-06	3.8E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.7E+01	mg/kg	9.6E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	2.8E-06	mg/kg-day	3.0E-04	mg/kg-day	9E-03
				Cadmium	5.0E+00	mg/kg	9.5E-09	mg/kg-day	NA	--	NA	2.8E-08	mg/kg-day	2.5E-05	mg/kg-day	1E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.7E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	9.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								5E-05					2E-01

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.9E-06	µg/m^3	6.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-10	1.8E-06	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-06	µg/m^3	7.9E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-09	2.3E-06	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.6E-06	µg/m^3	8.4E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-10	2.5E-06	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.4E-06	µg/m^3	4.6E-07	µg/m^3	NA	--	NA	1.3E-06	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	2.2E-06	µg/m^3	7.4E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-10	2.1E-06	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.4E-04	µg/m^3	2.1E-04	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	6E-10	6.1E-04	µg/m^3	NA	--	NA
				Carbazole	2.7E-07	µg/m^3	8.9E-08	µg/m^3	NA	--	NA	2.6E-07	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	4.7E-07	µg/m^3	1.6E-07	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	4E-10	4.6E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.0E-07	µg/m^3	1.3E-07	µg/m^3	NA	--	NA	3.8E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.3E-06	µg/m^3	4.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	1.2E-06	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	7.1E-09	µg/m^3	2.3E-09	µg/m^3	NA	--	NA	6.8E-09	µg/m^3	NA	--	NA
				Endrin ketone	4.2E-09	µg/m^3	1.4E-09	µg/m^3	NA	--	NA	4.0E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	3.6E-06	µg/m^3	1.2E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-10	3.5E-06	µg/m^3	NA	--	NA
				Aluminum	8.3E-03	µg/m^3	2.7E-03	µg/m^3	NA	--	NA	7.9E-03	µg/m^3	5.0E+00	µg/m^3	2E-03
				Antimony	7.9E-05	µg/m^3	2.6E-05	µg/m^3	NA	--	NA	7.6E-05	µg/m^3	NA	--	NA
				Arsenic	1.2E-05	µg/m^3	4.1E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-08	1.2E-05	µg/m^3	1.5E-02	µg/m^3	8E-04
				Cadmium	3.7E-06	µg/m^3	1.2E-06	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	3E-09	3.5E-06	µg/m^3	2.0E-02	µg/m^3	2E-04
				Cobalt	8.9E-06	µg/m^3	2.9E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-08	8.6E-06	µg/m^3	6.0E-03	µg/m^3	1E-03
				Copper	1.3E-03	µg/m^3	4.2E-04	µg/m^3	NA	--	NA	1.2E-03	µg/m^3	NA	--	NA
				Iron	7.0E-02	µg/m^3	2.3E-02	µg/m^3	NA	--	NA	6.7E-02	µg/m^3	NA	--	NA
				Lead	9.9E-04	µg/m^3	3.3E-04	µg/m^3	NA	--	NA	9.5E-04	µg/m^3	NA	--	NA
				Manganese	5.1E-04	µg/m^3	1.7E-04	µg/m^3	NA	--	NA	4.9E-04	µg/m^3	5.0E-02	µg/m^3	1E-02
				Mercury	1.8E-06	µg/m^3	5.8E-07	µg/m^3	NA	--	NA	1.7E-06	µg/m^3	3.0E-02	µg/m^3	6E-05
				Nickel	7.8E-05	µg/m^3	2.6E-05	µg/m^3	2.6E-04	(µg/m^3)$^{-1}$	8E-09	7.5E-05	µg/m^3	9.0E-02	µg/m^3	8E-04
				Thallium	2.9E-06	µg/m^3	9.5E-07	µg/m^3	NA	--	NA	2.8E-06	µg/m^3	NA	--	NA
				Vanadium	2.0E-05	µg/m^3	6.7E-06	µg/m^3	NA	--	NA	1.9E-05	µg/m^3	NA	--	NA
				Zinc	9.5E-04	µg/m^3	3.1E-04	µg/m^3	NA	--	NA	9.1E-04	µg/m^3	NA	--	NA
			Exposure Route Total								7E-08					1E-02
		Exposure Point Total									3E-04					2E+00
	Total of Receptor Risks Across Medium										3E-04					2E+00

Notes

Cancer risks for the resident adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.
NA = Not Available
N/A = Not Applicable

TABLE 7.10.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Ingestion	Acenaphthylene	1.2E-01	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	4.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	3.6E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	5.8E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	4.5E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	6.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	4.9E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	3.4E-07	mg/kg-day	NA	--	NA	2.6E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	5.4E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-08	4.2E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	1.5E-04	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-06	1.2E-03	mg/kg-day	2.0E-02	mg/kg-day	6E-02
				Carbazole	3.7E-01	mg/kg	6.6E-08	mg/kg-day	NA	--	NA	5.1E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	1.2E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	9.0E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	9.7E-08	mg/kg-day	NA	--	NA	7.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	3.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	2.4E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	4.7E-07	mg/kg-day	NA	--	NA	3.6E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	1.7E-09	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	1.0E-09	mg/kg-day	NA	--	NA	7.9E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.0E+00	mg/kg	8.8E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	6.9E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Aluminum	1.1E+04	mg/kg	2.0E-03	mg/kg-day	NA	--	NA	1.6E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Antimony	1.1E+02	mg/kg	1.9E-05	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	4.0E-04	mg/kg-day	4E-01
				Arsenic	1.7E+01	mg/kg	3.0E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	2.4E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
				Cadmium	5.0E+00	mg/kg	8.9E-07	mg/kg-day	NA	--	NA	6.9E-06	mg/kg-day	1.0E-03	mg/kg-day	7E-03
				Cobalt	1.2E+01	mg/kg	2.2E-06	mg/kg-day	NA	--	NA	1.7E-05	mg/kg-day	3.0E-04	mg/kg-day	6E-02
				Copper	1.7E+03	mg/kg	3.1E-04	mg/kg-day	NA	--	NA	2.4E-03	mg/kg-day	4.0E-02	mg/kg-day	6E-02
				Iron	9.6E+04	mg/kg	1.7E-02	mg/kg-day	NA	--	NA	1.3E-01	mg/kg-day	7.0E-01	mg/kg-day	2E-01
				Lead	1.4E+03	mg/kg	2.4E-04	mg/kg-day	NA	--	NA	1.9E-03	mg/kg-day	NA	--	NA
				Manganese	7.1E+02	mg/kg	1.2E-04	mg/kg-day	NA	--	NA	9.7E-04	mg/kg-day	2.4E-02	mg/kg-day	4E-02
				Mercury	2.4E+00	mg/kg	4.3E-07	mg/kg-day	NA	--	NA	3.3E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Nickel	1.1E+02	mg/kg	1.9E-05	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	2.0E-02	mg/kg-day	7E-03
				Thallium	4.0E+00	mg/kg	7.0E-07	mg/kg-day	NA	--	NA	5.5E-06	mg/kg-day	1.0E-05	mg/kg-day	5E-01
				Vanadium	2.8E+01	mg/kg	4.9E-06	mg/kg-day	NA	--	NA	3.8E-05	mg/kg-day	5.0E-03	mg/kg-day	8E-03
				Zinc	1.3E+03	mg/kg	2.3E-04	mg/kg-day	NA	--	NA	1.8E-03	mg/kg-day	3.0E-01	mg/kg-day	6E-03
			Exposure Route Total								1E-05					2E+00

TABLE 7.10.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Dermal	Acenaphthylene	1.2E-01	mg/kg	1.5E-09	mg/kg-day	NA	--	NA	1.2E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	3.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	4.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	3.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	4.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	3.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	2.5E-08	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	4.0E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	3.1E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	8.8E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-07	6.9E-05	mg/kg-day	2.0E-02	mg/kg-day	3E-03
				Carbazole	3.7E-01	mg/kg	3.7E-09	mg/kg-day	NA	--	NA	2.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	8.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	6.6E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	5.5E-09	mg/kg-day	NA	--	NA	4.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	2.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.8E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	3.5E-08	mg/kg-day	NA	--	NA	2.7E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	5.0E+00	mg/kg	7.1E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	5.5E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.7E+01	mg/kg	5.2E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	4.0E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cadmium	5.0E+00	mg/kg	5.1E-10	mg/kg-day	NA	--	NA	3.9E-09	mg/kg-day	2.5E-05	mg/kg-day	2E-04
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.7E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	9.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								8E-07					3E-02

TABLE 7.10.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.9E-06	µg/m^3	2.3E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	1.8E-06	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-06	µg/m^3	2.9E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	3E-10	2.3E-06	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.6E-06	µg/m^3	3.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	2.5E-06	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.4E-06	µg/m^3	1.7E-07	µg/m^3	NA	--	NA	1.3E-06	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	2.2E-06	µg/m^3	2.8E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	2.1E-06	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.4E-04	µg/m^3	7.9E-05	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	2E-10	6.1E-04	µg/m^3	NA	--	NA
				Carbazole	2.7E-07	µg/m^3	3.3E-08	µg/m^3	NA	--	NA	2.6E-07	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	4.7E-07	µg/m^3	5.9E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	7E-11	4.6E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.0E-07	µg/m^3	4.9E-08	µg/m^3	NA	--	NA	3.8E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.3E-06	µg/m^3	1.6E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	1.2E-06	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	7.1E-09	µg/m^3	8.8E-10	µg/m^3	NA	--	NA	6.8E-09	µg/m^3	NA	--	NA
				Endrin ketone	4.2E-09	µg/m^3	5.2E-10	µg/m^3	NA	--	NA	4.0E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	3.6E-06	µg/m^3	4.5E-07	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	4E-11	3.5E-06	µg/m^3	NA	--	NA
				Aluminum	8.3E-03	µg/m^3	1.0E-03	µg/m^3	NA	--	NA	7.9E-03	µg/m^3	5.0E+00	µg/m^3	2E-03
				Antimony	7.9E-05	µg/m^3	9.8E-06	µg/m^3	NA	--	NA	7.6E-05	µg/m^3	NA	--	NA
				Arsenic	1.2E-05	µg/m^3	1.5E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	7E-09	1.2E-05	µg/m^3	1.5E-02	µg/m^3	8E-04
				Cadmium	3.7E-06	µg/m^3	4.5E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	8E-10	3.5E-06	µg/m^3	2.0E-02	µg/m^3	2E-04
				Cobalt	8.9E-06	µg/m^3	1.1E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	1E-08	8.6E-06	µg/m^3	6.0E-03	µg/m^3	1E-03
				Copper	1.3E-03	µg/m^3	1.6E-04	µg/m^3	NA	--	NA	1.2E-03	µg/m^3	NA	--	NA
				Iron	7.0E-02	µg/m^3	8.6E-03	µg/m^3	NA	--	NA	6.7E-02	µg/m^3	NA	--	NA
				Lead	9.9E-04	µg/m^3	1.2E-04	µg/m^3	NA	--	NA	9.5E-04	µg/m^3	NA	--	NA
				Manganese	5.1E-04	µg/m^3	6.3E-05	µg/m^3	NA	--	NA	4.9E-04	µg/m^3	5.0E-02	µg/m^3	1E-02
				Mercury	1.8E-06	µg/m^3	2.2E-07	µg/m^3	NA	--	NA	1.7E-06	µg/m^3	3.0E-02	µg/m^3	6E-05
				Nickel	7.8E-05	µg/m^3	9.6E-06	µg/m^3	2.6E-04	(µg/m^3)$^{-1}$	3E-09	7.5E-05	µg/m^3	9.0E-02	µg/m^3	8E-04
				Thallium	2.9E-06	µg/m^3	3.6E-07	µg/m^3	NA	--	NA	2.8E-06	µg/m^3	NA	--	NA
				Vanadium	2.0E-05	µg/m^3	2.5E-06	µg/m^3	NA	--	NA	1.9E-05	µg/m^3	NA	--	NA
				Zinc	9.5E-04	µg/m^3	1.2E-04	µg/m^3	NA	--	NA	9.1E-04	µg/m^3	NA	--	NA
			Exposure Route Total								2E-08					1E-02
		Exposure Point Total									2E-05					2E+00
	Total of Receptor Risks Across Medium										2E-05					2E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Ingestion	Acenaphthylene	6.7E-01	mg/kg	3.1E-07	mg/kg-day	NA	--	NA	9.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	2.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	7.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	2.8E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	8.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	4.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	2.2E-07	mg/kg-day	NA	--	NA	6.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	2.3E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-07	6.6E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	3.4E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	7.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-05	2.2E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	5.6E-07	mg/kg-day	NA	--	NA	1.6E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	2.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	6.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	3.7E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	6.1E-09	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.8E-08	mg/kg-day	3.0E-05	mg/kg-day	6E-04
				delta-BHC	5.6E-02	mg/kg	2.6E-08	mg/kg-day	NA	--	NA	7.7E-08	mg/kg-day	NA	--	NA
				Dieldrin	2.2E-01	mg/kg	1.0E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	6E-06	3.0E-07	mg/kg-day	5.0E-05	mg/kg-day	6E-03
				4,4'-DDT	2.3E-01	mg/kg	1.1E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.2E-07	mg/kg-day	5.0E-04	mg/kg-day	6E-04
				Endosulfan sulfate	2.2E-02	mg/kg	1.0E-08	mg/kg-day	NA	--	NA	3.0E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	2.1E+01	mg/kg	9.8E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-05	2.9E-05	mg/kg-day	2.0E-05	mg/kg-day	1E+00
				Aluminum	9.4E+03	mg/kg	4.4E-03	mg/kg-day	NA	--	NA	1.3E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Antimony	1.1E+01	mg/kg	5.2E-06	mg/kg-day	NA	--	NA	1.5E-05	mg/kg-day	4.0E-04	mg/kg-day	4E-02
				Arsenic	1.5E+01	mg/kg	7.0E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	2.1E-05	mg/kg-day	3.0E-04	mg/kg-day	7E-02
				Cadmium	5.4E+00	mg/kg	2.5E-06	mg/kg-day	NA	--	NA	7.4E-06	mg/kg-day	1.0E-03	mg/kg-day	7E-03
				Cobalt	7.0E+00	mg/kg	3.3E-06	mg/kg-day	NA	--	NA	9.6E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-02
				Copper	9.5E+01	mg/kg	4.5E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	4.0E-02	mg/kg-day	3E-03
				Iron	1.6E+04	mg/kg	7.5E-03	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Lead	1.3E+02	mg/kg	6.1E-05	mg/kg-day	NA	--	NA	1.8E-04	mg/kg-day	NA	--	NA
				Manganese	5.1E+02	mg/kg	2.4E-04	mg/kg-day	NA	--	NA	7.0E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
				Silver	4.4E+00	mg/kg	2.1E-06	mg/kg-day	NA	--	NA	6.0E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
				Vanadium	3.3E+01	mg/kg	1.6E-05	mg/kg-day	NA	--	NA	4.5E-05	mg/kg-day	5.0E-03	mg/kg-day	9E-03
				Zinc	2.6E+02	mg/kg	1.2E-04	mg/kg-day	NA	--	NA	3.5E-04	mg/kg-day	3.0E-01	mg/kg-day	1E-03
			Exposure Route Total								2E-04					2E+00

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Dermal	Acenaphthylene	6.7E-01	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	4.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	1.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	3.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	1.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	4.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	2.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	6.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	3.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	1.2E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-08	3.4E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	4.7E-08	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	3.9E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	1.1E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	2.2E-07	mg/kg-day	NA	--	NA	6.6E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	1.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	3.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	1.9E-07	mg/kg-day	NA	--	NA	5.5E-07	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	N/A	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				delta-BHC	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Dieldrin	2.2E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	2.3E-01	mg/kg	1.3E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	3.8E-08	mg/kg-day	5.0E-04	mg/kg-day	8E-05
				Endosulfan sulfate	2.2E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	2.1E+01	mg/kg	5.5E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	1.6E-05	mg/kg-day	2.0E-05	mg/kg-day	8E-01
				Aluminum	9.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	8.4E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	2.5E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Cadmium	5.4E+00	mg/kg	1.0E-08	mg/kg-day	NA	--	NA	3.0E-08	mg/kg-day	2.5E-05	mg/kg-day	1E-03
				Cobalt	7.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	9.5E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Silver	4.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								5E-05					8E-01

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	3.9E-07	µg/m^3	1.3E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	3.8E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	4.3E-07	µg/m^3	1.4E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	4E-10	4.2E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	6.7E-07	µg/m^3	2.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-11	6.5E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.3E-07	µg/m^3	1.1E-07	µg/m^3	NA	--	NA	3.2E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	3.5E-07	µg/m^3	1.1E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	3.3E-07	µg/m^3	NA	--	NA
				Carbazole	1.8E-07	µg/m^3	6.0E-08	µg/m^3	NA	--	NA	1.7E-07	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.2E-06	µg/m^3	3.8E-07	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-09	1.1E-06	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-07	µg/m^3	2.9E-07	µg/m^3	NA	--	NA	8.3E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E-07	µg/m^3	1.1E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	3.1E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Aldrin	9.4E-09	µg/m^3	3.1E-09	µg/m^3	4.9E-03	(µg/m^3)$^{-1}$	2E-11	9.0E-09	µg/m^3	NA	--	NA
				delta-BHC	4.1E-08	µg/m^3	1.3E-08	µg/m^3	NA	--	NA	3.9E-08	µg/m^3	NA	--	NA
				Dieldrin	1.6E-07	µg/m^3	5.2E-08	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	3E-10	1.5E-07	µg/m^3	NA	--	NA
				4,4'-DDT	1.7E-07	µg/m^3	5.5E-08	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	7E-12	1.6E-07	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.6E-08	µg/m^3	5.2E-09	µg/m^3	NA	--	NA	1.5E-08	µg/m^3	NA	--	NA
				Total PCB Aroclors	1.5E-05	µg/m^3	5.0E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	6E-10	1.5E-05	µg/m^3	NA	--	NA
				Aluminum	6.8E-03	µg/m^3	2.2E-03	µg/m^3	NA	--	NA	6.5E-03	µg/m^3	5.0E+00	µg/m^3	1E-03
				Antimony	8.0E-06	µg/m^3	2.6E-06	µg/m^3	NA	--	NA	7.6E-06	µg/m^3	NA	--	NA
				Arsenic	1.1E-05	µg/m^3	3.6E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-08	1.0E-05	µg/m^3	1.5E-02	µg/m^3	7E-04
				Cadmium	3.9E-06	µg/m^3	1.3E-06	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	3E-09	3.8E-06	µg/m^3	2.0E-02	µg/m^3	2E-04
				Cobalt	5.1E-06	µg/m^3	1.7E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	2E-08	4.9E-06	µg/m^3	6.0E-03	µg/m^3	8E-04
				Copper	6.9E-05	µg/m^3	2.3E-05	µg/m^3	NA	--	NA	6.6E-05	µg/m^3	NA	--	NA
				Iron	1.2E-02	µg/m^3	3.8E-03	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	NA	--	NA
				Lead	9.3E-05	µg/m^3	3.1E-05	µg/m^3	NA	--	NA	9.0E-05	µg/m^3	NA	--	NA
				Manganese	3.7E-04	µg/m^3	1.2E-04	µg/m^3	NA	--	NA	3.6E-04	µg/m^3	5.0E-02	µg/m^3	7E-03
				Silver	3.2E-06	µg/m^3	1.0E-06	µg/m^3	NA	--	NA	3.1E-06	µg/m^3	NA	--	NA
				Vanadium	2.4E-05	µg/m^3	7.9E-06	µg/m^3	NA	--	NA	2.3E-05	µg/m^3	NA	--	NA
				Zinc	1.9E-04	µg/m^3	6.1E-05	µg/m^3	NA	--	NA	1.8E-04	µg/m^3	NA	--	NA
			Exposure Route Total								4E-08					1E-02
		Exposure Point Total									2E-04					2E+00
	Total of Receptor Risks Across Medium										2E-04					2E+00

Notes
Cancer risks for the resident adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.
NA = Not Available
N/A = Not Applicable

TABLE 7.10.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Ingestion	Acenaphthylene	6.7E-01	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	9.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	9.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	7.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	1.1E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	8.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	1.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	8.1E-08	mg/kg-day	NA	--	NA	6.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	8.5E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	6E-09	6.6E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	4.4E-08	mg/kg-day	NA	--	NA	3.4E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	2.8E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	2.2E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	2.1E-07	mg/kg-day	NA	--	NA	1.6E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	7.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	6.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	2.3E-09	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.8E-08	mg/kg-day	3.0E-05	mg/kg-day	6E-04
				delta-BHC	5.6E-02	mg/kg	9.9E-09	mg/kg-day	NA	--	NA	7.7E-08	mg/kg-day	NA	--	NA
				Dieldrin	2.2E-01	mg/kg	3.9E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	6E-07	3.0E-07	mg/kg-day	5.0E-05	mg/kg-day	6E-03
				4,4'-DDT	2.3E-01	mg/kg	4.1E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	3.2E-07	mg/kg-day	5.0E-04	mg/kg-day	6E-04
				Endosulfan sulfate	2.2E-02	mg/kg	3.9E-09	mg/kg-day	NA	--	NA	3.0E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	2.1E+01	mg/kg	3.7E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-06	2.9E-05	mg/kg-day	2.0E-05	mg/kg-day	1E+00
				Aluminum	9.4E+03	mg/kg	1.6E-03	mg/kg-day	NA	--	NA	1.3E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Antimony	1.1E+01	mg/kg	1.9E-06	mg/kg-day	NA	--	NA	1.5E-05	mg/kg-day	4.0E-04	mg/kg-day	4E-02
				Arsenic	1.5E+01	mg/kg	2.6E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	2.1E-05	mg/kg-day	3.0E-04	mg/kg-day	7E-02
				Cadmium	5.4E+00	mg/kg	9.5E-07	mg/kg-day	NA	--	NA	7.4E-06	mg/kg-day	1.0E-03	mg/kg-day	7E-03
				Cobalt	7.0E+00	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	9.6E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-02
				Copper	9.5E+01	mg/kg	1.7E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	4.0E-02	mg/kg-day	3E-03
				Iron	1.6E+04	mg/kg	2.8E-03	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Lead	1.3E+02	mg/kg	2.3E-05	mg/kg-day	NA	--	NA	1.8E-04	mg/kg-day	NA	--	NA
				Manganese	5.1E+02	mg/kg	9.1E-05	mg/kg-day	NA	--	NA	7.0E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
				Silver	4.4E+00	mg/kg	7.7E-07	mg/kg-day	NA	--	NA	6.0E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
				Vanadium	3.3E+01	mg/kg	5.8E-06	mg/kg-day	NA	--	NA	4.5E-05	mg/kg-day	5.0E-03	mg/kg-day	9E-03
				Zinc	2.6E+02	mg/kg	4.5E-05	mg/kg-day	NA	--	NA	3.5E-04	mg/kg-day	3.0E-01	mg/kg-day	1E-03
			Exposure Route Total								2E-05					2E+00

TABLE 7.10.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Dermal	Acenaphthylene	6.7E-01	mg/kg	8.7E-09	mg/kg-day	NA	--	NA	6.8E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	7.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	5.5E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	7.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	6.1E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	1.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-09	9.4E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	6.0E-09	mg/kg-day	NA	--	NA	4.7E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	6.3E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-10	4.9E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	2.5E-09	mg/kg-day	NA	--	NA	2.0E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	2.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.6E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	9.4E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	5.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	4.6E-08	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	1.0E-08	mg/kg-day	NA	--	NA	7.9E-08	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	N/A	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				delta-BHC	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Dieldrin	2.2E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	2.3E-01	mg/kg	6.9E-10	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-10	5.4E-09	mg/kg-day	5.0E-04	mg/kg-day	1E-05
				Endosulfan sulfate	2.2E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	2.1E+01	mg/kg	2.9E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	2.3E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	9.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	4.5E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	3.5E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cadmium	5.4E+00	mg/kg	5.4E-10	mg/kg-day	NA	--	NA	4.2E-09	mg/kg-day	2.5E-05	mg/kg-day	2E-04
				Cobalt	7.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	9.5E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Silver	4.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								9E-07					1E-01

TABLE 7.10.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	3.9E-07	µg/m^3	4.8E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-12	3.8E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	4.3E-07	µg/m^3	5.4E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	6E-11	4.2E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	6.7E-07	µg/m^3	8.3E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	9E-12	6.5E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.3E-07	µg/m^3	4.1E-08	µg/m^3	NA	--	NA	3.2E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	3.5E-07	µg/m^3	4.3E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-12	3.3E-07	µg/m^3	NA	--	NA
				Carbazole	1.8E-07	µg/m^3	2.2E-08	µg/m^3	NA	--	NA	1.7E-07	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.2E-06	µg/m^3	1.4E-07	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-10	1.1E-06	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-07	µg/m^3	1.1E-07	µg/m^3	NA	--	NA	8.3E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E-07	µg/m^3	4.0E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-12	3.1E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Aldrin	9.4E-09	µg/m^3	1.2E-09	µg/m^3	4.9E-03	(µg/m^3)$^{-1}$	6E-12	9.0E-09	µg/m^3	NA	--	NA
				delta-BHC	4.1E-08	µg/m^3	5.0E-09	µg/m^3	NA	--	NA	3.9E-08	µg/m^3	NA	--	NA
				Dieldrin	1.6E-07	µg/m^3	2.0E-08	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	9E-11	1.5E-07	µg/m^3	NA	--	NA
				4,4'-DDT	1.7E-07	µg/m^3	2.1E-08	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	2E-12	1.6E-07	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.6E-08	µg/m^3	2.0E-09	µg/m^3	NA	--	NA	1.5E-08	µg/m^3	NA	--	NA
				Total PCB Aroclors	1.5E-05	µg/m^3	1.9E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-10	1.5E-05	µg/m^3	NA	--	NA
				Aluminum	6.8E-03	µg/m^3	8.4E-04	µg/m^3	NA	--	NA	6.5E-03	µg/m^3	5.0E+00	µg/m^3	1E-03
				Antimony	8.0E-06	µg/m^3	9.8E-07	µg/m^3	NA	--	NA	7.6E-06	µg/m^3	NA	--	NA
				Arsenic	1.1E-05	µg/m^3	1.3E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	6E-09	1.0E-05	µg/m^3	1.5E-02	µg/m^3	7E-04
				Cadmium	3.9E-06	µg/m^3	4.8E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	9E-10	3.8E-06	µg/m^3	2.0E-02	µg/m^3	2E-04
				Cobalt	5.1E-06	µg/m^3	6.3E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-09	4.9E-06	µg/m^3	6.0E-03	µg/m^3	8E-04
				Copper	6.9E-05	µg/m^3	8.5E-06	µg/m^3	NA	--	NA	6.6E-05	µg/m^3	NA	--	NA
				Iron	1.2E-02	µg/m^3	1.4E-03	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	NA	--	NA
				Lead	9.3E-05	µg/m^3	1.2E-05	µg/m^3	NA	--	NA	9.0E-05	µg/m^3	NA	--	NA
				Manganese	3.7E-04	µg/m^3	4.6E-05	µg/m^3	NA	--	NA	3.6E-04	µg/m^3	5.0E-02	µg/m^3	7E-03
				Silver	3.2E-06	µg/m^3	3.9E-07	µg/m^3	NA	--	NA	3.1E-06	µg/m^3	NA	--	NA
				Vanadium	2.4E-05	µg/m^3	3.0E-06	µg/m^3	NA	--	NA	2.3E-05	µg/m^3	NA	--	NA
				Zinc	1.9E-04	µg/m^3	2.3E-05	µg/m^3	NA	--	NA	1.8E-04	µg/m^3	NA	--	NA
			Exposure Route Total								1E-08					1E-02
		Exposure Point Total									2E-05					2E+00
	Total of Receptor Risks Across Medium										2E-05					2E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	1.0E-05	mg/kg-day	NA	--	NA	3.0E-05	mg/kg-day	2.0E-03	mg/kg-day	2E-02
				Acenaphthylene	2.1E-01	mg/kg	9.8E-08	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	8.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-06	2.5E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	1.3E-06	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-05	3.7E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	1.9E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-05	5.4E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	6.0E-07	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	4.9E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-07	1.4E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	2.5E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-06	7.2E-05	mg/kg-day	2.0E-02	mg/kg-day	4E-03
				Carbazole	1.0E-01	mg/kg	4.7E-08	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	1.3E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	3.7E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.7E-06	mg/kg-day	NA	--	NA	4.9E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	3.7E-06	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.6E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	1.0E-06	mg/kg-day	NA	--	NA	3.0E-06	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	3.5E-06	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	2E-04	1.0E-05	mg/kg-day	5.0E-05	mg/kg-day	2E-01
				4,4'-DDE	5.6E+01	mg/kg	2.6E-05	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-05	7.7E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	3.3E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	5.2E+00	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	7.1E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.3E+00	mg/kg	6.3E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.8E-06	mg/kg-day	1.3E-05	mg/kg-day	1E-01
				Total PCB Aroclors	3.3E+01	mg/kg	1.6E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-04	4.6E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				Aluminum	1.6E+04	mg/kg	7.5E-03	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Antimony	2.9E+00	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	4.0E-06	mg/kg-day	4.0E-04	mg/kg-day	1E-02
				Arsenic	1.5E+01	mg/kg	7.2E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	2.1E-05	mg/kg-day	3.0E-04	mg/kg-day	7E-02
				Cadmium	1.2E+01	mg/kg	5.5E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	1.0E-03	mg/kg-day	2E-02
				Cobalt	1.3E+01	mg/kg	6.1E-06	mg/kg-day	NA	--	NA	1.8E-05	mg/kg-day	3.0E-04	mg/kg-day	6E-02
				Copper	1.7E+02	mg/kg	8.0E-05	mg/kg-day	NA	--	NA	2.3E-04	mg/kg-day	4.0E-02	mg/kg-day	6E-03
				Iron	2.8E+04	mg/kg	1.3E-02	mg/kg-day	NA	--	NA	3.9E-02	mg/kg-day	7.0E-01	mg/kg-day	6E-02
				Lead	1.9E+02	mg/kg	9.1E-05	mg/kg-day	NA	--	NA	2.7E-04	mg/kg-day	NA	--	NA
				Manganese	5.3E+02	mg/kg	2.5E-04	mg/kg-day	NA	--	NA	7.3E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
				Vanadium	4.4E+01	mg/kg	2.1E-05	mg/kg-day	NA	--	NA	6.1E-05	mg/kg-day	5.0E-03	mg/kg-day	1E-02
			Exposure Route Total								5E-04					3E+00

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Acenaphthylene	2.1E-01	mg/kg	5.1E-08	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	4.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	6.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.9E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	9.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	2.8E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	3.1E-07	mg/kg-day	NA	--	NA	9.0E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	2.5E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-08	7.4E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	9.9E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	4E-07	2.9E-05	mg/kg-day	2.0E-02	mg/kg-day	1E-03
				Carbazole	1.0E-01	mg/kg	1.9E-08	mg/kg-day	NA	--	NA	5.5E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	6.5E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.9E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	6.7E-07	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	1.5E-06	mg/kg-day	NA	--	NA	4.3E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	2.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-07	8.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	5.3E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	3.1E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	9.2E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	5.2E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	1.3E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	3.3E+01	mg/kg	8.8E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-05	2.6E-05	mg/kg-day	2.0E-05	mg/kg-day	1E+00
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	2.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	8.6E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	2.5E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Cadmium	1.2E+01	mg/kg	2.2E-08	mg/kg-day	NA	--	NA	6.4E-08	mg/kg-day	2.5E-05	mg/kg-day	3E-03
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								8E-05					1E+00

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.3E-06	µg/m^3	4.3E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	1.3E-06	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.9E-06	µg/m^3	6.4E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-09	1.9E-06	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.9E-06	µg/m^3	9.4E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-10	2.7E-06	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	9.2E-07	µg/m^3	3.0E-07	µg/m^3	NA	--	NA	8.8E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	7.5E-07	µg/m^3	2.5E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-11	7.2E-07	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	3.8E-05	µg/m^3	1.3E-05	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	4E-11	3.7E-05	µg/m^3	NA	--	NA
				Carbazole	7.3E-08	µg/m^3	2.4E-08	µg/m^3	NA	--	NA	7.0E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.9E-07	µg/m^3	6.4E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-10	1.9E-07	µg/m^3	NA	--	NA
				Dimethyl phthalate	2.6E-06	µg/m^3	8.6E-07	µg/m^3	NA	--	NA	2.5E-06	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	5.7E-06	µg/m^3	1.9E-06	µg/m^3	NA	--	NA	5.4E-06	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	8.5E-07	µg/m^3	2.8E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-11	8.2E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Dieldrin	5.4E-06	µg/m^3	1.8E-06	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	1E-08	5.2E-06	µg/m^3	NA	--	NA
				4,4'-DDE	4.1E-05	µg/m^3	1.3E-05	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	2E-09	3.9E-05	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.7E-09	µg/m^3	5.7E-10	µg/m^3	NA	--	NA	1.7E-09	µg/m^3	NA	--	NA
				Endrin aldehyde	3.8E-06	µg/m^3	1.2E-06	µg/m^3	NA	--	NA	3.6E-06	µg/m^3	NA	--	NA
				Heptachlor epoxide	9.7E-07	µg/m^3	3.2E-07	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	1E-09	9.3E-07	µg/m^3	NA	--	NA
				Total PCB Aroclors	2.4E-05	µg/m^3	8.0E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-09	2.3E-05	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	3.8E-03	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	5.0E+00	µg/m^3	2E-03
				Antimony	2.1E-06	µg/m^3	6.9E-07	µg/m^3	NA	--	NA	2.0E-06	µg/m^3	NA	--	NA
				Arsenic	1.1E-05	µg/m^3	3.6E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-08	1.1E-05	µg/m^3	1.5E-02	µg/m^3	7E-04
				Cadmium	8.5E-06	µg/m^3	2.8E-06	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	6E-09	8.2E-06	µg/m^3	2.0E-02	µg/m^3	4E-04
				Cobalt	9.4E-06	µg/m^3	3.1E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-08	9.0E-06	µg/m^3	6.0E-03	µg/m^3	2E-03
				Copper	1.2E-04	µg/m^3	4.0E-05	µg/m^3	NA	--	NA	1.2E-04	µg/m^3	NA	--	NA
				Iron	2.1E-02	µg/m^3	6.8E-03	µg/m^3	NA	--	NA	2.0E-02	µg/m^3	NA	--	NA
				Lead	1.4E-04	µg/m^3	4.6E-05	µg/m^3	NA	--	NA	1.3E-04	µg/m^3	NA	--	NA
				Manganese	3.9E-04	µg/m^3	1.3E-04	µg/m^3	NA	--	NA	3.7E-04	µg/m^3	5.0E-02	µg/m^3	7E-03
				Vanadium	3.2E-05	µg/m^3	1.1E-05	µg/m^3	NA	--	NA	3.1E-05	µg/m^3	NA	--	NA
			Exposure Route Total								8E-08					1E-02
		Exposure Point Total									6E-04					4E+00
	Total of Receptor Risks Across Medium										6E-04					4E+00

Notes

Cancer risks for the resident adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

N/A = Not Applicable

TABLE 7.10.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	3.9E-06	mg/kg-day	NA	--	NA	3.0E-05	mg/kg-day	2.0E-03	mg/kg-day	2E-02
				Acenaphthylene	2.1E-01	mg/kg	3.7E-08	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	3.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	2.5E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	4.7E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	3.7E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	7.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	5.4E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	2.2E-07	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	1.8E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	1.4E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	9.3E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-07	7.2E-05	mg/kg-day	2.0E-02	mg/kg-day	4E-03
				Carbazole	1.0E-01	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	4.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	3.7E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	6.3E-07	mg/kg-day	NA	--	NA	4.9E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	2.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.6E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	3.8E-07	mg/kg-day	NA	--	NA	3.0E-06	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	1.3E-06	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	2E-05	1.0E-05	mg/kg-day	5.0E-05	mg/kg-day	2E-01
				4,4'-DDE	5.6E+01	mg/kg	9.9E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	7.7E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	4.2E-10	mg/kg-day	NA	--	NA	3.3E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	5.2E+00	mg/kg	9.2E-07	mg/kg-day	NA	--	NA	7.1E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.3E+00	mg/kg	2.4E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.8E-06	mg/kg-day	1.3E-05	mg/kg-day	1E-01
				Total PCB Aroclors	3.3E+01	mg/kg	5.9E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	4.6E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				Aluminum	1.6E+04	mg/kg	2.8E-03	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Antimony	2.9E+00	mg/kg	5.1E-07	mg/kg-day	NA	--	NA	4.0E-06	mg/kg-day	4.0E-04	mg/kg-day	1E-02
				Arsenic	1.5E+01	mg/kg	2.7E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	2.1E-05	mg/kg-day	3.0E-04	mg/kg-day	7E-02
				Cadmium	1.2E+01	mg/kg	2.1E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	1.0E-03	mg/kg-day	2E-02
				Cobalt	1.3E+01	mg/kg	2.3E-06	mg/kg-day	NA	--	NA	1.8E-05	mg/kg-day	3.0E-04	mg/kg-day	6E-02
				Copper	1.7E+02	mg/kg	3.0E-05	mg/kg-day	NA	--	NA	2.3E-04	mg/kg-day	4.0E-02	mg/kg-day	6E-03
				Iron	2.8E+04	mg/kg	5.0E-03	mg/kg-day	NA	--	NA	3.9E-02	mg/kg-day	7.0E-01	mg/kg-day	6E-02
				Lead	1.9E+02	mg/kg	3.4E-05	mg/kg-day	NA	--	NA	2.7E-04	mg/kg-day	NA	--	NA
				Manganese	5.3E+02	mg/kg	9.4E-05	mg/kg-day	NA	--	NA	7.3E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
				Vanadium	4.4E+01	mg/kg	7.8E-06	mg/kg-day	NA	--	NA	6.1E-05	mg/kg-day	5.0E-03	mg/kg-day	1E-02
			Exposure Route Total								5E-05					3E+00

TABLE 7.10.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Acenaphthylene	2.1E-01	mg/kg	2.7E-09	mg/kg-day	NA	--	NA	2.1E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	2.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	3.5E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	2.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	5.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	4.0E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	1.7E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-09	1.1E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	5.3E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	7E-09	4.1E-06	mg/kg-day	2.0E-02	mg/kg-day	2E-04
				Carbazole	1.0E-01	mg/kg	1.0E-09	mg/kg-day	NA	--	NA	7.9E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	3.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	2.7E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	3.6E-08	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	7.8E-08	mg/kg-day	NA	--	NA	6.1E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	2.8E-08	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	1.7E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.3E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	5.2E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	1.3E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	3.3E+01	mg/kg	4.7E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	3.7E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	2.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	4.6E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	3.6E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cadmium	1.2E+01	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	9.2E-09	mg/kg-day	2.5E-05	mg/kg-day	4E-04
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-06					2E-01

TABLE 7.10.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.3E-06	µg/m^3	1.6E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	1.3E-06	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.9E-06	µg/m^3	2.4E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	3E-10	1.9E-06	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.9E-06	µg/m^3	3.5E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	2.7E-06	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	9.2E-07	µg/m^3	1.1E-07	µg/m^3	NA	--	NA	8.8E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	7.5E-07	µg/m^3	9.3E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	7.2E-07	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	3.8E-05	µg/m^3	4.7E-06	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	1E-11	3.7E-05	µg/m^3	NA	--	NA
				Carbazole	7.3E-08	µg/m^3	9.0E-09	µg/m^3	NA	--	NA	7.0E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.9E-07	µg/m^3	2.4E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-11	1.9E-07	µg/m^3	NA	--	NA
				Dimethyl phthalate	2.6E-06	µg/m^3	3.2E-07	µg/m^3	NA	--	NA	2.5E-06	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	5.7E-06	µg/m^3	7.0E-07	µg/m^3	NA	--	NA	5.4E-06	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	8.5E-07	µg/m^3	1.1E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	8.2E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Dieldrin	5.4E-06	µg/m^3	6.6E-07	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	3E-09	5.2E-06	µg/m^3	NA	--	NA
				4,4'-DDE	4.1E-05	µg/m^3	5.0E-06	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	5E-10	3.9E-05	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.7E-09	µg/m^3	2.1E-10	µg/m^3	NA	--	NA	1.7E-09	µg/m^3	NA	--	NA
				Endrin aldehyde	3.8E-06	µg/m^3	4.6E-07	µg/m^3	NA	--	NA	3.6E-06	µg/m^3	NA	--	NA
				Heptachlor epoxide	9.7E-07	µg/m^3	1.2E-07	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	3E-10	9.3E-07	µg/m^3	NA	--	NA
				Total PCB Aroclors	2.4E-05	µg/m^3	3.0E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-10	2.3E-05	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	1.4E-03	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	5.0E+00	µg/m^3	2E-03
				Antimony	2.1E-06	µg/m^3	2.6E-07	µg/m^3	NA	--	NA	2.0E-06	µg/m^3	NA	--	NA
				Arsenic	1.1E-05	µg/m^3	1.4E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	6E-09	1.1E-05	µg/m^3	1.5E-02	µg/m^3	7E-04
				Cadmium	8.5E-06	µg/m^3	1.0E-06	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	2E-09	8.2E-06	µg/m^3	2.0E-02	µg/m^3	4E-04
				Cobalt	9.4E-06	µg/m^3	1.2E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	1E-08	9.0E-06	µg/m^3	6.0E-03	µg/m^3	2E-03
				Copper	1.2E-04	µg/m^3	1.5E-05	µg/m^3	NA	--	NA	1.2E-04	µg/m^3	NA	--	NA
				Iron	2.1E-02	µg/m^3	2.5E-03	µg/m^3	NA	--	NA	2.0E-02	µg/m^3	NA	--	NA
				Lead	1.4E-04	µg/m^3	1.7E-05	µg/m^3	NA	--	NA	1.3E-04	µg/m^3	NA	--	NA
				Manganese	3.9E-04	µg/m^3	4.8E-05	µg/m^3	NA	--	NA	3.7E-04	µg/m^3	5.0E-02	µg/m^3	7E-03
				Vanadium	3.2E-05	µg/m^3	4.0E-06	µg/m^3	NA	--	NA	3.1E-05	µg/m^3	NA	--	NA
			Exposure Route Total								2E-08					1E-02
		Exposure Point Total									5E-05					3E+00
	Total of Receptor Risks Across Medium										5E-05					3E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Ingestion	Acenaphthylene	2.9E-02	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	3.9E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	1.0E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-06	3.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	7.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-05	2.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	1.2E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-06	3.4E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	3.1E-07	mg/kg-day	NA	--	NA	9.0E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	9.6E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	6E-07	2.8E-06	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	5.5E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	9.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	2.8E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	4.0E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	2.8E-08	mg/kg-day	NA	--	NA	8.0E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.7E-06	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	1.7E-06	mg/kg-day	NA	--	NA	4.8E-06	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	1.9E-09	mg/kg-day	NA	--	NA	5.5E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	2.9E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-04	8.5E-05	mg/kg-day	2.0E-05	mg/kg-day	4E+00
				Aluminum	1.5E+04	mg/kg	6.8E-03	mg/kg-day	NA	--	NA	2.0E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Arsenic	2.9E+00	mg/kg	1.4E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-06	4.0E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	4.0E+00	mg/kg	1.9E-06	mg/kg-day	NA	--	NA	5.5E-06	mg/kg-day	1.0E-03	mg/kg-day	5E-03
				Cobalt	7.3E+00	mg/kg	3.4E-06	mg/kg-day	NA	--	NA	1.0E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-02
				Cyanide	1.7E+00	mg/kg	7.8E-07	mg/kg-day	NA	--	NA	2.3E-06	mg/kg-day	6.0E-04	mg/kg-day	4E-03
				Iron	2.8E+04	mg/kg	1.3E-02	mg/kg-day	NA	--	NA	3.9E-02	mg/kg-day	7.0E-01	mg/kg-day	6E-02
				Lead	1.7E+02	mg/kg	8.0E-05	mg/kg-day	NA	--	NA	2.3E-04	mg/kg-day	NA	--	NA
				Manganese	5.5E+02	mg/kg	2.6E-04	mg/kg-day	NA	--	NA	7.6E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
			Exposure Route Total								3E-04					4E+00
Floodplain Soil	All Soil	EU BB6	Dermal	Acenaphthylene	2.9E-02	mg/kg	7.0E-09	mg/kg-day	NA	--	NA	2.0E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	5.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.6E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	3.9E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	6.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	4.7E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	5.0E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-07	1.4E-06	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	2.2E-08	mg/kg-day	NA	--	NA	6.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	5.0E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.5E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	4.7E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	3.2E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	3.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-07	8.6E-07	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	8.6E-07	mg/kg-day	NA	--	NA	2.5E-06	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.2E+01	mg/kg	1.6E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-05	4.7E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				Aluminum	1.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.9E+00	mg/kg	1.7E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	4.8E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	4.0E+00	mg/kg	7.5E-09	mg/kg-day	NA	--	NA	2.2E-08	mg/kg-day	2.5E-05	mg/kg-day	9E-04
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Cyanide	1.7E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								1E-04					2E+00

TABLE 7.10.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.6E-06	µg/m^3	5.3E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	1.6E-06	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.2E-06	µg/m^3	3.8E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-09	1.1E-06	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.8E-06	µg/m^3	5.8E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-10	1.7E-06	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.7E-07	µg/m^3	1.6E-07	µg/m^3	NA	--	NA	4.6E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.5E-06	µg/m^3	4.9E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	1.4E-06	µg/m^3	NA	--	NA
				Carbazole	8.6E-08	µg/m^3	2.8E-08	µg/m^3	NA	--	NA	8.2E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.5E-07	µg/m^3	4.9E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-10	1.4E-07	µg/m^3	NA	--	NA
				Dimethyl phthalate	6.2E-07	µg/m^3	2.0E-07	µg/m^3	NA	--	NA	6.0E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.2E-08	µg/m^3	1.4E-08	µg/m^3	NA	--	NA	4.1E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	8.8E-07	µg/m^3	2.9E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-11	8.4E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin ketone	2.9E-09	µg/m^3	9.5E-10	µg/m^3	NA	--	NA	2.8E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.5E-05	µg/m^3	1.5E-05	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-09	4.3E-05	µg/m^3	NA	--	NA
				Aluminum	1.1E-02	µg/m^3	3.5E-03	µg/m^3	NA	--	NA	1.0E-02	µg/m^3	5.0E+00	µg/m^3	2E-03
				Arsenic	2.1E-06	µg/m^3	7.0E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	4E-09	2.0E-06	µg/m^3	1.5E-02	µg/m^3	1E-04
				Cadmium	2.9E-06	µg/m^3	9.5E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	2E-09	2.8E-06	µg/m^3	2.0E-02	µg/m^3	1E-04
				Cobalt	5.3E-06	µg/m^3	1.7E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	2E-08	5.1E-06	µg/m^3	6.0E-03	µg/m^3	8E-04
				Cyanide	1.2E-06	µg/m^3	4.0E-07	µg/m^3	NA	--	NA	1.2E-06	µg/m^3	NA	--	NA
				Iron	2.0E-02	µg/m^3	6.7E-03	µg/m^3	NA	--	NA	2.0E-02	µg/m^3	NA	--	NA
				Lead	1.2E-04	µg/m^3	4.1E-05	µg/m^3	NA	--	NA	1.2E-04	µg/m^3	NA	--	NA
				Manganese	4.0E-04	µg/m^3	1.3E-04	µg/m^3	NA	--	NA	3.9E-04	µg/m^3	5.0E-02	µg/m^3	8E-03
			Exposure Route Total								3E-08					1E-02
		Exposure Point Total									4E-04					7E+00
	Total of Receptor Risks Across Medium										4E-04					7E+00

Notes

Cancer risks for the resident adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

N/A = Not Applicable

TABLE 7.10.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Ingestion	Acenaphthylene	2.9E-02	mg/kg	5.1E-09	mg/kg-day	NA	--	NA	3.9E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	3.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	3.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	2.8E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	2.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	4.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	3.4E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	9.0E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	3.6E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	2.8E-06	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	2.1E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	3.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	2.8E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	1.5E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	1.0E-08	mg/kg-day	NA	--	NA	8.0E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	2.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.7E-06	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	6.2E-07	mg/kg-day	NA	--	NA	4.8E-06	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	7.0E-10	mg/kg-day	NA	--	NA	5.5E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	1.1E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	8.5E-05	mg/kg-day	2.0E-05	mg/kg-day	4E+00
				Aluminum	1.5E+04	mg/kg	2.6E-03	mg/kg-day	NA	--	NA	2.0E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Arsenic	2.9E+00	mg/kg	5.2E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	4.0E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	4.0E+00	mg/kg	7.1E-07	mg/kg-day	NA	--	NA	5.5E-06	mg/kg-day	1.0E-03	mg/kg-day	5E-03
				Cobalt	7.3E+00	mg/kg	1.3E-06	mg/kg-day	NA	--	NA	1.0E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-02
				Cyanide	1.7E+00	mg/kg	2.9E-07	mg/kg-day	NA	--	NA	2.3E-06	mg/kg-day	6.0E-04	mg/kg-day	4E-03
				Iron	2.8E+04	mg/kg	5.0E-03	mg/kg-day	NA	--	NA	3.9E-02	mg/kg-day	7.0E-01	mg/kg-day	6E-02
				Lead	1.7E+02	mg/kg	3.0E-05	mg/kg-day	NA	--	NA	2.3E-04	mg/kg-day	NA	--	NA
				Manganese	5.5E+02	mg/kg	9.8E-05	mg/kg-day	NA	--	NA	7.6E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
			Exposure Route Total								3E-05					4E+00
Floodplain Soil	All Soil	EU BB6	Dermal	Acenaphthylene	2.9E-02	mg/kg	3.7E-10	mg/kg-day	NA	--	NA	2.9E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	2.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	2.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	3.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	8.5E-09	mg/kg-day	NA	--	NA	6.6E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	2.7E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	2.1E-07	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	9.2E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	2.7E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.1E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	8.6E-09	mg/kg-day	NA	--	NA	6.7E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	5.9E-10	mg/kg-day	NA	--	NA	4.6E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	1.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	4.6E-08	mg/kg-day	NA	--	NA	3.6E-07	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.2E+01	mg/kg	8.7E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	6.8E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Aluminum	1.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.9E+00	mg/kg	8.8E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	6.9E-08	mg/kg-day	3.0E-04	mg/kg-day	2E-04
				Cadmium	4.0E+00	mg/kg	4.0E-10	mg/kg-day	NA	--	NA	3.1E-09	mg/kg-day	2.5E-05	mg/kg-day	1E-04
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Cyanide	1.7E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								2E-06					3E-01

TABLE 7.10.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Inhalation	Acenaphthylene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Benzo(a)anthracene	1.6E-06	$\mu g/m^3$	2.0E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	2E-11	1.6E-06	$\mu g/m^3$	NA	--	NA
				Benzo(a)pyrene	1.2E-06	$\mu g/m^3$	1.4E-07	$\mu g/m^3$	1.1E-03	$(\mu g/m^3)^{-1}$	2E-10	1.1E-06	$\mu g/m^3$	NA	--	NA
				Benzo(b)fluoranthene	1.8E-06	$\mu g/m^3$	2.2E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	2E-11	1.7E-06	$\mu g/m^3$	NA	--	NA
				Benzo(g,h,i)perylene	4.7E-07	$\mu g/m^3$	5.9E-08	$\mu g/m^3$	NA	--	NA	4.6E-07	$\mu g/m^3$	NA	--	NA
				Benzo(k)fluoranthene	1.5E-06	$\mu g/m^3$	1.8E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	2E-11	1.4E-06	$\mu g/m^3$	NA	--	NA
				Carbazole	8.6E-08	$\mu g/m^3$	1.1E-08	$\mu g/m^3$	NA	--	NA	8.2E-08	$\mu g/m^3$	NA	--	NA
				Dibenzo(a,h)anthracene	1.5E-07	$\mu g/m^3$	1.8E-08	$\mu g/m^3$	1.2E-03	$(\mu g/m^3)^{-1}$	2E-11	1.4E-07	$\mu g/m^3$	NA	--	NA
				Dimethyl phthalate	6.2E-07	$\mu g/m^3$	7.7E-08	$\mu g/m^3$	NA	--	NA	6.0E-07	$\mu g/m^3$	NA	--	NA
				di-n-Octyl phthalate	4.2E-08	$\mu g/m^3$	5.2E-09	$\mu g/m^3$	NA	--	NA	4.1E-08	$\mu g/m^3$	NA	--	NA
				Indeno(1,2,3-cd)pyrene	8.8E-07	$\mu g/m^3$	1.1E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	1E-11	8.4E-07	$\mu g/m^3$	NA	--	NA
				Phenanthrene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Endrin ketone	2.9E-09	$\mu g/m^3$	3.6E-10	$\mu g/m^3$	NA	--	NA	2.8E-09	$\mu g/m^3$	NA	--	NA
				Total PCB Aroclors	4.5E-05	$\mu g/m^3$	5.5E-06	$\mu g/m^3$	1.0E-04	$(\mu g/m^3)^{-1}$	6E-10	4.3E-05	$\mu g/m^3$	NA	--	NA
				Aluminum	1.1E-02	$\mu g/m^3$	1.3E-03	$\mu g/m^3$	NA	--	NA	1.0E-02	$\mu g/m^3$	5.0E+00	$\mu g/m^3$	2E-03
				Arsenic	2.1E-06	$\mu g/m^3$	2.6E-07	$\mu g/m^3$	4.3E-03	$(\mu g/m^3)^{-1}$	1E-09	2.0E-06	$\mu g/m^3$	1.5E-02	$\mu g/m^3$	1E-04
				Cadmium	2.9E-06	$\mu g/m^3$	3.6E-07	$\mu g/m^3$	1.8E-03	$(\mu g/m^3)^{-1}$	6E-10	2.8E-06	$\mu g/m^3$	2.0E-02	$\mu g/m^3$	1E-04
				Cobalt	5.3E-06	$\mu g/m^3$	6.6E-07	$\mu g/m^3$	9.0E-03	$(\mu g/m^3)^{-1}$	6E-09	5.1E-06	$\mu g/m^3$	6.0E-03	$\mu g/m^3$	8E-04
				Cyanide	1.2E-06	$\mu g/m^3$	1.5E-07	$\mu g/m^3$	NA	--	NA	1.2E-06	$\mu g/m^3$	NA	--	NA
				Iron	2.0E-02	$\mu g/m^3$	2.5E-03	$\mu g/m^3$	NA	--	NA	2.0E-02	$\mu g/m^3$	NA	--	NA
				Lead	1.2E-04	$\mu g/m^3$	1.5E-05	$\mu g/m^3$	NA	--	NA	1.2E-04	$\mu g/m^3$	NA	--	NA
				Manganese	4.0E-04	$\mu g/m^3$	5.0E-05	$\mu g/m^3$	NA	--	NA	3.9E-04	$\mu g/m^3$	5.0E-02	$\mu g/m^3$	8E-03
			Exposure Route Total								8E-09					1E-02
		Exposure Point Total									3E-05					5E+00
	Total of Receptor Risks Across Medium										3E-05					5E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU GB	Ingestion	Acenaphthylene	2.0E-01	mg/kg	2.2E-07	mg/kg-day	NA	--	NA	2.6E-06	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.5E-01	mg/kg	3.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	9.6E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	7.8E-01	mg/kg	3.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.0E-05	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.1E+00	mg/kg	5.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.5E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.5E-01	mg/kg	4.9E-07	mg/kg-day	NA	--	NA	5.7E-06	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	3.2E-07	mg/kg-day	NA	--	NA	3.7E-06	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-01	mg/kg	1.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	4.1E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.8E-01	mg/kg	2.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	6.2E-06	mg/kg-day	NA	--	NA
				Phenanthrene	8.6E-01	mg/kg	9.5E-07	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.3E-02	mg/kg	5.8E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	6.8E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	2.2E+04	mg/kg	2.4E-02	mg/kg-day	NA	--	NA	2.8E-01	mg/kg-day	1.0E+00	mg/kg-day	3E-01
				Arsenic	5.7E+00	mg/kg	6.2E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	7.3E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Cobalt	1.2E+01	mg/kg	1.3E-05	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	3.0E-04	mg/kg-day	5E-01
				Iron	3.0E+04	mg/kg	3.3E-02	mg/kg-day	NA	--	NA	3.8E-01	mg/kg-day	7.0E-01	mg/kg-day	5E-01
				Manganese	6.4E+02	mg/kg	7.0E-04	mg/kg-day	NA	--	NA	8.2E-03	mg/kg-day	2.4E-02	mg/kg-day	3E-01
				Mercury	2.2E+00	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	2.8E-05	mg/kg-day	3.0E-04	mg/kg-day	9E-02
				Vanadium	4.8E+01	mg/kg	5.3E-05	mg/kg-day	NA	--	NA	6.2E-04	mg/kg-day	5.0E-03	mg/kg-day	1E-01
			Exposure Route Total								4E-05					2E+00
Floodplain Soil	All Soil	EU GB	Dermal	Acenaphthylene	2.0E-01	mg/kg	8.0E-08	mg/kg-day	NA	--	NA	9.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.5E-01	mg/kg	8.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	3.5E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	7.8E-01	mg/kg	9.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	3.6E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.1E+00	mg/kg	1.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	5.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.5E-01	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	2.1E-06	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	8.9E-08	mg/kg-day	NA	--	NA	1.0E-06	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-01	mg/kg	3.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.5E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.8E-01	mg/kg	5.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	2.3E-06	mg/kg-day	NA	--	NA
				Phenanthrene	8.6E-01	mg/kg	3.4E-07	mg/kg-day	NA	--	NA	4.0E-06	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.3E-02	mg/kg	2.3E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	2.7E-07	mg/kg-day	2.0E-05	mg/kg-day	1E-02
				Aluminum	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	5.7E+00	mg/kg	5.2E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	6.1E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	3.0E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	6.4E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.2E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Vanadium	4.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								9E-06					3E-02

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU GB	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	5.4E-07	µg/m^3	4.5E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	5.2E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	5.7E-07	µg/m^3	4.6E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	3E-10	5.4E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	8.3E-07	µg/m^3	6.8E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	8.0E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.2E-07	µg/m^3	2.7E-08	µg/m^3	NA	--	NA	3.1E-07	µg/m^3	NA	--	NA
				Carbazole	2.1E-07	µg/m^3	1.7E-08	µg/m^3	NA	--	NA	2.0E-07	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	2.3E-07	µg/m^3	1.9E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-10	2.2E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.5E-07	µg/m^3	2.9E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	3.4E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Total PCB Aroclors	3.8E-08	µg/m^3	3.2E-09	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-13	3.7E-08	µg/m^3	NA	--	NA
				Aluminum	1.6E-02	µg/m^3	1.3E-03	µg/m^3	NA	--	NA	1.5E-02	µg/m^3	5.0E+00	µg/m^3	3E-03
				Arsenic	4.1E-06	µg/m^3	3.4E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	1E-09	4.0E-06	µg/m^3	1.5E-02	µg/m^3	3E-04
				Cobalt	8.7E-06	µg/m^3	7.1E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-09	8.3E-06	µg/m^3	6.0E-03	µg/m^3	1E-03
				Iron	2.2E-02	µg/m^3	1.8E-03	µg/m^3	NA	--	NA	2.1E-02	µg/m^3	NA	--	NA
				Manganese	4.6E-04	µg/m^3	3.8E-05	µg/m^3	NA	--	NA	4.5E-04	µg/m^3	5.0E-02	µg/m^3	9E-03
				Mercury	1.6E-06	µg/m^3	1.3E-07	µg/m^3	NA	--	NA	1.5E-06	µg/m^3	3.0E-02	µg/m^3	5E-05
				Vanadium	3.5E-05	µg/m^3	2.9E-06	µg/m^3	NA	--	NA	3.4E-05	µg/m^3	NA	--	NA
			Exposure Route Total								8E-09					1E-02
		Exposure Point Total									5E-05					2E+00
	Total of Receptor Risks Across Medium										5E-05					2E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU GB	Ingestion	Acenaphthylene	2.0E-01	mg/kg	2.2E-07	mg/kg-day	NA	--	NA	2.6E-06	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.5E-01	mg/kg	3.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	9.6E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	7.8E-01	mg/kg	3.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.0E-05	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.1E+00	mg/kg	5.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.5E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.5E-01	mg/kg	4.9E-07	mg/kg-day	NA	--	NA	5.7E-06	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	3.2E-07	mg/kg-day	NA	--	NA	3.7E-06	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-01	mg/kg	1.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	4.1E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.8E-01	mg/kg	2.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	6.2E-06	mg/kg-day	NA	--	NA
				Phenanthrene	8.6E-01	mg/kg	9.5E-07	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.3E-02	mg/kg	5.8E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	6.8E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	2.2E+04	mg/kg	2.4E-02	mg/kg-day	NA	--	NA	2.8E-01	mg/kg-day	1.0E+00	mg/kg-day	3E-01
				Arsenic	5.7E+00	mg/kg	6.2E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	7.3E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Cobalt	1.2E+01	mg/kg	1.3E-05	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	3.0E-04	mg/kg-day	5E-01
				Iron	3.0E+04	mg/kg	3.3E-02	mg/kg-day	NA	--	NA	3.8E-01	mg/kg-day	7.0E-01	mg/kg-day	5E-01
				Manganese	6.4E+02	mg/kg	7.0E-04	mg/kg-day	NA	--	NA	8.2E-03	mg/kg-day	2.4E-02	mg/kg-day	3E-01
				Mercury	2.2E+00	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	2.8E-05	mg/kg-day	3.0E-04	mg/kg-day	9E-02
				Vanadium	4.8E+01	mg/kg	5.3E-05	mg/kg-day	NA	--	NA	6.2E-04	mg/kg-day	5.0E-03	mg/kg-day	1E-01
			Exposure Route Total								4E-05					2E+00
Floodplain Soil	All Soil	EU GB	Dermal	Acenaphthylene	2.0E-01	mg/kg	1.6E-08	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.5E-01	mg/kg	1.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	7.0E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	7.8E-01	mg/kg	1.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	7.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.1E+00	mg/kg	2.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.5E-01	mg/kg	3.6E-08	mg/kg-day	NA	--	NA	4.1E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	2.1E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-01	mg/kg	7.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	3.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.8E-01	mg/kg	1.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	4.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.6E-01	mg/kg	6.9E-08	mg/kg-day	NA	--	NA	8.0E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.3E-02	mg/kg	4.6E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-09	5.3E-08	mg/kg-day	2.0E-05	mg/kg-day	3E-03
				Aluminum	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	5.7E+00	mg/kg	1.0E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.2E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	3.0E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	6.4E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.2E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Vanadium	4.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-06					7E-03

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU GB	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	5.4E-07	µg/m^3	4.5E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	5.2E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	5.7E-07	µg/m^3	4.6E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	3E-10	5.4E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	8.3E-07	µg/m^3	6.8E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	8.0E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.2E-07	µg/m^3	2.7E-08	µg/m^3	NA	--	NA	3.1E-07	µg/m^3	NA	--	NA
				Carbazole	2.1E-07	µg/m^3	1.7E-08	µg/m^3	NA	--	NA	2.0E-07	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	2.3E-07	µg/m^3	1.9E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-10	2.2E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.5E-07	µg/m^3	2.9E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	3.4E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Total PCB Aroclors	3.8E-08	µg/m^3	3.2E-09	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-13	3.7E-08	µg/m^3	NA	--	NA
				Aluminum	1.6E-02	µg/m^3	1.3E-03	µg/m^3	NA	--	NA	1.5E-02	µg/m^3	5.0E+00	µg/m^3	3E-03
				Arsenic	4.1E-06	µg/m^3	3.4E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	1E-09	4.0E-06	µg/m^3	1.5E-02	µg/m^3	3E-04
				Cobalt	8.7E-06	µg/m^3	7.1E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-09	8.3E-06	µg/m^3	6.0E-03	µg/m^3	1E-03
				Iron	2.2E-02	µg/m^3	1.8E-03	µg/m^3	NA	--	NA	2.1E-02	µg/m^3	NA	--	NA
				Manganese	4.6E-04	µg/m^3	3.8E-05	µg/m^3	NA	--	NA	4.5E-04	µg/m^3	5.0E-02	µg/m^3	9E-03
				Mercury	1.6E-06	µg/m^3	1.3E-07	µg/m^3	NA	--	NA	1.5E-06	µg/m^3	3.0E-02	µg/m^3	5E-05
				Vanadium	3.5E-05	µg/m^3	2.9E-06	µg/m^3	NA	--	NA	3.4E-05	µg/m^3	NA	--	NA
			Exposure Route Total								8E-09					1E-02
		Exposure Point Total									4E-05					2E+00
	Total of Receptor Risks Across Medium										4E-05					2E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB1	Ingestion	Acenaphthylene	3.7E-02	mg/kg	4.1E-08	mg/kg-day	NA	--	NA	4.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.0E+00	mg/kg	4.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.3E-05	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	5.1E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	1.4E-05	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.2E+00	mg/kg	5.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.6E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.1E-01	mg/kg	6.6E-07	mg/kg-day	NA	--	NA	7.7E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.1E+00	mg/kg	4.8E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-07	1.4E-05	mg/kg-day	NA	--	NA
				Carbazole	4.6E-02	mg/kg	5.0E-08	mg/kg-day	NA	--	NA	5.9E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	1.0E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	2.8E-06	mg/kg-day	NA	--	NA
				Dimethyl phthalate	9.2E+00	mg/kg	1.0E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-01	mg/kg	2.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	7.3E-06	mg/kg-day	NA	--	NA
				Phenanthrene	8.9E-01	mg/kg	9.7E-07	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	6.7E-09	mg/kg-day	NA	--	NA	7.8E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.5E-01	mg/kg	6.0E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	7.0E-06	mg/kg-day	2.0E-05	mg/kg-day	4E-01
				Aluminum	1.3E+04	mg/kg	1.5E-02	mg/kg-day	NA	--	NA	1.7E-01	mg/kg-day	1.0E+00	mg/kg-day	2E-01
				Arsenic	8.6E+00	mg/kg	9.4E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	1.1E-04	mg/kg-day	3.0E-04	mg/kg-day	4E-01
				Cobalt	1.2E+01	mg/kg	1.3E-05	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	3.0E-04	mg/kg-day	5E-01
				Iron	2.2E+04	mg/kg	2.4E-02	mg/kg-day	NA	--	NA	2.9E-01	mg/kg-day	7.0E-01	mg/kg-day	4E-01
				Manganese	5.5E+02	mg/kg	6.1E-04	mg/kg-day	NA	--	NA	7.1E-03	mg/kg-day	2.4E-02	mg/kg-day	3E-01
				Vanadium	4.3E+01	mg/kg	4.7E-05	mg/kg-day	NA	--	NA	5.5E-04	mg/kg-day	5.0E-03	mg/kg-day	1E-01
			Exposure Route Total								6E-05					2E+00
Floodplain Soil	All Soil	EU BB1	Dermal	Acenaphthylene	3.7E-02	mg/kg	1.5E-08	mg/kg-day	NA	--	NA	1.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.0E+00	mg/kg	1.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-07	4.9E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	1.3E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-06	5.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.2E+00	mg/kg	1.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	5.8E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.1E-01	mg/kg	2.4E-07	mg/kg-day	NA	--	NA	2.8E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.1E+00	mg/kg	1.2E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	6E-08	4.9E-06	mg/kg-day	NA	--	NA
				Carbazole	4.6E-02	mg/kg	1.4E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	2.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.0E-06	mg/kg-day	NA	--	NA
				Dimethyl phthalate	9.2E+00	mg/kg	2.8E-06	mg/kg-day	NA	--	NA	3.3E-05	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	3.7E-08	mg/kg-day	NA	--	NA	4.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-01	mg/kg	6.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	2.6E-06	mg/kg-day	NA	--	NA
				Phenanthrene	8.9E-01	mg/kg	3.5E-07	mg/kg-day	NA	--	NA	4.1E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	5.5E-01	mg/kg	2.4E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	2.8E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.6E+00	mg/kg	7.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	9.3E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-02
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-05					2E-01

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB1	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	7.6E-07	µg/m^3	6.2E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	7.3E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	8.1E-07	µg/m^3	6.7E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	4E-10	7.8E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	9.0E-07	µg/m^3	7.4E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	8.6E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.4E-07	µg/m^3	3.6E-08	µg/m^3	NA	--	NA	4.2E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	7.7E-07	µg/m^3	6.3E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	7.4E-07	µg/m^3	NA	--	NA
				Carbazole	3.3E-08	µg/m^3	2.7E-09	µg/m^3	NA	--	NA	3.2E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E-07	µg/m^3	1.3E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	8E-11	1.5E-07	µg/m^3	NA	--	NA
				Dimethyl phthalate	6.7E-06	µg/m^3	5.5E-07	µg/m^3	NA	--	NA	6.4E-06	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-08	µg/m^3	7.1E-09	µg/m^3	NA	--	NA	8.3E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.1E-07	µg/m^3	3.4E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	3.9E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	4.4E-09	µg/m^3	3.6E-10	µg/m^3	NA	--	NA	4.2E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.0E-07	µg/m^3	3.3E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-12	3.8E-07	µg/m^3	NA	--	NA
				Aluminum	9.6E-03	µg/m^3	7.9E-04	µg/m^3	NA	--	NA	9.3E-03	µg/m^3	5.0E+00	µg/m^3	2E-03
				Arsenic	6.2E-06	µg/m^3	5.1E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-09	6.0E-06	µg/m^3	1.5E-02	µg/m^3	4E-04
				Cobalt	8.4E-06	µg/m^3	6.9E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-09	8.1E-06	µg/m^3	6.0E-03	µg/m^3	1E-03
				Iron	1.6E-02	µg/m^3	1.3E-03	µg/m^3	NA	--	NA	1.6E-02	µg/m^3	NA	--	NA
				Manganese	4.0E-04	µg/m^3	3.3E-05	µg/m^3	NA	--	NA	3.9E-04	µg/m^3	5.0E-02	µg/m^3	8E-03
				Vanadium	3.1E-05	µg/m^3	2.6E-06	µg/m^3	NA	--	NA	3.0E-05	µg/m^3	NA	--	NA
			Exposure Route Total								9E-09					1E-02
		Exposure Point Total									7E-05					2E+00
	Total of Receptor Risks Across Medium										7E-05					2E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB1	Ingestion	Acenaphthylene	3.7E-02	mg/kg	4.1E-08	mg/kg-day	NA	--	NA	4.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.0E+00	mg/kg	4.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.3E-05	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	5.1E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	1.4E-05	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.2E+00	mg/kg	5.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.6E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.1E-01	mg/kg	6.6E-07	mg/kg-day	NA	--	NA	7.7E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.1E+00	mg/kg	4.8E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-07	1.4E-05	mg/kg-day	NA	--	NA
				Carbazole	4.6E-02	mg/kg	5.0E-08	mg/kg-day	NA	--	NA	5.9E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	1.0E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	2.8E-06	mg/kg-day	NA	--	NA
				Dimethyl phthalate	9.2E+00	mg/kg	1.0E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-01	mg/kg	2.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	7.3E-06	mg/kg-day	NA	--	NA
				Phenanthrene	8.9E-01	mg/kg	9.7E-07	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	6.7E-09	mg/kg-day	NA	--	NA	7.8E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.5E-01	mg/kg	6.0E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	7.0E-06	mg/kg-day	2.0E-05	mg/kg-day	4E-01
				Aluminum	1.3E+04	mg/kg	1.5E-02	mg/kg-day	NA	--	NA	1.7E-01	mg/kg-day	1.0E+00	mg/kg-day	2E-01
				Arsenic	8.6E+00	mg/kg	9.4E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	1.1E-04	mg/kg-day	3.0E-04	mg/kg-day	4E-01
				Cobalt	1.2E+01	mg/kg	1.3E-05	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	3.0E-04	mg/kg-day	5E-01
				Iron	2.2E+04	mg/kg	2.4E-02	mg/kg-day	NA	--	NA	2.9E-01	mg/kg-day	7.0E-01	mg/kg-day	4E-01
				Manganese	5.5E+02	mg/kg	6.1E-04	mg/kg-day	NA	--	NA	7.1E-03	mg/kg-day	2.4E-02	mg/kg-day	3E-01
				Vanadium	4.3E+01	mg/kg	4.7E-05	mg/kg-day	NA	--	NA	5.5E-04	mg/kg-day	5.0E-03	mg/kg-day	1E-01
			Exposure Route Total								6E-05					2E+00
Floodplain Soil	All Soil	EU BB1	Dermal	Acenaphthylene	3.7E-02	mg/kg	3.0E-09	mg/kg-day	NA	--	NA	3.5E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.0E+00	mg/kg	2.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	9.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	2.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.2E+00	mg/kg	2.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.1E-01	mg/kg	4.8E-08	mg/kg-day	NA	--	NA	5.6E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.1E+00	mg/kg	2.5E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	9.8E-07	mg/kg-day	NA	--	NA
				Carbazole	4.6E-02	mg/kg	2.8E-09	mg/kg-day	NA	--	NA	3.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	5.2E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	2.1E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	9.2E+00	mg/kg	5.6E-07	mg/kg-day	NA	--	NA	6.6E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	7.4E-09	mg/kg-day	NA	--	NA	8.6E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-01	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	5.3E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.9E-01	mg/kg	7.1E-08	mg/kg-day	NA	--	NA	8.3E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	5.5E-01	mg/kg	4.7E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	5.5E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.6E+00	mg/kg	1.6E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.9E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-06					3E-02

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB1	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	7.6E-07	µg/m^3	6.2E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	7.3E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	8.1E-07	µg/m^3	6.7E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	4E-10	7.8E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	9.0E-07	µg/m^3	7.4E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	8.6E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.4E-07	µg/m^3	3.6E-08	µg/m^3	NA	--	NA	4.2E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	7.7E-07	µg/m^3	6.3E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	7.4E-07	µg/m^3	NA	--	NA
				Carbazole	3.3E-08	µg/m^3	2.7E-09	µg/m^3	NA	--	NA	3.2E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E-07	µg/m^3	1.3E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	8E-11	1.5E-07	µg/m^3	NA	--	NA
				Dimethyl phthalate	6.7E-06	µg/m^3	5.5E-07	µg/m^3	NA	--	NA	6.4E-06	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-08	µg/m^3	7.1E-09	µg/m^3	NA	--	NA	8.3E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.1E-07	µg/m^3	3.4E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	3.9E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	4.4E-09	µg/m^3	3.6E-10	µg/m^3	NA	--	NA	4.2E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.0E-07	µg/m^3	3.3E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-12	3.8E-07	µg/m^3	NA	--	NA
				Aluminum	9.6E-03	µg/m^3	7.9E-04	µg/m^3	NA	--	NA	9.3E-03	µg/m^3	5.0E+00	µg/m^3	2E-03
				Arsenic	6.2E-06	µg/m^3	5.1E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-09	6.0E-06	µg/m^3	1.5E-02	µg/m^3	4E-04
				Cobalt	8.4E-06	µg/m^3	6.9E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-09	8.1E-06	µg/m^3	6.0E-03	µg/m^3	1E-03
				Iron	1.6E-02	µg/m^3	1.3E-03	µg/m^3	NA	--	NA	1.6E-02	µg/m^3	NA	--	NA
				Manganese	4.0E-04	µg/m^3	3.3E-05	µg/m^3	NA	--	NA	3.9E-04	µg/m^3	5.0E-02	µg/m^3	8E-03
				Vanadium	3.1E-05	µg/m^3	2.6E-06	µg/m^3	NA	--	NA	3.0E-05	µg/m^3	NA	--	NA
			Exposure Route Total								9E-09					1E-02
		Exposure Point Total									6E-05					2E+00
	Total of Receptor Risks Across Medium										6E-05					2E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB2	Ingestion	Acenaphthylene	2.4E-02	mg/kg	2.6E-08	mg/kg-day	NA	--	NA	3.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	1.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	3.7E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	1.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	4.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	1.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	5.2E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	2.7E-07	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	2.7E-08	mg/kg-day	NA	--	NA	3.2E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	3.5E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	9.8E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	1.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-07	2.9E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	3.2E-07	mg/kg-day	NA	--	NA	3.7E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	6.0E-09	mg/kg-day	NA	--	NA	7.0E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	8.2E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	9.6E-06	mg/kg-day	2.0E-05	mg/kg-day	5E-01
				Aluminum	1.3E+04	mg/kg	1.4E-02	mg/kg-day	NA	--	NA	1.7E-01	mg/kg-day	1.0E+00	mg/kg-day	2E-01
				Arsenic	1.2E+01	mg/kg	1.3E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.5E-04	mg/kg-day	3.0E-04	mg/kg-day	5E-01
				Cobalt	5.6E+00	mg/kg	6.1E-06	mg/kg-day	NA	--	NA	7.2E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Iron	1.6E+04	mg/kg	1.7E-02	mg/kg-day	NA	--	NA	2.0E-01	mg/kg-day	7.0E-01	mg/kg-day	3E-01
				Manganese	4.9E+02	mg/kg	5.4E-04	mg/kg-day	NA	--	NA	6.3E-03	mg/kg-day	2.4E-02	mg/kg-day	3E-01
			Exposure Route Total								3E-05					2E+00
Floodplain Soil	All Soil	EU BB2	Dermal	Acenaphthylene	2.4E-02	mg/kg	9.6E-09	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	3.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.3E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	3.9E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	4.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.9E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	7.7E-09	mg/kg-day	NA	--	NA	8.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	9.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	3.6E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	2.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	1.1E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	7.5E-01	mg/kg	3.2E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	3.8E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	1.2E+01	mg/kg	1.1E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.3E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Cobalt	5.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								5E-06					2E-01

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB2	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	2.1E-07	µg/m^3	1.7E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	2.0E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-07	µg/m^3	2.0E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-10	2.3E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.0E-07	µg/m^3	2.4E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	2.8E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.8E-07	µg/m^3	1.5E-08	µg/m^3	NA	--	NA	1.7E-07	µg/m^3	NA	--	NA
				Carbazole	1.8E-08	µg/m^3	1.5E-09	µg/m^3	NA	--	NA	1.7E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	5.6E-08	µg/m^3	4.6E-09	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-11	5.4E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-07	µg/m^3	1.4E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-12	1.6E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endosulfan sulfate	4.0E-09	µg/m^3	3.3E-10	µg/m^3	NA	--	NA	3.8E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	5.4E-07	µg/m^3	4.5E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	4E-12	5.2E-07	µg/m^3	NA	--	NA
				Aluminum	9.5E-03	µg/m^3	7.8E-04	µg/m^3	NA	--	NA	9.1E-03	µg/m^3	5.0E+00	µg/m^3	2E-03
				Arsenic	8.7E-06	µg/m^3	7.1E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	3E-09	8.3E-06	µg/m^3	1.5E-02	µg/m^3	6E-04
				Cobalt	4.1E-06	µg/m^3	3.3E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-09	3.9E-06	µg/m^3	6.0E-03	µg/m^3	6E-04
				Iron	1.1E-02	µg/m^3	9.4E-04	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	NA	--	NA
				Manganese	3.6E-04	µg/m^3	2.9E-05	µg/m^3	NA	--	NA	3.4E-04	µg/m^3	5.0E-02	µg/m^3	7E-03
			Exposure Route Total								6E-09					1E-02
		Exposure Point Total									4E-05					2E+00
	Total of Receptor Risks Across Medium										4E-05					2E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB2	Ingestion	Acenaphthylene	2.4E-02	mg/kg	2.6E-08	mg/kg-day	NA	--	NA	3.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	1.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	3.7E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	1.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	4.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	1.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	5.2E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	2.7E-07	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	2.7E-08	mg/kg-day	NA	--	NA	3.2E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	3.5E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	9.8E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	1.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-07	2.9E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	3.2E-07	mg/kg-day	NA	--	NA	3.7E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	6.0E-09	mg/kg-day	NA	--	NA	7.0E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	8.2E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	9.6E-06	mg/kg-day	2.0E-05	mg/kg-day	5E-01
				Aluminum	1.3E+04	mg/kg	1.4E-02	mg/kg-day	NA	--	NA	1.7E-01	mg/kg-day	1.0E+00	mg/kg-day	2E-01
				Arsenic	1.2E+01	mg/kg	1.3E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.5E-04	mg/kg-day	3.0E-04	mg/kg-day	5E-01
				Cobalt	5.6E+00	mg/kg	6.1E-06	mg/kg-day	NA	--	NA	7.2E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Iron	1.6E+04	mg/kg	1.7E-02	mg/kg-day	NA	--	NA	2.0E-01	mg/kg-day	7.0E-01	mg/kg-day	3E-01
				Manganese	4.9E+02	mg/kg	5.4E-04	mg/kg-day	NA	--	NA	6.3E-03	mg/kg-day	2.4E-02	mg/kg-day	3E-01
			Exposure Route Total								3E-05					2E+00
Floodplain Soil	All Soil	EU BB2	Dermal	Acenaphthylene	2.4E-02	mg/kg	1.9E-09	mg/kg-day	NA	--	NA	2.2E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	6.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	2.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	7.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	3.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	9.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	3.8E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	2.3E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	1.5E-09	mg/kg-day	NA	--	NA	1.8E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	1.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	7.2E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	5.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	2.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	2.3E-08	mg/kg-day	NA	--	NA	2.7E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	7.5E-01	mg/kg	6.4E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	7.5E-07	mg/kg-day	2.0E-05	mg/kg-day	4E-02
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	1.2E+01	mg/kg	2.2E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	2.6E-06	mg/kg-day	3.0E-04	mg/kg-day	9E-03
				Cobalt	5.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								1E-06					5E-02

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB2	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	2.1E-07	µg/m^3	1.7E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	2.0E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-07	µg/m^3	2.0E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-10	2.3E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.0E-07	µg/m^3	2.4E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	2.8E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.8E-07	µg/m^3	1.5E-08	µg/m^3	NA	--	NA	1.7E-07	µg/m^3	NA	--	NA
				Carbazole	1.8E-08	µg/m^3	1.5E-09	µg/m^3	NA	--	NA	1.7E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	5.6E-08	µg/m^3	4.6E-09	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-11	5.4E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-07	µg/m^3	1.4E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-12	1.6E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endosulfan sulfate	4.0E-09	µg/m^3	3.3E-10	µg/m^3	NA	--	NA	3.8E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	5.4E-07	µg/m^3	4.5E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	4E-12	5.2E-07	µg/m^3	NA	--	NA
				Aluminum	9.5E-03	µg/m^3	7.8E-04	µg/m^3	NA	--	NA	9.1E-03	µg/m^3	5.0E+00	µg/m^3	2E-03
				Arsenic	8.7E-06	µg/m^3	7.1E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	3E-09	8.3E-06	µg/m^3	1.5E-02	µg/m^3	6E-04
				Cobalt	4.1E-06	µg/m^3	3.3E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-09	3.9E-06	µg/m^3	6.0E-03	µg/m^3	6E-04
				Iron	1.1E-02	µg/m^3	9.4E-04	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	NA	--	NA
				Manganese	3.6E-04	µg/m^3	2.9E-05	µg/m^3	NA	--	NA	3.4E-04	µg/m^3	5.0E-02	µg/m^3	7E-03
			Exposure Route Total								6E-09					1E-02
		Exposure Point Total									3E-05					2E+00
	Total of Receptor Risks Across Medium										3E-05					2E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Ingestion	Acenaphthylene	1.2E-01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	1.2E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-06	3.3E-05	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	1.5E-06	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-05	4.2E-05	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	1.6E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-06	4.5E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	2.1E-06	mg/kg-day	NA	--	NA	2.5E-05	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	1.4E-06	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-07	4.0E-05	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	9.6E-04	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-05	1.1E-02	mg/kg-day	2.0E-02	mg/kg-day	6E-01
				Carbazole	3.7E-01	mg/kg	4.1E-07	mg/kg-day	NA	--	NA	4.8E-06	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	3.0E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	8.4E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	6.0E-07	mg/kg-day	NA	--	NA	7.0E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	8.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-06	2.3E-05	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	2.9E-06	mg/kg-day	NA	--	NA	3.4E-05	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	6.4E-09	mg/kg-day	NA	--	NA	7.4E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.0E+00	mg/kg	5.5E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	6.4E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				Aluminum	1.1E+04	mg/kg	1.2E-02	mg/kg-day	NA	--	NA	1.5E-01	mg/kg-day	1.0E+00	mg/kg-day	1E-01
				Antimony	1.1E+02	mg/kg	1.2E-04	mg/kg-day	NA	--	NA	1.4E-03	mg/kg-day	4.0E-04	mg/kg-day	4E+00
				Arsenic	1.7E+01	mg/kg	1.9E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	2.2E-04	mg/kg-day	3.0E-04	mg/kg-day	7E-01
				Cadmium	5.0E+00	mg/kg	5.5E-06	mg/kg-day	NA	--	NA	6.4E-05	mg/kg-day	1.0E-03	mg/kg-day	6E-02
				Cobalt	1.2E+01	mg/kg	1.4E-05	mg/kg-day	NA	--	NA	1.6E-04	mg/kg-day	3.0E-04	mg/kg-day	5E-01
				Copper	1.7E+03	mg/kg	1.9E-03	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	4.0E-02	mg/kg-day	6E-01
				Iron	9.6E+04	mg/kg	1.1E-01	mg/kg-day	NA	--	NA	1.2E+00	mg/kg-day	7.0E-01	mg/kg-day	2E+00
				Lead	1.4E+03	mg/kg	1.5E-03	mg/kg-day	NA	--	NA	1.8E-02	mg/kg-day	NA	--	NA
				Manganese	7.1E+02	mg/kg	7.7E-04	mg/kg-day	NA	--	NA	9.0E-03	mg/kg-day	2.4E-02	mg/kg-day	4E-01
				Mercury	2.4E+00	mg/kg	2.7E-06	mg/kg-day	NA	--	NA	3.1E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Nickel	1.1E+02	mg/kg	1.2E-04	mg/kg-day	NA	--	NA	1.4E-03	mg/kg-day	2.0E-02	mg/kg-day	7E-02
				Thallium	4.0E+00	mg/kg	4.4E-06	mg/kg-day	NA	--	NA	5.1E-05	mg/kg-day	1.0E-05	mg/kg-day	5E+00
				Vanadium	2.8E+01	mg/kg	3.1E-05	mg/kg-day	NA	--	NA	3.6E-04	mg/kg-day	5.0E-03	mg/kg-day	7E-02
				Zinc	1.3E+03	mg/kg	1.4E-03	mg/kg-day	NA	--	NA	1.7E-02	mg/kg-day	3.0E-01	mg/kg-day	6E-02
			Exposure Route Total								2E-04					2E+01

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Dermal	Acenaphthylene	1.2E-01	mg/kg	4.6E-08	mg/kg-day	NA	--	NA	5.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	3.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.2E-05	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	3.9E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.5E-05	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	4.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.6E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	7.7E-07	mg/kg-day	NA	--	NA	9.0E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	3.6E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-07	1.4E-05	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	2.7E-04	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	4E-06	3.2E-03	mg/kg-day	2.0E-02	mg/kg-day	2E-01
				Carbazole	3.7E-01	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	7.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	3.0E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	1.7E-07	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	2.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	8.2E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	1.1E-06	mg/kg-day	NA	--	NA	1.2E-05	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	5.0E+00	mg/kg	2.2E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	2.5E-05	mg/kg-day	2.0E-05	mg/kg-day	1E+00
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.7E+01	mg/kg	1.6E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.8E-05	mg/kg-day	3.0E-04	mg/kg-day	6E-02
				Cadmium	5.0E+00	mg/kg	1.5E-08	mg/kg-day	NA	--	NA	1.8E-07	mg/kg-day	2.5E-05	mg/kg-day	7E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.7E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	9.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								4E-05					1E+00

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.9E-06	µg/m^3	1.5E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	9E-11	1.8E-06	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-06	µg/m^3	2.0E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-09	2.3E-06	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.6E-06	µg/m^3	2.1E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	2.5E-06	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.4E-06	µg/m^3	1.2E-07	µg/m^3	NA	--	NA	1.3E-06	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	2.2E-06	µg/m^3	1.8E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	2.1E-06	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.4E-04	µg/m^3	5.2E-05	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	1E-10	6.1E-04	µg/m^3	NA	--	NA
				Carbazole	2.7E-07	µg/m^3	2.2E-08	µg/m^3	NA	--	NA	2.6E-07	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	4.7E-07	µg/m^3	3.9E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-10	4.6E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.0E-07	µg/m^3	3.3E-08	µg/m^3	NA	--	NA	3.8E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.3E-06	µg/m^3	1.0E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-11	1.2E-06	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	7.1E-09	µg/m^3	5.8E-10	µg/m^3	NA	--	NA	6.8E-09	µg/m^3	NA	--	NA
				Endrin ketone	4.2E-09	µg/m^3	3.5E-10	µg/m^3	NA	--	NA	4.0E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	3.6E-06	µg/m^3	3.0E-07	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-11	3.5E-06	µg/m^3	NA	--	NA
				Aluminum	8.3E-03	µg/m^3	6.8E-04	µg/m^3	NA	--	NA	7.9E-03	µg/m^3	5.0E+00	µg/m^3	2E-03
				Antimony	7.9E-05	µg/m^3	6.5E-06	µg/m^3	NA	--	NA	7.6E-05	µg/m^3	NA	--	NA
				Arsenic	1.2E-05	µg/m^3	1.0E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	4E-09	1.2E-05	µg/m^3	1.5E-02	µg/m^3	8E-04
				Cadmium	3.7E-06	µg/m^3	3.0E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	5E-10	3.5E-06	µg/m^3	2.0E-02	µg/m^3	2E-04
				Cobalt	8.9E-06	µg/m^3	7.3E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	7E-09	8.6E-06	µg/m^3	6.0E-03	µg/m^3	1E-03
				Copper	1.3E-03	µg/m^3	1.0E-04	µg/m^3	NA	--	NA	1.2E-03	µg/m^3	NA	--	NA
				Iron	7.0E-02	µg/m^3	5.7E-03	µg/m^3	NA	--	NA	6.7E-02	µg/m^3	NA	--	NA
				Lead	9.9E-04	µg/m^3	8.2E-05	µg/m^3	NA	--	NA	9.5E-04	µg/m^3	NA	--	NA
				Manganese	5.1E-04	µg/m^3	4.2E-05	µg/m^3	NA	--	NA	4.9E-04	µg/m^3	5.0E-02	µg/m^3	1E-02
				Mercury	1.8E-06	µg/m^3	1.5E-07	µg/m^3	NA	--	NA	1.7E-06	µg/m^3	3.0E-02	µg/m^3	6E-05
				Nickel	7.8E-05	µg/m^3	6.4E-06	µg/m^3	2.6E-04	(µg/m^3)$^{-1}$	2E-09	7.5E-05	µg/m^3	9.0E-02	µg/m^3	8E-04
				Thallium	2.9E-06	µg/m^3	2.4E-07	µg/m^3	NA	--	NA	2.8E-06	µg/m^3	NA	--	NA
				Vanadium	2.0E-05	µg/m^3	1.7E-06	µg/m^3	NA	--	NA	1.9E-05	µg/m^3	NA	--	NA
				Zinc	9.5E-04	µg/m^3	7.8E-05	µg/m^3	NA	--	NA	9.1E-04	µg/m^3	NA	--	NA
			Exposure Route Total								2E-08					1E-02
		Exposure Point Total									2E-04					2E+01
	Total of Receptor Risks Across Medium										2E-04					2E+01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Ingestion	Acenaphthylene	1.2E-01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	1.2E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-06	3.3E-05	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	1.5E-06	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-05	4.2E-05	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	1.6E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-06	4.5E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	2.1E-06	mg/kg-day	NA	--	NA	2.5E-05	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	1.4E-06	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-07	4.0E-05	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	9.6E-04	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-05	1.1E-02	mg/kg-day	2.0E-02	mg/kg-day	6E-01
				Carbazole	3.7E-01	mg/kg	4.1E-07	mg/kg-day	NA	--	NA	4.8E-06	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	3.0E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	8.4E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	6.0E-07	mg/kg-day	NA	--	NA	7.0E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	8.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-06	2.3E-05	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	2.9E-06	mg/kg-day	NA	--	NA	3.4E-05	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	6.4E-09	mg/kg-day	NA	--	NA	7.4E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.0E+00	mg/kg	5.5E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	6.4E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				Aluminum	1.1E+04	mg/kg	1.2E-02	mg/kg-day	NA	--	NA	1.5E-01	mg/kg-day	1.0E+00	mg/kg-day	1E-01
				Antimony	1.1E+02	mg/kg	1.2E-04	mg/kg-day	NA	--	NA	1.4E-03	mg/kg-day	4.0E-04	mg/kg-day	4E+00
				Arsenic	1.7E+01	mg/kg	1.9E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	2.2E-04	mg/kg-day	3.0E-04	mg/kg-day	7E-01
				Cadmium	5.0E+00	mg/kg	5.5E-06	mg/kg-day	NA	--	NA	6.4E-05	mg/kg-day	1.0E-03	mg/kg-day	6E-02
				Cobalt	1.2E+01	mg/kg	1.4E-05	mg/kg-day	NA	--	NA	1.6E-04	mg/kg-day	3.0E-04	mg/kg-day	5E-01
				Copper	1.7E+03	mg/kg	1.9E-03	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	4.0E-02	mg/kg-day	6E-01
				Iron	9.6E+04	mg/kg	1.1E-01	mg/kg-day	NA	--	NA	1.2E+00	mg/kg-day	7.0E-01	mg/kg-day	2E+00
				Lead	1.4E+03	mg/kg	1.5E-03	mg/kg-day	NA	--	NA	1.8E-02	mg/kg-day	NA	--	NA
				Manganese	7.1E+02	mg/kg	7.7E-04	mg/kg-day	NA	--	NA	9.0E-03	mg/kg-day	2.4E-02	mg/kg-day	4E-01
				Mercury	2.4E+00	mg/kg	2.7E-06	mg/kg-day	NA	--	NA	3.1E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Nickel	1.1E+02	mg/kg	1.2E-04	mg/kg-day	NA	--	NA	1.4E-03	mg/kg-day	2.0E-02	mg/kg-day	7E-02
				Thallium	4.0E+00	mg/kg	4.4E-06	mg/kg-day	NA	--	NA	5.1E-05	mg/kg-day	1.0E-05	mg/kg-day	5E+00
				Vanadium	2.8E+01	mg/kg	3.1E-05	mg/kg-day	NA	--	NA	3.6E-04	mg/kg-day	5.0E-03	mg/kg-day	7E-02
				Zinc	1.3E+03	mg/kg	1.4E-03	mg/kg-day	NA	--	NA	1.7E-02	mg/kg-day	3.0E-01	mg/kg-day	6E-02
			Exposure Route Total								2E-04					2E+01

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Dermal	Acenaphthylene	1.2E-01	mg/kg	9.3E-09	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	6.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	2.4E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	7.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	3.1E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	8.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	3.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	1.5E-07	mg/kg-day	NA	--	NA	1.8E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	7.3E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-08	2.9E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	5.4E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	8E-07	6.3E-04	mg/kg-day	2.0E-02	mg/kg-day	3E-02
				Carbazole	3.7E-01	mg/kg	2.3E-08	mg/kg-day	NA	--	NA	2.7E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	1.5E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	6.1E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	3.4E-08	mg/kg-day	NA	--	NA	3.9E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	4.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.6E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	2.1E-07	mg/kg-day	NA	--	NA	2.5E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	5.0E+00	mg/kg	4.3E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	5.0E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.7E+01	mg/kg	3.2E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	3.7E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	5.0E+00	mg/kg	3.1E-09	mg/kg-day	NA	--	NA	3.6E-08	mg/kg-day	2.5E-05	mg/kg-day	1E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.7E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	9.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								8E-06					3E-01

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.9E-06	µg/m^3	1.5E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	9E-11	1.8E-06	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.4E-06	µg/m^3	2.0E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-09	2.3E-06	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.6E-06	µg/m^3	2.1E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	2.5E-06	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.4E-06	µg/m^3	1.2E-07	µg/m^3	NA	--	NA	1.3E-06	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	2.2E-06	µg/m^3	1.8E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	2.1E-06	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.4E-04	µg/m^3	5.2E-05	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	1E-10	6.1E-04	µg/m^3	NA	--	NA
				Carbazole	2.7E-07	µg/m^3	2.2E-08	µg/m^3	NA	--	NA	2.6E-07	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	4.7E-07	µg/m^3	3.9E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-10	4.6E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.0E-07	µg/m^3	3.3E-08	µg/m^3	NA	--	NA	3.8E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.3E-06	µg/m^3	1.0E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-11	1.2E-06	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	7.1E-09	µg/m^3	5.8E-10	µg/m^3	NA	--	NA	6.8E-09	µg/m^3	NA	--	NA
				Endrin ketone	4.2E-09	µg/m^3	3.5E-10	µg/m^3	NA	--	NA	4.0E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	3.6E-06	µg/m^3	3.0E-07	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-11	3.5E-06	µg/m^3	NA	--	NA
				Aluminum	8.3E-03	µg/m^3	6.8E-04	µg/m^3	NA	--	NA	7.9E-03	µg/m^3	5.0E+00	µg/m^3	2E-03
				Antimony	7.9E-05	µg/m^3	6.5E-06	µg/m^3	NA	--	NA	7.6E-05	µg/m^3	NA	--	NA
				Arsenic	1.2E-05	µg/m^3	1.0E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	4E-09	1.2E-05	µg/m^3	1.5E-02	µg/m^3	8E-04
				Cadmium	3.7E-06	µg/m^3	3.0E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	5E-10	3.5E-06	µg/m^3	2.0E-02	µg/m^3	2E-04
				Cobalt	8.9E-06	µg/m^3	7.3E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	7E-09	8.6E-06	µg/m^3	6.0E-03	µg/m^3	1E-03
				Copper	1.3E-03	µg/m^3	1.0E-04	µg/m^3	NA	--	NA	1.2E-03	µg/m^3	NA	--	NA
				Iron	7.0E-02	µg/m^3	5.7E-03	µg/m^3	NA	--	NA	6.7E-02	µg/m^3	NA	--	NA
				Lead	9.9E-04	µg/m^3	8.2E-05	µg/m^3	NA	--	NA	9.5E-04	µg/m^3	NA	--	NA
				Manganese	5.1E-04	µg/m^3	4.2E-05	µg/m^3	NA	--	NA	4.9E-04	µg/m^3	5.0E-02	µg/m^3	1E-02
				Mercury	1.8E-06	µg/m^3	1.5E-07	µg/m^3	NA	--	NA	1.7E-06	µg/m^3	3.0E-02	µg/m^3	6E-05
				Nickel	7.8E-05	µg/m^3	6.4E-06	µg/m^3	2.6E-04	(µg/m^3)$^{-1}$	2E-09	7.5E-05	µg/m^3	9.0E-02	µg/m^3	8E-04
				Thallium	2.9E-06	µg/m^3	2.4E-07	µg/m^3	NA	--	NA	2.8E-06	µg/m^3	NA	--	NA
				Vanadium	2.0E-05	µg/m^3	1.7E-06	µg/m^3	NA	--	NA	1.9E-05	µg/m^3	NA	--	NA
				Zinc	9.5E-04	µg/m^3	7.8E-05	µg/m^3	NA	--	NA	9.1E-04	µg/m^3	NA	--	NA
			Exposure Route Total								2E-08					1E-02
		Exposure Point Total									2E-04					2E+01
	Total of Receptor Risks Across Medium										2E-04					2E+01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Ingestion	Acenaphthylene	6.7E-01	mg/kg	7.3E-07	mg/kg-day	NA	--	NA	8.6E-06	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	2.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	6.9E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	2.7E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	7.7E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	4.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.2E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	5.0E-07	mg/kg-day	NA	--	NA	5.9E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	2.2E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-07	6.1E-06	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	2.7E-07	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	7.3E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	2.0E-05	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	1.3E-06	mg/kg-day	NA	--	NA	1.5E-05	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	2.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	5.8E-06	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	8.5E-07	mg/kg-day	NA	--	NA	1.0E-05	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	1.4E-08	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.7E-07	mg/kg-day	3.0E-05	mg/kg-day	6E-03
				delta-BHC	5.6E-02	mg/kg	6.1E-08	mg/kg-day	NA	--	NA	7.2E-07	mg/kg-day	NA	--	NA
				Dieldrin	2.2E-01	mg/kg	2.4E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	4E-06	2.8E-06	mg/kg-day	5.0E-05	mg/kg-day	6E-02
				4,4'-DDT	2.3E-01	mg/kg	2.5E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	2.9E-06	mg/kg-day	5.0E-04	mg/kg-day	6E-03
				Endosulfan sulfate	2.2E-02	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	2.1E+01	mg/kg	2.3E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-05	2.7E-04	mg/kg-day	2.0E-05	mg/kg-day	1E+01
				Aluminum	9.4E+03	mg/kg	1.0E-02	mg/kg-day	NA	--	NA	1.2E-01	mg/kg-day	1.0E+00	mg/kg-day	1E-01
				Antimony	1.1E+01	mg/kg	1.2E-05	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	4.0E-04	mg/kg-day	4E-01
				Arsenic	1.5E+01	mg/kg	1.6E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.9E-04	mg/kg-day	3.0E-04	mg/kg-day	6E-01
				Cadmium	5.4E+00	mg/kg	5.9E-06	mg/kg-day	NA	--	NA	6.9E-05	mg/kg-day	1.0E-03	mg/kg-day	7E-02
				Cobalt	7.0E+00	mg/kg	7.7E-06	mg/kg-day	NA	--	NA	9.0E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
				Copper	9.5E+01	mg/kg	1.0E-04	mg/kg-day	NA	--	NA	1.2E-03	mg/kg-day	4.0E-02	mg/kg-day	3E-02
				Iron	1.6E+04	mg/kg	1.7E-02	mg/kg-day	NA	--	NA	2.0E-01	mg/kg-day	7.0E-01	mg/kg-day	3E-01
				Lead	1.3E+02	mg/kg	1.4E-04	mg/kg-day	NA	--	NA	1.6E-03	mg/kg-day	NA	--	NA
				Manganese	5.1E+02	mg/kg	5.6E-04	mg/kg-day	NA	--	NA	6.6E-03	mg/kg-day	2.4E-02	mg/kg-day	3E-01
				Silver	4.4E+00	mg/kg	4.8E-06	mg/kg-day	NA	--	NA	5.6E-05	mg/kg-day	5.0E-03	mg/kg-day	1E-02
				Vanadium	3.3E+01	mg/kg	3.6E-05	mg/kg-day	NA	--	NA	4.2E-04	mg/kg-day	5.0E-03	mg/kg-day	8E-02
				Zinc	2.6E+02	mg/kg	2.8E-04	mg/kg-day	NA	--	NA	3.3E-03	mg/kg-day	3.0E-01	mg/kg-day	1E-02
			Exposure Route Total								1E-04					2E+01

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Dermal	Acenaphthylene	6.7E-01	mg/kg	2.7E-07	mg/kg-day	NA	--	NA	3.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	6.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	2.5E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	7.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	2.8E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	1.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	4.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	2.1E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	5.6E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-08	2.2E-06	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	7.7E-08	mg/kg-day	NA	--	NA	8.9E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	1.9E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	7.4E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	3.7E-07	mg/kg-day	NA	--	NA	4.3E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	5.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	2.1E-06	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	3.1E-07	mg/kg-day	NA	--	NA	3.6E-06	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	N/A	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				delta-BHC	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Dieldrin	2.2E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	2.3E-01	mg/kg	2.1E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	2.5E-07	mg/kg-day	5.0E-04	mg/kg-day	5E-04
				Endosulfan sulfate	2.2E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	2.1E+01	mg/kg	9.0E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.0E-04	mg/kg-day	2.0E-05	mg/kg-day	5E+00
				Aluminum	9.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	1.4E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.6E-05	mg/kg-day	3.0E-04	mg/kg-day	5E-02
				Cadmium	5.4E+00	mg/kg	1.7E-08	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	2.5E-05	mg/kg-day	8E-03
				Cobalt	7.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	9.5E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Silver	4.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								3E-05					5E+00

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	3.9E-07	µg/m^3	3.2E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	3.8E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	4.3E-07	µg/m^3	3.6E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-10	4.2E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	6.7E-07	µg/m^3	5.5E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	6.5E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.3E-07	µg/m^3	2.7E-08	µg/m^3	NA	--	NA	3.2E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	3.5E-07	µg/m^3	2.9E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	3.3E-07	µg/m^3	NA	--	NA
				Carbazole	1.8E-07	µg/m^3	1.5E-08	µg/m^3	NA	--	NA	1.7E-07	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.2E-06	µg/m^3	9.5E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	6E-10	1.1E-06	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-07	µg/m^3	7.1E-08	µg/m^3	NA	--	NA	8.3E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E-07	µg/m^3	2.7E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	3.1E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Aldrin	9.4E-09	µg/m^3	7.7E-10	µg/m^3	4.9E-03	(µg/m^3)$^{-1}$	4E-12	9.0E-09	µg/m^3	NA	--	NA
				delta-BHC	4.1E-08	µg/m^3	3.3E-09	µg/m^3	NA	--	NA	3.9E-08	µg/m^3	NA	--	NA
				Dieldrin	1.6E-07	µg/m^3	1.3E-08	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	6E-11	1.5E-07	µg/m^3	NA	--	NA
				4,4'-DDT	1.7E-07	µg/m^3	1.4E-08	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	1E-12	1.6E-07	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.6E-08	µg/m^3	1.3E-09	µg/m^3	NA	--	NA	1.5E-08	µg/m^3	NA	--	NA
				Total PCB Aroclors	1.5E-05	µg/m^3	1.2E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-10	1.5E-05	µg/m^3	NA	--	NA
				Aluminum	6.8E-03	µg/m^3	5.6E-04	µg/m^3	NA	--	NA	6.5E-03	µg/m^3	5.0E+00	µg/m^3	1E-03
				Antimony	8.0E-06	µg/m^3	6.6E-07	µg/m^3	NA	--	NA	7.6E-06	µg/m^3	NA	--	NA
				Arsenic	1.1E-05	µg/m^3	8.9E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	4E-09	1.0E-05	µg/m^3	1.5E-02	µg/m^3	7E-04
				Cadmium	3.9E-06	µg/m^3	3.2E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	6E-10	3.8E-06	µg/m^3	2.0E-02	µg/m^3	2E-04
				Cobalt	5.1E-06	µg/m^3	4.2E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	4E-09	4.9E-06	µg/m^3	6.0E-03	µg/m^3	8E-04
				Copper	6.9E-05	µg/m^3	5.7E-06	µg/m^3	NA	--	NA	6.6E-05	µg/m^3	NA	--	NA
				Iron	1.2E-02	µg/m^3	9.5E-04	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	NA	--	NA
				Lead	9.3E-05	µg/m^3	7.7E-06	µg/m^3	NA	--	NA	9.0E-05	µg/m^3	NA	--	NA
				Manganese	3.7E-04	µg/m^3	3.1E-05	µg/m^3	NA	--	NA	3.6E-04	µg/m^3	5.0E-02	µg/m^3	7E-03
				Silver	3.2E-06	µg/m^3	2.6E-07	µg/m^3	NA	--	NA	3.1E-06	µg/m^3	NA	--	NA
				Vanadium	2.4E-05	µg/m^3	2.0E-06	µg/m^3	NA	--	NA	2.3E-05	µg/m^3	NA	--	NA
				Zinc	1.9E-04	µg/m^3	1.5E-05	µg/m^3	NA	--	NA	1.8E-04	µg/m^3	NA	--	NA
			Exposure Route Total								9E-09					1E-02
		Exposure Point Total									2E-04					2E+01
	Total of Receptor Risks Across Medium										2E-04					2E+01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Ingestion	Acenaphthylene	6.7E-01	mg/kg	7.3E-07	mg/kg-day	NA	--	NA	8.6E-06	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	2.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	6.9E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	2.7E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	7.7E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	4.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.2E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	5.0E-07	mg/kg-day	NA	--	NA	5.9E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	2.2E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-07	6.1E-06	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	2.7E-07	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	7.3E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	2.0E-05	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	1.3E-06	mg/kg-day	NA	--	NA	1.5E-05	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	2.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	5.8E-06	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	8.5E-07	mg/kg-day	NA	--	NA	1.0E-05	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	1.4E-08	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.7E-07	mg/kg-day	3.0E-05	mg/kg-day	6E-03
				delta-BHC	5.6E-02	mg/kg	6.1E-08	mg/kg-day	NA	--	NA	7.2E-07	mg/kg-day	NA	--	NA
				Dieldrin	2.2E-01	mg/kg	2.4E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	4E-06	2.8E-06	mg/kg-day	5.0E-05	mg/kg-day	6E-02
				4,4'-DDT	2.3E-01	mg/kg	2.5E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	2.9E-06	mg/kg-day	5.0E-04	mg/kg-day	6E-03
				Endosulfan sulfate	2.2E-02	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	2.1E+01	mg/kg	2.3E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-05	2.7E-04	mg/kg-day	2.0E-05	mg/kg-day	1E+01
				Aluminum	9.4E+03	mg/kg	1.0E-02	mg/kg-day	NA	--	NA	1.2E-01	mg/kg-day	1.0E+00	mg/kg-day	1E-01
				Antimony	1.1E+01	mg/kg	1.2E-05	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	4.0E-04	mg/kg-day	4E-01
				Arsenic	1.5E+01	mg/kg	1.6E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.9E-04	mg/kg-day	3.0E-04	mg/kg-day	6E-01
				Cadmium	5.4E+00	mg/kg	5.9E-06	mg/kg-day	NA	--	NA	6.9E-05	mg/kg-day	1.0E-03	mg/kg-day	7E-02
				Cobalt	7.0E+00	mg/kg	7.7E-06	mg/kg-day	NA	--	NA	9.0E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
				Copper	9.5E+01	mg/kg	1.0E-04	mg/kg-day	NA	--	NA	1.2E-03	mg/kg-day	4.0E-02	mg/kg-day	3E-02
				Iron	1.6E+04	mg/kg	1.7E-02	mg/kg-day	NA	--	NA	2.0E-01	mg/kg-day	7.0E-01	mg/kg-day	3E-01
				Lead	1.3E+02	mg/kg	1.4E-04	mg/kg-day	NA	--	NA	1.6E-03	mg/kg-day	NA	--	NA
				Manganese	5.1E+02	mg/kg	5.6E-04	mg/kg-day	NA	--	NA	6.6E-03	mg/kg-day	2.4E-02	mg/kg-day	3E-01
				Silver	4.4E+00	mg/kg	4.8E-06	mg/kg-day	NA	--	NA	5.6E-05	mg/kg-day	5.0E-03	mg/kg-day	1E-02
				Vanadium	3.3E+01	mg/kg	3.6E-05	mg/kg-day	NA	--	NA	4.2E-04	mg/kg-day	5.0E-03	mg/kg-day	8E-02
				Zinc	2.6E+02	mg/kg	2.8E-04	mg/kg-day	NA	--	NA	3.3E-03	mg/kg-day	3.0E-01	mg/kg-day	1E-02
			Exposure Route Total								1E-04					2E+01

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Dermal	Acenaphthylene	6.7E-01	mg/kg	5.3E-08	mg/kg-day	NA	--	NA	6.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	5.0E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	1.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	5.6E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	2.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	8.7E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	3.7E-08	mg/kg-day	NA	--	NA	4.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	1.1E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	6E-09	4.5E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	1.5E-08	mg/kg-day	NA	--	NA	1.8E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	3.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.5E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	7.4E-08	mg/kg-day	NA	--	NA	8.6E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	1.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	4.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	6.2E-08	mg/kg-day	NA	--	NA	7.3E-07	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	N/A	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				delta-BHC	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Dieldrin	2.2E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	2.3E-01	mg/kg	4.2E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	4.9E-08	mg/kg-day	5.0E-04	mg/kg-day	1E-04
				Endosulfan sulfate	2.2E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	2.1E+01	mg/kg	1.8E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	2.1E-05	mg/kg-day	2.0E-05	mg/kg-day	1E+00
				Aluminum	9.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	2.8E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	3.2E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	5.4E+00	mg/kg	3.3E-09	mg/kg-day	NA	--	NA	3.9E-08	mg/kg-day	2.5E-05	mg/kg-day	2E-03
				Cobalt	7.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	9.5E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Silver	4.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								7E-06					1E+00

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	3.9E-07	µg/m^3	3.2E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	3.8E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	4.3E-07	µg/m^3	3.6E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-10	4.2E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	6.7E-07	µg/m^3	5.5E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	6.5E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.3E-07	µg/m^3	2.7E-08	µg/m^3	NA	--	NA	3.2E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	3.5E-07	µg/m^3	2.9E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	3.3E-07	µg/m^3	NA	--	NA
				Carbazole	1.8E-07	µg/m^3	1.5E-08	µg/m^3	NA	--	NA	1.7E-07	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.2E-06	µg/m^3	9.5E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	6E-10	1.1E-06	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-07	µg/m^3	7.1E-08	µg/m^3	NA	--	NA	8.3E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E-07	µg/m^3	2.7E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	3.1E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Aldrin	9.4E-09	µg/m^3	7.7E-10	µg/m^3	4.9E-03	(µg/m^3)$^{-1}$	4E-12	9.0E-09	µg/m^3	NA	--	NA
				delta-BHC	4.1E-08	µg/m^3	3.3E-09	µg/m^3	NA	--	NA	3.9E-08	µg/m^3	NA	--	NA
				Dieldrin	1.6E-07	µg/m^3	1.3E-08	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	6E-11	1.5E-07	µg/m^3	NA	--	NA
				4,4'-DDT	1.7E-07	µg/m^3	1.4E-08	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	1E-12	1.6E-07	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.6E-08	µg/m^3	1.3E-09	µg/m^3	NA	--	NA	1.5E-08	µg/m^3	NA	--	NA
				Total PCB Aroclors	1.5E-05	µg/m^3	1.2E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-10	1.5E-05	µg/m^3	NA	--	NA
				Aluminum	6.8E-03	µg/m^3	5.6E-04	µg/m^3	NA	--	NA	6.5E-03	µg/m^3	5.0E+00	µg/m^3	1E-03
				Antimony	8.0E-06	µg/m^3	6.6E-07	µg/m^3	NA	--	NA	7.6E-06	µg/m^3	NA	--	NA
				Arsenic	1.1E-05	µg/m^3	8.9E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	4E-09	1.0E-05	µg/m^3	1.5E-02	µg/m^3	7E-04
				Cadmium	3.9E-06	µg/m^3	3.2E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	6E-10	3.8E-06	µg/m^3	2.0E-02	µg/m^3	2E-04
				Cobalt	5.1E-06	µg/m^3	4.2E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	4E-09	4.9E-06	µg/m^3	6.0E-03	µg/m^3	8E-04
				Copper	6.9E-05	µg/m^3	5.7E-06	µg/m^3	NA	--	NA	6.6E-05	µg/m^3	NA	--	NA
				Iron	1.2E-02	µg/m^3	9.5E-04	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	NA	--	NA
				Lead	9.3E-05	µg/m^3	7.7E-06	µg/m^3	NA	--	NA	9.0E-05	µg/m^3	NA	--	NA
				Manganese	3.7E-04	µg/m^3	3.1E-05	µg/m^3	NA	--	NA	3.6E-04	µg/m^3	5.0E-02	µg/m^3	7E-03
				Silver	3.2E-06	µg/m^3	2.6E-07	µg/m^3	NA	--	NA	3.1E-06	µg/m^3	NA	--	NA
				Vanadium	2.4E-05	µg/m^3	2.0E-06	µg/m^3	NA	--	NA	2.3E-05	µg/m^3	NA	--	NA
				Zinc	1.9E-04	µg/m^3	1.5E-05	µg/m^3	NA	--	NA	1.8E-04	µg/m^3	NA	--	NA
			Exposure Route Total								9E-09					1E-02
		Exposure Point Total									1E-04					2E+01
	Total of Receptor Risks Across Medium										1E-04					2E+01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	2.4E-05	mg/kg-day	NA	--	NA	2.8E-04	mg/kg-day	2.0E-03	mg/kg-day	1E-01
				Acenaphthylene	2.1E-01	mg/kg	2.3E-07	mg/kg-day	NA	--	NA	2.7E-06	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	8.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-06	2.3E-05	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	1.2E-06	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-05	3.4E-05	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	1.8E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-05	5.1E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	4.7E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-07	1.3E-05	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	5.8E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	8E-07	6.8E-04	mg/kg-day	2.0E-02	mg/kg-day	3E-02
				Carbazole	1.0E-01	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	1.2E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-06	3.4E-06	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	3.9E-06	mg/kg-day	NA	--	NA	4.6E-05	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	8.5E-06	mg/kg-day	NA	--	NA	1.0E-04	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.5E-05	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	2.8E-05	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	8.1E-06	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-04	9.5E-05	mg/kg-day	5.0E-05	mg/kg-day	2E+00
				4,4'-DDE	5.6E+01	mg/kg	6.1E-05	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-05	7.2E-04	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	2.6E-09	mg/kg-day	NA	--	NA	3.1E-08	mg/kg-day	NA	--	NA
				Endrin aldehyde	5.2E+00	mg/kg	5.7E-06	mg/kg-day	NA	--	NA	6.6E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.3E+00	mg/kg	1.5E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	1.7E-05	mg/kg-day	1.3E-05	mg/kg-day	1E+00
				Total PCB Aroclors	3.3E+01	mg/kg	3.7E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-05	4.3E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				Aluminum	1.6E+04	mg/kg	1.7E-02	mg/kg-day	NA	--	NA	2.0E-01	mg/kg-day	1.0E+00	mg/kg-day	2E-01
				Antimony	2.9E+00	mg/kg	3.2E-06	mg/kg-day	NA	--	NA	3.7E-05	mg/kg-day	4.0E-04	mg/kg-day	9E-02
				Arsenic	1.5E+01	mg/kg	1.7E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	2.0E-04	mg/kg-day	3.0E-04	mg/kg-day	7E-01
				Cadmium	1.2E+01	mg/kg	1.3E-05	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	1.0E-03	mg/kg-day	1E-01
				Cobalt	1.3E+01	mg/kg	1.4E-05	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	3.0E-04	mg/kg-day	6E-01
				Copper	1.7E+02	mg/kg	1.9E-04	mg/kg-day	NA	--	NA	2.2E-03	mg/kg-day	4.0E-02	mg/kg-day	5E-02
				Iron	2.8E+04	mg/kg	3.1E-02	mg/kg-day	NA	--	NA	3.6E-01	mg/kg-day	7.0E-01	mg/kg-day	5E-01
				Lead	1.9E+02	mg/kg	2.1E-04	mg/kg-day	NA	--	NA	2.5E-03	mg/kg-day	NA	--	NA
				Manganese	5.3E+02	mg/kg	5.8E-04	mg/kg-day	NA	--	NA	6.8E-03	mg/kg-day	2.4E-02	mg/kg-day	3E-01
				Vanadium	4.4E+01	mg/kg	4.9E-05	mg/kg-day	NA	--	NA	5.7E-04	mg/kg-day	5.0E-03	mg/kg-day	1E-01
			Exposure Route Total								4E-04					3E+01

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Acenaphthylene	2.1E-01	mg/kg	8.3E-08	mg/kg-day	NA	--	NA	9.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	2.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	8.4E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	3.1E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.2E-05	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	4.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.8E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	5.1E-07	mg/kg-day	NA	--	NA	5.9E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	1.2E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	6E-08	4.8E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	1.6E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-07	1.9E-04	mg/kg-day	2.0E-02	mg/kg-day	9E-03
				Carbazole	1.0E-01	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	3.6E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	3.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.2E-06	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.1E-06	mg/kg-day	NA	--	NA	1.3E-05	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	2.8E-05	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	1.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	5.5E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	8.6E-07	mg/kg-day	NA	--	NA	1.0E-05	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	5.2E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	6.0E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	5.2E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	1.3E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	3.3E+01	mg/kg	1.4E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	1.7E-04	mg/kg-day	2.0E-05	mg/kg-day	8E+00
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	2.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	1.4E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.6E-05	mg/kg-day	3.0E-04	mg/kg-day	5E-02
				Cadmium	1.2E+01	mg/kg	3.6E-08	mg/kg-day	NA	--	NA	4.2E-07	mg/kg-day	2.5E-05	mg/kg-day	2E-02
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-05					8E+00

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.3E-06	µg/m^3	1.1E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-11	1.3E-06	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.9E-06	µg/m^3	1.6E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	9E-10	1.9E-06	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.9E-06	µg/m^3	2.4E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	2.7E-06	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	9.2E-07	µg/m^3	7.6E-08	µg/m^3	NA	--	NA	8.8E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	7.5E-07	µg/m^3	6.2E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	7.2E-07	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	3.8E-05	µg/m^3	3.1E-06	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	8E-12	3.7E-05	µg/m^3	NA	--	NA
				Carbazole	7.3E-08	µg/m^3	6.0E-09	µg/m^3	NA	--	NA	7.0E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.9E-07	µg/m^3	1.6E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-10	1.9E-07	µg/m^3	NA	--	NA
				Dimethyl phthalate	2.6E-06	µg/m^3	2.1E-07	µg/m^3	NA	--	NA	2.5E-06	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	5.7E-06	µg/m^3	4.6E-07	µg/m^3	NA	--	NA	5.4E-06	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	8.5E-07	µg/m^3	7.0E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	8.2E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Dieldrin	5.4E-06	µg/m^3	4.4E-07	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	2E-09	5.2E-06	µg/m^3	NA	--	NA
				4,4'-DDE	4.1E-05	µg/m^3	3.3E-06	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	3E-10	3.9E-05	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.7E-09	µg/m^3	1.4E-10	µg/m^3	NA	--	NA	1.7E-09	µg/m^3	NA	--	NA
				Endrin aldehyde	3.8E-06	µg/m^3	3.1E-07	µg/m^3	NA	--	NA	3.6E-06	µg/m^3	NA	--	NA
				Heptachlor epoxide	9.7E-07	µg/m^3	8.0E-08	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	2E-10	9.3E-07	µg/m^3	NA	--	NA
				Total PCB Aroclors	2.4E-05	µg/m^3	2.0E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-10	2.3E-05	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	9.5E-04	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	5.0E+00	µg/m^3	2E-03
				Antimony	2.1E-06	µg/m^3	1.7E-07	µg/m^3	NA	--	NA	2.0E-06	µg/m^3	NA	--	NA
				Arsenic	1.1E-05	µg/m^3	9.1E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	4E-09	1.1E-05	µg/m^3	1.5E-02	µg/m^3	7E-04
				Cadmium	8.5E-06	µg/m^3	7.0E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	1E-09	8.2E-06	µg/m^3	2.0E-02	µg/m^3	4E-04
				Cobalt	9.4E-06	µg/m^3	7.8E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	7E-09	9.0E-06	µg/m^3	6.0E-03	µg/m^3	2E-03
				Copper	1.2E-04	µg/m^3	1.0E-05	µg/m^3	NA	--	NA	1.2E-04	µg/m^3	NA	--	NA
				Iron	2.1E-02	µg/m^3	1.7E-03	µg/m^3	NA	--	NA	2.0E-02	µg/m^3	NA	--	NA
				Lead	1.4E-04	µg/m^3	1.2E-05	µg/m^3	NA	--	NA	1.3E-04	µg/m^3	NA	--	NA
				Manganese	3.9E-04	µg/m^3	3.2E-05	µg/m^3	NA	--	NA	3.7E-04	µg/m^3	5.0E-02	µg/m^3	7E-03
				Vanadium	3.2E-05	µg/m^3	2.6E-06	µg/m^3	NA	--	NA	3.1E-05	µg/m^3	NA	--	NA
			Exposure Route Total								2E-08					1E-02
		Exposure Point Total									4E-04					4E+01
	Total of Receptor Risks Across Medium										4E-04					4E+01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	2.4E-05	mg/kg-day	NA	--	NA	2.8E-04	mg/kg-day	2.0E-03	mg/kg-day	1E-01
				Acenaphthylene	2.1E-01	mg/kg	2.3E-07	mg/kg-day	NA	--	NA	2.7E-06	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	8.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-06	2.3E-05	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	1.2E-06	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-05	3.4E-05	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	1.8E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-05	5.1E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	4.7E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-07	1.3E-05	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	5.8E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	8E-07	6.8E-04	mg/kg-day	2.0E-02	mg/kg-day	3E-02
				Carbazole	1.0E-01	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	1.2E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-06	3.4E-06	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	3.9E-06	mg/kg-day	NA	--	NA	4.6E-05	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	8.5E-06	mg/kg-day	NA	--	NA	1.0E-04	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.5E-05	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	2.8E-05	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	8.1E-06	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-04	9.5E-05	mg/kg-day	5.0E-05	mg/kg-day	2E+00
				4,4'-DDE	5.6E+01	mg/kg	6.1E-05	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-05	7.2E-04	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	2.6E-09	mg/kg-day	NA	--	NA	3.1E-08	mg/kg-day	NA	--	NA
				Endrin aldehyde	5.2E+00	mg/kg	5.7E-06	mg/kg-day	NA	--	NA	6.6E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.3E+00	mg/kg	1.5E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	1.7E-05	mg/kg-day	1.3E-05	mg/kg-day	1E+00
				Total PCB Aroclors	3.3E+01	mg/kg	3.7E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-05	4.3E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				Aluminum	1.6E+04	mg/kg	1.7E-02	mg/kg-day	NA	--	NA	2.0E-01	mg/kg-day	1.0E+00	mg/kg-day	2E-01
				Antimony	2.9E+00	mg/kg	3.2E-06	mg/kg-day	NA	--	NA	3.7E-05	mg/kg-day	4.0E-04	mg/kg-day	9E-02
				Arsenic	1.5E+01	mg/kg	1.7E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	2.0E-04	mg/kg-day	3.0E-04	mg/kg-day	7E-01
				Cadmium	1.2E+01	mg/kg	1.3E-05	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	1.0E-03	mg/kg-day	1E-01
				Cobalt	1.3E+01	mg/kg	1.4E-05	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	3.0E-04	mg/kg-day	6E-01
				Copper	1.7E+02	mg/kg	1.9E-04	mg/kg-day	NA	--	NA	2.2E-03	mg/kg-day	4.0E-02	mg/kg-day	5E-02
				Iron	2.8E+04	mg/kg	3.1E-02	mg/kg-day	NA	--	NA	3.6E-01	mg/kg-day	7.0E-01	mg/kg-day	5E-01
				Lead	1.9E+02	mg/kg	2.1E-04	mg/kg-day	NA	--	NA	2.5E-03	mg/kg-day	NA	--	NA
				Manganese	5.3E+02	mg/kg	5.8E-04	mg/kg-day	NA	--	NA	6.8E-03	mg/kg-day	2.4E-02	mg/kg-day	3E-01
				Vanadium	4.4E+01	mg/kg	4.9E-05	mg/kg-day	NA	--	NA	5.7E-04	mg/kg-day	5.0E-03	mg/kg-day	1E-01
			Exposure Route Total								4E-04					3E+01

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Acenaphthylene	2.1E-01	mg/kg	1.7E-08	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	4.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	6.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	2.5E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	9.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	3.7E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	2.4E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	9.7E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	3.2E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	5E-08	3.8E-05	mg/kg-day	2.0E-02	mg/kg-day	2E-03
				Carbazole	1.0E-01	mg/kg	6.2E-09	mg/kg-day	NA	--	NA	7.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	6.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	2.5E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	2.2E-07	mg/kg-day	NA	--	NA	2.6E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	4.8E-07	mg/kg-day	NA	--	NA	5.6E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	2.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	1.1E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	1.7E-07	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	1.0E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.2E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	5.2E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	1.3E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	3.3E+01	mg/kg	2.9E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	3.4E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	2.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	2.8E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	3.3E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	1.2E+01	mg/kg	7.2E-09	mg/kg-day	NA	--	NA	8.4E-08	mg/kg-day	2.5E-05	mg/kg-day	3E-03
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-05					2E+00

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.3E-06	µg/m^3	1.1E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-11	1.3E-06	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.9E-06	µg/m^3	1.6E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	9E-10	1.9E-06	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	2.9E-06	µg/m^3	2.4E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	2.7E-06	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	9.2E-07	µg/m^3	7.6E-08	µg/m^3	NA	--	NA	8.8E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	7.5E-07	µg/m^3	6.2E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	7.2E-07	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	3.8E-05	µg/m^3	3.1E-06	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	8E-12	3.7E-05	µg/m^3	NA	--	NA
				Carbazole	7.3E-08	µg/m^3	6.0E-09	µg/m^3	NA	--	NA	7.0E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.9E-07	µg/m^3	1.6E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-10	1.9E-07	µg/m^3	NA	--	NA
				Dimethyl phthalate	2.6E-06	µg/m^3	2.1E-07	µg/m^3	NA	--	NA	2.5E-06	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	5.7E-06	µg/m^3	4.6E-07	µg/m^3	NA	--	NA	5.4E-06	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	8.5E-07	µg/m^3	7.0E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	8.2E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Dieldrin	5.4E-06	µg/m^3	4.4E-07	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	2E-09	5.2E-06	µg/m^3	NA	--	NA
				4,4'-DDE	4.1E-05	µg/m^3	3.3E-06	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	3E-10	3.9E-05	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.7E-09	µg/m^3	1.4E-10	µg/m^3	NA	--	NA	1.7E-09	µg/m^3	NA	--	NA
				Endrin aldehyde	3.8E-06	µg/m^3	3.1E-07	µg/m^3	NA	--	NA	3.6E-06	µg/m^3	NA	--	NA
				Heptachlor epoxide	9.7E-07	µg/m^3	8.0E-08	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	2E-10	9.3E-07	µg/m^3	NA	--	NA
				Total PCB Aroclors	2.4E-05	µg/m^3	2.0E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-10	2.3E-05	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	9.5E-04	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	5.0E+00	µg/m^3	2E-03
				Antimony	2.1E-06	µg/m^3	1.7E-07	µg/m^3	NA	--	NA	2.0E-06	µg/m^3	NA	--	NA
				Arsenic	1.1E-05	µg/m^3	9.1E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	4E-09	1.1E-05	µg/m^3	1.5E-02	µg/m^3	7E-04
				Cadmium	8.5E-06	µg/m^3	7.0E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	1E-09	8.2E-06	µg/m^3	2.0E-02	µg/m^3	4E-04
				Cobalt	9.4E-06	µg/m^3	7.8E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	7E-09	9.0E-06	µg/m^3	6.0E-03	µg/m^3	2E-03
				Copper	1.2E-04	µg/m^3	1.0E-05	µg/m^3	NA	--	NA	1.2E-04	µg/m^3	NA	--	NA
				Iron	2.1E-02	µg/m^3	1.7E-03	µg/m^3	NA	--	NA	2.0E-02	µg/m^3	NA	--	NA
				Lead	1.4E-04	µg/m^3	1.2E-05	µg/m^3	NA	--	NA	1.3E-04	µg/m^3	NA	--	NA
				Manganese	3.9E-04	µg/m^3	3.2E-05	µg/m^3	NA	--	NA	3.7E-04	µg/m^3	5.0E-02	µg/m^3	7E-03
				Vanadium	3.2E-05	µg/m^3	2.6E-06	µg/m^3	NA	--	NA	3.1E-05	µg/m^3	NA	--	NA
			Exposure Route Total								2E-08					1E-02
		Exposure Point Total									4E-04					3E+01
	Total of Receptor Risks Across Medium										4E-04					3E+01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Ingestion	Acenaphthylene	2.9E-02	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	3.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	1.0E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-06	2.9E-05	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	7.2E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	2.0E-05	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	1.1E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-06	3.1E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	7.2E-07	mg/kg-day	NA	--	NA	8.4E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	9.3E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-07	2.6E-05	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	9.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	2.6E-06	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	9.4E-07	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	6.4E-08	mg/kg-day	NA	--	NA	7.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.6E-05	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	3.9E-06	mg/kg-day	NA	--	NA	4.5E-05	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	4.4E-09	mg/kg-day	NA	--	NA	5.1E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	6.8E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-04	7.9E-04	mg/kg-day	2.0E-05	mg/kg-day	4E+01
				Aluminum	1.5E+04	mg/kg	1.6E-02	mg/kg-day	NA	--	NA	1.9E-01	mg/kg-day	1.0E+00	mg/kg-day	2E-01
				Arsenic	2.9E+00	mg/kg	3.2E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	3.8E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Cadmium	4.0E+00	mg/kg	4.4E-06	mg/kg-day	NA	--	NA	5.1E-05	mg/kg-day	1.0E-03	mg/kg-day	5E-02
				Cobalt	7.3E+00	mg/kg	8.0E-06	mg/kg-day	NA	--	NA	9.4E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
				Cyanide	1.7E+00	mg/kg	1.8E-06	mg/kg-day	NA	--	NA	2.1E-05	mg/kg-day	6.0E-04	mg/kg-day	4E-02
				Iron	2.8E+04	mg/kg	3.1E-02	mg/kg-day	NA	--	NA	3.6E-01	mg/kg-day	7.0E-01	mg/kg-day	5E-01
				Lead	1.7E+02	mg/kg	1.9E-04	mg/kg-day	NA	--	NA	2.2E-03	mg/kg-day	NA	--	NA
				Manganese	5.5E+02	mg/kg	6.1E-04	mg/kg-day	NA	--	NA	7.1E-03	mg/kg-day	2.4E-02	mg/kg-day	3E-01
			Exposure Route Total								2E-04					4E+01
Floodplain Soil	All Soil	EU BB6	Dermal	Acenaphthylene	2.9E-02	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	2.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	1.0E-05	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	1.9E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	7.4E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	2.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	1.1E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	2.6E-07	mg/kg-day	NA	--	NA	3.0E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	2.4E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-07	9.5E-06	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	3.6E-08	mg/kg-day	NA	--	NA	4.2E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	2.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	9.6E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	2.6E-07	mg/kg-day	NA	--	NA	3.1E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	2.1E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	1.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	5.6E-06	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.2E+01	mg/kg	2.7E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-05	3.1E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				Aluminum	1.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.9E+00	mg/kg	2.7E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	3.2E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	4.0E+00	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	2.5E-05	mg/kg-day	6E-03
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Cyanide	1.7E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								7E-05					2E+01

TABLE 7.11.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.6E-06	µg/m^3	1.3E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-11	1.6E-06	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.2E-06	µg/m^3	9.5E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	6E-10	1.1E-06	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.8E-06	µg/m^3	1.5E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	9E-11	1.7E-06	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.7E-07	µg/m^3	3.9E-08	µg/m^3	NA	--	NA	4.6E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.5E-06	µg/m^3	1.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-11	1.4E-06	µg/m^3	NA	--	NA
				Carbazole	8.6E-08	µg/m^3	7.0E-09	µg/m^3	NA	--	NA	8.2E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.5E-07	µg/m^3	1.2E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	8E-11	1.4E-07	µg/m^3	NA	--	NA
				Dimethyl phthalate	6.2E-07	µg/m^3	5.1E-08	µg/m^3	NA	--	NA	6.0E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.2E-08	µg/m^3	3.5E-09	µg/m^3	NA	--	NA	4.1E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	8.8E-07	µg/m^3	7.2E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	8.4E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin ketone	2.9E-09	µg/m^3	2.4E-10	µg/m^3	NA	--	NA	2.8E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.5E-05	µg/m^3	3.7E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	4E-10	4.3E-05	µg/m^3	NA	--	NA
				Aluminum	1.1E-02	µg/m^3	8.6E-04	µg/m^3	NA	--	NA	1.0E-02	µg/m^3	5.0E+00	µg/m^3	2E-03
				Arsenic	2.1E-06	µg/m^3	1.7E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	8E-10	2.0E-06	µg/m^3	1.5E-02	µg/m^3	1E-04
				Cadmium	2.9E-06	µg/m^3	2.4E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	4E-10	2.8E-06	µg/m^3	2.0E-02	µg/m^3	1E-04
				Cobalt	5.3E-06	µg/m^3	4.4E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	4E-09	5.1E-06	µg/m^3	6.0E-03	µg/m^3	8E-04
				Cyanide	1.2E-06	µg/m^3	9.9E-08	µg/m^3	NA	--	NA	1.2E-06	µg/m^3	NA	--	NA
				Iron	2.0E-02	µg/m^3	1.7E-03	µg/m^3	NA	--	NA	2.0E-02	µg/m^3	NA	--	NA
				Lead	1.2E-04	µg/m^3	1.0E-05	µg/m^3	NA	--	NA	1.2E-04	µg/m^3	NA	--	NA
				Manganese	4.0E-04	µg/m^3	3.3E-05	µg/m^3	NA	--	NA	3.9E-04	µg/m^3	5.0E-02	µg/m^3	8E-03
			Exposure Route Total								6E-09					1E-02
		Exposure Point Total									3E-04					6E+01
	Total of Receptor Risks Across Medium										3E-04					6E+01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Ingestion	Acenaphthylene	2.9E-02	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	3.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	1.0E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-06	2.9E-05	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	7.2E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	2.0E-05	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	1.1E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-06	3.1E-05	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	7.2E-07	mg/kg-day	NA	--	NA	8.4E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	9.3E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-07	2.6E-05	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	9.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	2.6E-06	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	9.4E-07	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	6.4E-08	mg/kg-day	NA	--	NA	7.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.6E-05	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	3.9E-06	mg/kg-day	NA	--	NA	4.5E-05	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	4.4E-09	mg/kg-day	NA	--	NA	5.1E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	6.8E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-04	7.9E-04	mg/kg-day	2.0E-05	mg/kg-day	4E+01
				Aluminum	1.5E+04	mg/kg	1.6E-02	mg/kg-day	NA	--	NA	1.9E-01	mg/kg-day	1.0E+00	mg/kg-day	2E-01
				Arsenic	2.9E+00	mg/kg	3.2E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	3.8E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Cadmium	4.0E+00	mg/kg	4.4E-06	mg/kg-day	NA	--	NA	5.1E-05	mg/kg-day	1.0E-03	mg/kg-day	5E-02
				Cobalt	7.3E+00	mg/kg	8.0E-06	mg/kg-day	NA	--	NA	9.4E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
				Cyanide	1.7E+00	mg/kg	1.8E-06	mg/kg-day	NA	--	NA	2.1E-05	mg/kg-day	6.0E-04	mg/kg-day	4E-02
				Iron	2.8E+04	mg/kg	3.1E-02	mg/kg-day	NA	--	NA	3.6E-01	mg/kg-day	7.0E-01	mg/kg-day	5E-01
				Lead	1.7E+02	mg/kg	1.9E-04	mg/kg-day	NA	--	NA	2.2E-03	mg/kg-day	NA	--	NA
				Manganese	5.5E+02	mg/kg	6.1E-04	mg/kg-day	NA	--	NA	7.1E-03	mg/kg-day	2.4E-02	mg/kg-day	3E-01
			Exposure Route Total								2E-04					4E+01
Floodplain Soil	All Soil	EU BB6	Dermal	Acenaphthylene	2.9E-02	mg/kg	2.3E-09	mg/kg-day	NA	--	NA	2.7E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	5.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	2.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	3.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	5.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	2.3E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	5.2E-08	mg/kg-day	NA	--	NA	6.1E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	4.8E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-08	1.9E-06	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	7.2E-09	mg/kg-day	NA	--	NA	8.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	4.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.9E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	5.3E-08	mg/kg-day	NA	--	NA	6.2E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	3.6E-09	mg/kg-day	NA	--	NA	4.2E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	2.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	1.1E-06	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	2.8E-07	mg/kg-day	NA	--	NA	3.3E-06	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.2E+01	mg/kg	5.3E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	6.2E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				Aluminum	1.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.9E+00	mg/kg	5.4E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	6.3E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cadmium	4.0E+00	mg/kg	2.5E-09	mg/kg-day	NA	--	NA	2.9E-08	mg/kg-day	2.5E-05	mg/kg-day	1E-03
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Cyanide	1.7E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								1E-05					3E+00

TABLE 7.11.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.6E-06	µg/m^3	1.3E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-11	1.6E-06	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.2E-06	µg/m^3	9.5E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	6E-10	1.1E-06	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.8E-06	µg/m^3	1.5E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	9E-11	1.7E-06	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.7E-07	µg/m^3	3.9E-08	µg/m^3	NA	--	NA	4.6E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.5E-06	µg/m^3	1.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-11	1.4E-06	µg/m^3	NA	--	NA
				Carbazole	8.6E-08	µg/m^3	7.0E-09	µg/m^3	NA	--	NA	8.2E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.5E-07	µg/m^3	1.2E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	8E-11	1.4E-07	µg/m^3	NA	--	NA
				Dimethyl phthalate	6.2E-07	µg/m^3	5.1E-08	µg/m^3	NA	--	NA	6.0E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	4.2E-08	µg/m^3	3.5E-09	µg/m^3	NA	--	NA	4.1E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	8.8E-07	µg/m^3	7.2E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	8.4E-07	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin ketone	2.9E-09	µg/m^3	2.4E-10	µg/m^3	NA	--	NA	2.8E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.5E-05	µg/m^3	3.7E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	4E-10	4.3E-05	µg/m^3	NA	--	NA
				Aluminum	1.1E-02	µg/m^3	8.6E-04	µg/m^3	NA	--	NA	1.0E-02	µg/m^3	5.0E+00	µg/m^3	2E-03
				Arsenic	2.1E-06	µg/m^3	1.7E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	8E-10	2.0E-06	µg/m^3	1.5E-02	µg/m^3	1E-04
				Cadmium	2.9E-06	µg/m^3	2.4E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	4E-10	2.8E-06	µg/m^3	2.0E-02	µg/m^3	1E-04
				Cobalt	5.3E-06	µg/m^3	4.4E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	4E-09	5.1E-06	µg/m^3	6.0E-03	µg/m^3	8E-04
				Cyanide	1.2E-06	µg/m^3	9.9E-08	µg/m^3	NA	--	NA	1.2E-06	µg/m^3	NA	--	NA
				Iron	2.0E-02	µg/m^3	1.7E-03	µg/m^3	NA	--	NA	2.0E-02	µg/m^3	NA	--	NA
				Lead	1.2E-04	µg/m^3	1.0E-05	µg/m^3	NA	--	NA	1.2E-04	µg/m^3	NA	--	NA
				Manganese	4.0E-04	µg/m^3	3.3E-05	µg/m^3	NA	--	NA	3.9E-04	µg/m^3	5.0E-02	µg/m^3	8E-03
			Exposure Route Total								6E-09					1E-02
		Exposure Point Total									2E-04					4E+01
	Total of Receptor Risks Across Medium										2E-04					4E+01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU GB	Ingestion	Benzo(a)anthracene	8.7E-01	mg/kg	2.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	7.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	9.3E-01	mg/kg	2.9E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	8.2E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.4E+00	mg/kg	4.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.1E-01	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	4.5E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	9.1E-08	mg/kg-day	NA	--	NA	2.6E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	5.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.6E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.4E-01	mg/kg	1.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.8E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.8E+00	mg/kg	5.7E-07	mg/kg-day	NA	--	NA	1.6E-06	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.4E-02	mg/kg	2.3E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	6.5E-08	mg/kg-day	2.0E-05	mg/kg-day	3E-03
				Aluminum	2.5E+04	mg/kg	7.8E-03	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Arsenic	7.3E+00	mg/kg	2.3E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	6.4E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cobalt	1.3E+01	mg/kg	4.1E-06	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Iron	3.3E+04	mg/kg	1.0E-02	mg/kg-day	NA	--	NA	2.9E-02	mg/kg-day	7.0E-01	mg/kg-day	4E-02
				Manganese	7.1E+02	mg/kg	2.2E-04	mg/kg-day	NA	--	NA	6.3E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
				Mercury	1.4E+00	mg/kg	4.4E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Vanadium	5.4E+01	mg/kg	1.7E-05	mg/kg-day	NA	--	NA	4.8E-05	mg/kg-day	5.0E-03	mg/kg-day	1E-02
			Exposure Route Total								7E-06					2E-01
Floodplain Soil	Surface Soil	EU GB	Dermal	Benzo(a)anthracene	8.7E-01	mg/kg	2.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	6.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	9.3E-01	mg/kg	2.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	7.0E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.4E+00	mg/kg	3.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.1E-01	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	3.9E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	6.0E-08	mg/kg-day	NA	--	NA	1.7E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	4.9E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.4E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.4E-01	mg/kg	1.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.8E+00	mg/kg	4.9E-07	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.4E-02	mg/kg	2.2E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	6.0E-08	mg/kg-day	2.0E-05	mg/kg-day	3E-03
				Aluminum	2.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	7.3E+00	mg/kg	4.5E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	3.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	1.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Vanadium	5.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								3E-06					7E-03

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU GB	Inhalation	Benzo(a)anthracene	6.3E-07	µg/m^3	4.6E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-12	1.3E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	6.7E-07	µg/m^3	4.9E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	5E-11	1.4E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.0E-06	µg/m^3	7.4E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-12	2.1E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.7E-07	µg/m^3	2.7E-08	µg/m^3	NA	--	NA	7.6E-08	µg/m^3	NA	--	NA
				Carbazole	2.1E-07	µg/m^3	1.5E-08	µg/m^3	NA	--	NA	4.3E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E-07	µg/m^3	9.6E-09	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-11	2.7E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.9E-07	µg/m^3	2.9E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-12	8.0E-08	µg/m^3	NA	--	NA
				Phenanthrene	1.3E-06	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Total PCB Aroclors	5.4E-08	µg/m^3	3.9E-09	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	4E-13	1.1E-08	µg/m^3	NA	--	NA
				Aluminum	1.8E-02	µg/m^3	1.3E-03	µg/m^3	NA	--	NA	3.7E-03	µg/m^3	5.0E+00	µg/m^3	7E-04
				Arsenic	5.3E-06	µg/m^3	3.9E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-09	1.1E-06	µg/m^3	1.5E-02	µg/m^3	7E-05
				Cobalt	9.4E-06	µg/m^3	6.9E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-09	1.9E-06	µg/m^3	6.0E-03	µg/m^3	3E-04
				Iron	2.4E-02	µg/m^3	1.7E-03	µg/m^3	NA	--	NA	4.9E-03	µg/m^3	NA	--	NA
				Manganese	5.1E-04	µg/m^3	3.8E-05	µg/m^3	NA	--	NA	1.1E-04	µg/m^3	5.0E-02	µg/m^3	2E-03
				Mercury	1.0E-06	µg/m^3	7.4E-08	µg/m^3	NA	--	NA	2.1E-07	µg/m^3	3.0E-02	µg/m^3	7E-06
				Vanadium	3.9E-05	µg/m^3	2.9E-06	µg/m^3	NA	--	NA	8.0E-06	µg/m^3	NA	--	NA
			Exposure Route Total								8E-09					3E-03
		Exposure Point Total									1E-05					2E-01
	Total of Receptor Risks Across Medium										1E-05					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB1	Ingestion	Acenaphthylene	2.2E-02	mg/kg	6.9E-09	mg/kg-day	NA	--	NA	1.9E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.7E-01	mg/kg	2.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	6.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	8.8E-01	mg/kg	2.8E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	7.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.0E+00	mg/kg	3.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	8.8E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.0E-01	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	4.4E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	8.9E-01	mg/kg	2.8E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-08	7.8E-07	mg/kg-day	NA	--	NA
				Carbazole	8.1E-02	mg/kg	2.5E-08	mg/kg-day	NA	--	NA	7.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	5.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.6E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	1.3E-01	mg/kg	4.1E-08	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	3.8E-08	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.6E-01	mg/kg	1.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	6.5E-01	mg/kg	2.0E-07	mg/kg-day	NA	--	NA	5.7E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	1.9E-09	mg/kg-day	NA	--	NA	5.4E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	8.6E-01	mg/kg	2.7E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	7.6E-07	mg/kg-day	2.0E-05	mg/kg-day	4E-02
				Aluminum	1.4E+04	mg/kg	4.5E-03	mg/kg-day	NA	--	NA	1.2E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	8.2E+00	mg/kg	2.6E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	7.2E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cadmium	1.8E+00	mg/kg	5.7E-07	mg/kg-day	NA	--	NA	1.6E-06	mg/kg-day	1.0E-03	mg/kg-day	2E-03
				Cobalt	1.3E+01	mg/kg	4.1E-06	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Iron	2.6E+04	mg/kg	8.1E-03	mg/kg-day	NA	--	NA	2.3E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Manganese	7.4E+02	mg/kg	2.3E-04	mg/kg-day	NA	--	NA	6.5E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
				Vanadium	4.7E+01	mg/kg	1.5E-05	mg/kg-day	NA	--	NA	4.1E-05	mg/kg-day	5.0E-03	mg/kg-day	8E-03
			Exposure Route Total								7E-06					2E-01
Floodplain Soil	Surface Soil	EU BB1	Dermal	Acenaphthylene	2.2E-02	mg/kg	5.9E-09	mg/kg-day	NA	--	NA	1.7E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.7E-01	mg/kg	2.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	5.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	8.8E-01	mg/kg	2.4E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	6.6E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.0E+00	mg/kg	2.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	7.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	5.0E-01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	3.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	8.9E-01	mg/kg	2.4E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-08	6.7E-07	mg/kg-day	NA	--	NA
				Carbazole	8.1E-02	mg/kg	1.7E-08	mg/kg-day	NA	--	NA	4.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.8E-01	mg/kg	4.9E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.4E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	1.3E-01	mg/kg	2.7E-08	mg/kg-day	NA	--	NA	7.6E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	2.5E-08	mg/kg-day	NA	--	NA	7.0E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.6E-01	mg/kg	1.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	3.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	6.5E-01	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	4.9E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	8.6E-01	mg/kg	2.5E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	7.0E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	1.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.2E+00	mg/kg	5.1E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cadmium	1.8E+00	mg/kg	3.7E-09	mg/kg-day	NA	--	NA	1.0E-08	mg/kg-day	2.5E-05	mg/kg-day	4E-04
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	2.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	7.4E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.7E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								4E-06					4E-02

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB1	Inhalation	Acenaphthylene	1.6E-08	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Benzo(a)anthracene	5.6E-07	µg/m^3	4.1E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-12	1.1E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	6.4E-07	µg/m^3	4.7E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	5E-11	1.3E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	7.2E-07	µg/m^3	5.3E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-12	1.5E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.6E-07	µg/m^3	2.7E-08	µg/m^3	NA	--	NA	7.4E-08	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	6.4E-07	µg/m^3	4.7E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-12	1.3E-07	µg/m^3	NA	--	NA
				Carbazole	5.9E-08	µg/m^3	4.3E-09	µg/m^3	NA	--	NA	1.2E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.3E-07	µg/m^3	9.6E-09	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-11	2.7E-08	µg/m^3	NA	--	NA
				Dimethyl phthalate	9.4E-08	µg/m^3	6.9E-09	µg/m^3	NA	--	NA	1.9E-08	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-08	µg/m^3	6.4E-09	µg/m^3	NA	--	NA	1.8E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.3E-07	µg/m^3	2.4E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-12	6.8E-08	µg/m^3	NA	--	NA
				Phenanthrene	4.7E-07	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Endrin aldehyde	4.4E-09	µg/m^3	3.2E-10	µg/m^3	NA	--	NA	9.1E-10	µg/m^3	NA	--	NA
				Total PCB Aroclors	6.2E-07	µg/m^3	4.6E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	5E-12	1.3E-07	µg/m^3	NA	--	NA
				Aluminum	1.0E-02	µg/m^3	7.5E-04	µg/m^3	NA	--	NA	2.1E-03	µg/m^3	5.0E+00	µg/m^3	4E-04
				Arsenic	5.9E-06	µg/m^3	4.4E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-09	1.2E-06	µg/m^3	1.5E-02	µg/m^3	8E-05
				Cadmium	1.3E-06	µg/m^3	9.6E-08	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	2E-10	2.7E-07	µg/m^3	2.0E-02	µg/m^3	1E-05
				Cobalt	9.4E-06	µg/m^3	6.9E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	6E-09	1.9E-06	µg/m^3	6.0E-03	µg/m^3	3E-04
				Iron	1.9E-02	µg/m^3	1.4E-03	µg/m^3	NA	--	NA	3.8E-03	µg/m^3	NA	--	NA
				Manganese	5.3E-04	µg/m^3	3.9E-05	µg/m^3	NA	--	NA	1.1E-04	µg/m^3	5.0E-02	µg/m^3	2E-03
				Vanadium	3.4E-05	µg/m^3	2.5E-06	µg/m^3	NA	--	NA	7.0E-06	µg/m^3	NA	--	NA
			Exposure Route Total								8E-09					3E-03
		Exposure Point Total									1E-05					2E-01
	Total of Receptor Risks Across Medium										1E-05					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB2	Ingestion	Acenaphthylene	2.4E-02	mg/kg	7.5E-09	mg/kg-day	NA	--	NA	2.1E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	9.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	2.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	1.0E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	2.9E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	1.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-08	3.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	7.9E-08	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	7.9E-09	mg/kg-day	NA	--	NA	2.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	2.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	6.8E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	7.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	2.0E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	9.1E-08	mg/kg-day	NA	--	NA	2.6E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	1.7E-09	mg/kg-day	NA	--	NA	4.8E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	2.4E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	6.6E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	1.3E+04	mg/kg	4.1E-03	mg/kg-day	NA	--	NA	1.2E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	1.2E+01	mg/kg	3.8E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	1.1E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Cobalt	5.6E+00	mg/kg	1.8E-06	mg/kg-day	NA	--	NA	4.9E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Iron	1.6E+04	mg/kg	5.0E-03	mg/kg-day	NA	--	NA	1.4E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	4.9E+02	mg/kg	1.5E-04	mg/kg-day	NA	--	NA	4.3E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
			Exposure Route Total								7E-06					1E-01
Floodplain Soil	Surface Soil	EU BB2	Dermal	Acenaphthylene	2.4E-02	mg/kg	6.5E-09	mg/kg-day	NA	--	NA	1.8E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	7.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	2.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	8.9E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	2.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	1.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	3.1E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	6.7E-08	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	5.2E-09	mg/kg-day	NA	--	NA	1.5E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	2.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	5.8E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	6.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	7.8E-08	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	7.5E-01	mg/kg	2.2E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	6.1E-07	mg/kg-day	2.0E-05	mg/kg-day	3E-02
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	1.2E+01	mg/kg	7.5E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	2.1E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Cobalt	5.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								3E-06					4E-02

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB2	Inhalation	Acenaphthylene	1.7E-08	$\mu g/m^3$	N/A	$\mu g/m^3$	NA	--	--	N/A	$\mu g/m^3$	NA	--	--
				Benzo(a)anthracene	2.1E-07	$\mu g/m^3$	1.5E-08	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	2E-12	4.3E-08	$\mu g/m^3$	NA	--	NA
				Benzo(a)pyrene	2.4E-07	$\mu g/m^3$	1.8E-08	$\mu g/m^3$	1.1E-03	$(\mu g/m^3)^{-1}$	2E-11	4.9E-08	$\mu g/m^3$	NA	--	NA
				Benzo(b)fluoranthene	3.0E-07	$\mu g/m^3$	2.2E-08	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	2E-12	6.1E-08	$\mu g/m^3$	NA	--	NA
				Benzo(g,h,i)perylene	1.8E-07	$\mu g/m^3$	1.3E-08	$\mu g/m^3$	NA	--	NA	3.7E-08	$\mu g/m^3$	NA	--	NA
				Carbazole	1.8E-08	$\mu g/m^3$	1.3E-09	$\mu g/m^3$	NA	--	NA	3.7E-09	$\mu g/m^3$	NA	--	NA
				Dibenzo(a,h)anthracene	5.6E-08	$\mu g/m^3$	4.1E-09	$\mu g/m^3$	1.2E-03	$(\mu g/m^3)^{-1}$	5E-12	1.1E-08	$\mu g/m^3$	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-07	$\mu g/m^3$	1.2E-08	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	1E-12	3.4E-08	$\mu g/m^3$	NA	--	NA
				Phenanthrene	2.1E-07	$\mu g/m^3$	N/A	$\mu g/m^3$	NA	--	--	N/A	$\mu g/m^3$	NA	--	--
				Endosulfan sulfate	4.0E-09	$\mu g/m^3$	2.9E-10	$\mu g/m^3$	NA	--	NA	8.2E-10	$\mu g/m^3$	NA	--	NA
				Total PCB Aroclors	5.4E-07	$\mu g/m^3$	4.0E-08	$\mu g/m^3$	1.0E-04	$(\mu g/m^3)^{-1}$	4E-12	1.1E-07	$\mu g/m^3$	NA	--	NA
				Aluminum	9.5E-03	$\mu g/m^3$	7.0E-04	$\mu g/m^3$	NA	--	NA	2.0E-03	$\mu g/m^3$	5.0E+00	$\mu g/m^3$	4E-04
				Arsenic	8.7E-06	$\mu g/m^3$	6.4E-07	$\mu g/m^3$	4.3E-03	$(\mu g/m^3)^{-1}$	3E-09	1.8E-06	$\mu g/m^3$	1.5E-02	$\mu g/m^3$	1E-04
				Cobalt	4.1E-06	$\mu g/m^3$	3.0E-07	$\mu g/m^3$	9.0E-03	$(\mu g/m^3)^{-1}$	3E-09	8.3E-07	$\mu g/m^3$	6.0E-03	$\mu g/m^3$	1E-04
				Iron	1.1E-02	$\mu g/m^3$	8.4E-04	$\mu g/m^3$	NA	--	NA	2.4E-03	$\mu g/m^3$	NA	--	NA
				Manganese	3.6E-04	$\mu g/m^3$	2.6E-05	$\mu g/m^3$	NA	--	NA	7.3E-05	$\mu g/m^3$	5.0E-02	$\mu g/m^3$	1E-03
			Exposure Route Total								5E-09					2E-03
		Exposure Point Total									1E-05					2E-01
	Total of Receptor Risks Across Medium										1E-05					2E-01

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB3	Ingestion	Acenaphthylene	1.4E-01	mg/kg	4.4E-08	mg/kg-day	NA	--	NA	1.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	6.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	1.8E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	6.6E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	1.8E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	8.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-07	2.4E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	5.0E-07	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	6.3E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-08	1.8E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.4E+01	mg/kg	1.7E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-07	4.8E-05	mg/kg-day	2.0E-02	mg/kg-day	2E-03
				Carbazole	2.8E-01	mg/kg	8.8E-08	mg/kg-day	NA	--	NA	2.5E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.5E-01	mg/kg	1.4E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.0E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	1.7E-07	mg/kg-day	NA	--	NA	4.8E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	4.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.2E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.1E+00	mg/kg	6.6E-07	mg/kg-day	NA	--	NA	1.8E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	3.1E-09	mg/kg-day	NA	--	NA	8.6E-09	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	1.8E-09	mg/kg-day	NA	--	NA	5.1E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	3.6E+00	mg/kg	1.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	3.2E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	1.0E+04	mg/kg	3.3E-03	mg/kg-day	NA	--	NA	9.2E-03	mg/kg-day	1.0E+00	mg/kg-day	9E-03
				Antimony	1.5E+01	mg/kg	4.7E-06	mg/kg-day	NA	--	NA	1.3E-05	mg/kg-day	4.0E-04	mg/kg-day	3E-02
				Arsenic	2.1E+01	mg/kg	6.6E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	1.8E-05	mg/kg-day	3.0E-04	mg/kg-day	6E-02
				Cadmium	5.6E+00	mg/kg	1.8E-06	mg/kg-day	NA	--	NA	4.9E-06	mg/kg-day	1.0E-03	mg/kg-day	5E-03
				Cobalt	1.2E+01	mg/kg	3.8E-06	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Copper	2.8E+03	mg/kg	8.9E-04	mg/kg-day	NA	--	NA	2.5E-03	mg/kg-day	4.0E-02	mg/kg-day	6E-02
				Iron	1.2E+05	mg/kg	3.7E-02	mg/kg-day	NA	--	NA	1.0E-01	mg/kg-day	7.0E-01	mg/kg-day	1E-01
				Lead	1.2E+03	mg/kg	3.7E-04	mg/kg-day	NA	--	NA	1.0E-03	mg/kg-day	NA	--	NA
				Manganese	7.0E+02	mg/kg	2.2E-04	mg/kg-day	NA	--	NA	6.2E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
				Mercury	2.1E+00	mg/kg	6.6E-07	mg/kg-day	NA	--	NA	1.8E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Nickel	9.2E+01	mg/kg	2.9E-05	mg/kg-day	NA	--	NA	8.1E-05	mg/kg-day	2.0E-02	mg/kg-day	4E-03
				Thallium	4.0E+00	mg/kg	1.3E-06	mg/kg-day	NA	--	NA	3.5E-06	mg/kg-day	1.0E-05	mg/kg-day	4E-01
				Vanadium	2.8E+01	mg/kg	8.8E-06	mg/kg-day	NA	--	NA	2.5E-05	mg/kg-day	5.0E-03	mg/kg-day	5E-03
				Zinc	1.5E+03	mg/kg	4.6E-04	mg/kg-day	NA	--	NA	1.3E-03	mg/kg-day	3.0E-01	mg/kg-day	4E-03
			Exposure Route Total								2E-05					9E-01

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB3	Dermal	Acenaphthylene	1.4E-01	mg/kg	3.8E-08	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	5.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	5.7E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	1.6E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.7E+00	mg/kg	7.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	2.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.6E+00	mg/kg	4.3E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	5.4E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-08	1.5E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.4E+01	mg/kg	1.1E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-07	3.1E-05	mg/kg-day	2.0E-02	mg/kg-day	2E-03
				Carbazole	2.8E-01	mg/kg	5.8E-08	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.5E-01	mg/kg	1.2E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	3.4E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	3.2E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	3.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.1E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.1E+00	mg/kg	5.7E-07	mg/kg-day	NA	--	NA	1.6E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	3.6E+00	mg/kg	1.0E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	2.9E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				Aluminum	1.0E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.5E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	2.1E+01	mg/kg	1.3E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	3.7E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	5.6E+00	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	3.3E-08	mg/kg-day	2.5E-05	mg/kg-day	1E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	2.8E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.2E+05	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.2E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	7.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.1E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	9.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.5E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								1E-05					2E-01

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB3	Inhalation	Acenaphthylene	1.0E-07	$\mu g/m^3$	N/A	$\mu g/m^3$	NA	--	--	N/A	$\mu g/m^3$	NA	--	--
				Benzo(a)anthracene	1.4E-06	$\mu g/m^3$	1.1E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	1E-11	3.0E-07	$\mu g/m^3$	NA	--	NA
				Benzo(a)pyrene	1.5E-06	$\mu g/m^3$	1.1E-07	$\mu g/m^3$	1.1E-03	$(\mu g/m^3)^{-1}$	1E-10	3.1E-07	$\mu g/m^3$	NA	--	NA
				Benzo(b)fluoranthene	2.0E-06	$\mu g/m^3$	1.4E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	2E-11	4.0E-07	$\mu g/m^3$	NA	--	NA
				Benzo(g,h,i)perylene	1.2E-06	$\mu g/m^3$	8.5E-08	$\mu g/m^3$	NA	--	NA	2.4E-07	$\mu g/m^3$	NA	--	NA
				Benzo(k)fluoranthene	1.4E-06	$\mu g/m^3$	1.1E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	1E-11	3.0E-07	$\mu g/m^3$	NA	--	NA
				bis(2-Ethylhexyl)phthalate	3.9E-05	$\mu g/m^3$	2.9E-06	$\mu g/m^3$	2.4E-06	$(\mu g/m^3)^{-1}$	7E-12	8.0E-06	$\mu g/m^3$	NA	--	NA
				Carbazole	2.0E-07	$\mu g/m^3$	1.5E-08	$\mu g/m^3$	NA	--	NA	4.2E-08	$\mu g/m^3$	NA	--	NA
				Dibenzo(a,h)anthracene	3.3E-07	$\mu g/m^3$	2.4E-08	$\mu g/m^3$	1.2E-03	$(\mu g/m^3)^{-1}$	3E-11	6.7E-08	$\mu g/m^3$	NA	--	NA
				di-n-Octyl phthalate	4.0E-07	$\mu g/m^3$	2.9E-08	$\mu g/m^3$	NA	--	NA	8.2E-08	$\mu g/m^3$	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.0E-06	$\mu g/m^3$	7.4E-08	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	8E-12	2.1E-07	$\mu g/m^3$	NA	--	NA
				Phenanthrene	1.5E-06	$\mu g/m^3$	N/A	$\mu g/m^3$	NA	--	--	N/A	$\mu g/m^3$	NA	--	--
				Endrin aldehyde	7.1E-09	$\mu g/m^3$	5.2E-10	$\mu g/m^3$	NA	--	NA	1.5E-09	$\mu g/m^3$	NA	--	NA
				Endrin ketone	4.2E-09	$\mu g/m^3$	3.1E-10	$\mu g/m^3$	NA	--	NA	8.6E-10	$\mu g/m^3$	NA	--	NA
				Total PCB Aroclors	2.6E-06	$\mu g/m^3$	1.9E-07	$\mu g/m^3$	1.0E-04	$(\mu g/m^3)^{-1}$	2E-11	5.4E-07	$\mu g/m^3$	NA	--	NA
				Aluminum	7.6E-03	$\mu g/m^3$	5.6E-04	$\mu g/m^3$	NA	--	NA	1.6E-03	$\mu g/m^3$	5.0E+00	$\mu g/m^3$	3E-04
				Antimony	1.1E-05	$\mu g/m^3$	8.0E-07	$\mu g/m^3$	NA	--	NA	2.2E-06	$\mu g/m^3$	NA	--	NA
				Arsenic	1.5E-05	$\mu g/m^3$	1.1E-06	$\mu g/m^3$	4.3E-03	$(\mu g/m^3)^{-1}$	5E-09	3.1E-06	$\mu g/m^3$	1.5E-02	$\mu g/m^3$	2E-04
				Cadmium	4.1E-06	$\mu g/m^3$	3.0E-07	$\mu g/m^3$	1.8E-03	$(\mu g/m^3)^{-1}$	5E-10	8.3E-07	$\mu g/m^3$	2.0E-02	$\mu g/m^3$	4E-05
				Cobalt	8.7E-06	$\mu g/m^3$	6.4E-07	$\mu g/m^3$	9.0E-03	$(\mu g/m^3)^{-1}$	6E-09	1.8E-06	$\mu g/m^3$	6.0E-03	$\mu g/m^3$	3E-04
				Copper	2.0E-03	$\mu g/m^3$	1.5E-04	$\mu g/m^3$	NA	--	NA	4.2E-04	$\mu g/m^3$	NA	--	NA
				Iron	8.6E-02	$\mu g/m^3$	6.3E-03	$\mu g/m^3$	NA	--	NA	1.8E-02	$\mu g/m^3$	NA	--	NA
				Lead	8.6E-04	$\mu g/m^3$	6.3E-05	$\mu g/m^3$	NA	--	NA	1.8E-04	$\mu g/m^3$	NA	--	NA
				Manganese	5.1E-04	$\mu g/m^3$	3.7E-05	$\mu g/m^3$	NA	--	NA	1.0E-04	$\mu g/m^3$	5.0E-02	$\mu g/m^3$	2E-03
				Mercury	1.5E-06	$\mu g/m^3$	1.1E-07	$\mu g/m^3$	NA	--	NA	3.1E-07	$\mu g/m^3$	3.0E-02	$\mu g/m^3$	1E-05
				Nickel	6.7E-05	$\mu g/m^3$	4.9E-06	$\mu g/m^3$	2.6E-04	$(\mu g/m^3)^{-1}$	1E-09	1.4E-05	$\mu g/m^3$	9.0E-02	$\mu g/m^3$	2E-04
				Thallium	2.9E-06	$\mu g/m^3$	2.1E-07	$\mu g/m^3$	NA	--	NA	6.0E-07	$\mu g/m^3$	NA	--	NA
				Vanadium	2.0E-05	$\mu g/m^3$	1.5E-06	$\mu g/m^3$	NA	--	NA	4.2E-06	$\mu g/m^3$	NA	--	NA
				Zinc	1.1E-03	$\mu g/m^3$	7.8E-05	$\mu g/m^3$	NA	--	NA	2.2E-04	$\mu g/m^3$	NA	--	NA
			Exposure Route Total								1E-08					3E-03
		Exposure Point Total									3E-05					1E+00
	Total of Receptor Risks Across Medium										3E-05					1E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB4	Ingestion	Acenaphthylene	6.7E-01	mg/kg	2.1E-07	mg/kg-day	NA	--	NA	5.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.3E+00	mg/kg	4.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.4E+00	mg/kg	4.4E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	7.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	2.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	3.5E-07	mg/kg-day	NA	--	NA	9.7E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E-01	mg/kg	1.6E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	4.6E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	7.9E-08	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	5.0E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	1.4E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	3.8E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	7.9E-01	mg/kg	2.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	7.0E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.1E+00	mg/kg	3.5E-07	mg/kg-day	NA	--	NA	9.7E-07	mg/kg-day	NA	--	NA
				Aldrin	4.1E-02	mg/kg	1.3E-08	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	2E-07	3.6E-08	mg/kg-day	3.0E-05	mg/kg-day	1E-03
				delta-BHC	5.6E-02	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	4.9E-08	mg/kg-day	NA	--	NA
				Dieldrin	3.5E-01	mg/kg	1.1E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	2E-06	3.1E-07	mg/kg-day	5.0E-05	mg/kg-day	6E-03
				4,4'-DDT	5.2E-01	mg/kg	1.6E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	4.6E-07	mg/kg-day	5.0E-04	mg/kg-day	9E-04
				Endosulfan sulfate	2.2E-02	mg/kg	6.9E-09	mg/kg-day	NA	--	NA	1.9E-08	mg/kg-day	NA	--	NA
				Endrin aldehyde	1.5E-02	mg/kg	4.7E-09	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	NA	--	NA
				Endrin ketone	6.5E-02	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	5.7E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.3E+01	mg/kg	4.2E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	1.2E-05	mg/kg-day	2.0E-05	mg/kg-day	6E-01
				Aluminum	1.1E+04	mg/kg	3.5E-03	mg/kg-day	NA	--	NA	9.7E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Antimony	4.0E+00	mg/kg	1.3E-06	mg/kg-day	NA	--	NA	3.5E-06	mg/kg-day	4.0E-04	mg/kg-day	9E-03
				Arsenic	1.0E+01	mg/kg	3.2E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	9.1E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-02
				Cadmium	9.1E+00	mg/kg	2.9E-06	mg/kg-day	NA	--	NA	8.0E-06	mg/kg-day	1.0E-03	mg/kg-day	8E-03
				Cobalt	8.6E+00	mg/kg	2.7E-06	mg/kg-day	NA	--	NA	7.6E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-02
				Copper	1.3E+02	mg/kg	4.2E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	4.0E-02	mg/kg-day	3E-03
				Iron	1.8E+04	mg/kg	5.6E-03	mg/kg-day	NA	--	NA	1.6E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Lead	2.0E+02	mg/kg	6.2E-05	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	NA	--	NA
				Manganese	6.0E+02	mg/kg	1.9E-04	mg/kg-day	NA	--	NA	5.3E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Silver	8.1E+00	mg/kg	2.5E-06	mg/kg-day	NA	--	NA	7.1E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
				Vanadium	4.0E+01	mg/kg	1.3E-05	mg/kg-day	NA	--	NA	3.5E-05	mg/kg-day	5.0E-03	mg/kg-day	7E-03
			Exposure Route Total								2E-05					7E-01

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB4	Dermal	Acenaphthylene	6.7E-01	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	5.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.3E+00	mg/kg	3.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	9.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.4E+00	mg/kg	3.8E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	6.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.1E+00	mg/kg	3.0E-07	mg/kg-day	NA	--	NA	8.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	5.2E-01	mg/kg	1.4E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	3.9E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	5.2E-08	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	4.3E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	1.2E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	2.5E-07	mg/kg-day	NA	--	NA	7.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	7.9E-01	mg/kg	2.1E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	6.0E-07	mg/kg-day	NA	--	NA
				Phenanthrene	1.1E+00	mg/kg	3.0E-07	mg/kg-day	NA	--	NA	8.3E-07	mg/kg-day	NA	--	NA
				Aldrin	4.1E-02	mg/kg	N/A	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				delta-BHC	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Dieldrin	3.5E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDT	5.2E-01	mg/kg	3.2E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	9.1E-08	mg/kg-day	5.0E-04	mg/kg-day	2E-04
				Endosulfan sulfate	2.2E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	1.5E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	6.5E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	1.3E+01	mg/kg	3.8E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	1.1E-05	mg/kg-day	2.0E-05	mg/kg-day	5E-01
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.0E+01	mg/kg	6.4E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.8E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Cadmium	9.1E+00	mg/kg	1.9E-08	mg/kg-day	NA	--	NA	5.3E-08	mg/kg-day	2.5E-05	mg/kg-day	2E-03
				Cobalt	8.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	1.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	2.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	6.0E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Silver	8.1E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-04	mg/kg-day	--
				Vanadium	4.0E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								2E-05					5E-01

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB4	Inhalation	Acenaphthylene	4.9E-07	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Benzo(a)anthracene	9.4E-07	µg/m^3	6.9E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-12	1.9E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.0E-06	µg/m^3	7.4E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	8E-11	2.1E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.7E-06	µg/m^3	1.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	3.4E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	8.0E-07	µg/m^3	5.8E-08	µg/m^3	NA	--	NA	1.6E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	3.8E-07	µg/m^3	2.8E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-12	7.7E-08	µg/m^3	NA	--	NA
				Carbazole	1.8E-07	µg/m^3	1.3E-08	µg/m^3	NA	--	NA	3.7E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.2E-06	µg/m^3	8.5E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-10	2.4E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.7E-07	µg/m^3	6.4E-08	µg/m^3	NA	--	NA	1.8E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-07	µg/m^3	4.2E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-12	1.2E-07	µg/m^3	NA	--	NA
				Phenanthrene	8.0E-07	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Aldrin	3.0E-08	µg/m^3	2.2E-09	µg/m^3	4.9E-03	(µg/m^3)$^{-1}$	1E-11	6.1E-09	µg/m^3	NA	--	NA
				delta-BHC	4.1E-08	µg/m^3	3.0E-09	µg/m^3	NA	--	NA	8.3E-09	µg/m^3	NA	--	NA
				Dieldrin	2.5E-07	µg/m^3	1.9E-08	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	9E-11	5.2E-08	µg/m^3	NA	--	NA
				4,4'-DDT	3.8E-07	µg/m^3	2.8E-08	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	3E-12	7.7E-08	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.6E-08	µg/m^3	1.2E-09	µg/m^3	NA	--	NA	3.3E-09	µg/m^3	NA	--	NA
				Endrin aldehyde	1.1E-08	µg/m^3	8.0E-10	µg/m^3	NA	--	NA	2.2E-09	µg/m^3	NA	--	NA
				Endrin ketone	4.7E-08	µg/m^3	3.5E-09	µg/m^3	NA	--	NA	9.7E-09	µg/m^3	NA	--	NA
				Total PCB Aroclors	9.6E-06	µg/m^3	7.0E-07	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	7E-11	2.0E-06	µg/m^3	NA	--	NA
				Aluminum	8.0E-03	µg/m^3	5.8E-04	µg/m^3	NA	--	NA	1.6E-03	µg/m^3	5.0E+00	µg/m^3	3E-04
				Antimony	2.9E-06	µg/m^3	2.1E-07	µg/m^3	NA	--	NA	6.0E-07	µg/m^3	NA	--	NA
				Arsenic	7.5E-06	µg/m^3	5.5E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-09	1.5E-06	µg/m^3	1.5E-02	µg/m^3	1E-04
				Cadmium	6.6E-06	µg/m^3	4.8E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	9E-10	1.4E-06	µg/m^3	2.0E-02	µg/m^3	7E-05
				Cobalt	6.2E-06	µg/m^3	4.6E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	4E-09	1.3E-06	µg/m^3	6.0E-03	µg/m^3	2E-04
				Copper	9.7E-05	µg/m^3	7.1E-06	µg/m^3	NA	--	NA	2.0E-05	µg/m^3	NA	--	NA
				Iron	1.3E-02	µg/m^3	9.4E-04	µg/m^3	NA	--	NA	2.6E-03	µg/m^3	NA	--	NA
				Lead	1.4E-04	µg/m^3	1.1E-05	µg/m^3	NA	--	NA	2.9E-05	µg/m^3	NA	--	NA
				Manganese	4.3E-04	µg/m^3	3.2E-05	µg/m^3	NA	--	NA	8.9E-05	µg/m^3	5.0E-02	µg/m^3	2E-03
				Silver	5.9E-06	µg/m^3	4.3E-07	µg/m^3	NA	--	NA	1.2E-06	µg/m^3	NA	--	NA
				Vanadium	2.9E-05	µg/m^3	2.1E-06	µg/m^3	NA	--	NA	6.0E-06	µg/m^3	NA	--	NA
			Exposure Route Total								8E-09					2E-03
		Exposure Point Total									4E-05					1E+00
	Total of Receptor Risks Across Medium										4E-05					1E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	6.9E-06	mg/kg-day	NA	--	NA	1.9E-05	mg/kg-day	2.0E-03	mg/kg-day	1E-02
				Acenaphthylene	3.2E-01	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.8E+00	mg/kg	1.2E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-07	3.3E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.7E+00	mg/kg	1.2E-06	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	3.3E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	1.7E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	4.8E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.6E+00	mg/kg	8.2E-07	mg/kg-day	NA	--	NA	2.3E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.1E+00	mg/kg	6.6E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-08	1.8E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.8E+01	mg/kg	2.1E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-07	6.0E-05	mg/kg-day	2.0E-02	mg/kg-day	3E-03
				Carbazole	1.5E-01	mg/kg	4.7E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-01	mg/kg	1.4E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	3.9E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.1E-06	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+00	mg/kg	4.1E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.4E+00	mg/kg	7.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-07	2.1E-06	mg/kg-day	NA	--	NA
				Phenanthrene	4.4E+00	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	3.9E-06	mg/kg-day	NA	--	NA
				Dieldrin	1.0E+01	mg/kg	3.1E-06	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	5E-05	8.8E-06	mg/kg-day	5.0E-05	mg/kg-day	2E-01
				4,4'-DDE	5.6E+01	mg/kg	1.8E-05	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	6E-06	4.9E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.9E-03	mg/kg	6.0E-10	mg/kg-day	NA	--	NA	1.7E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	8.0E-01	mg/kg	2.5E-07	mg/kg-day	NA	--	NA	7.0E-07	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.8E+00	mg/kg	5.7E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	1.6E-06	mg/kg-day	1.3E-05	mg/kg-day	1E-01
				Total PCB Aroclors	4.1E+01	mg/kg	1.3E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	3.6E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				Aluminum	1.7E+04	mg/kg	5.4E-03	mg/kg-day	NA	--	NA	1.5E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Antimony	4.6E+00	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	4.1E-06	mg/kg-day	4.0E-04	mg/kg-day	1E-02
				Arsenic	2.0E+01	mg/kg	6.3E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	1.8E-05	mg/kg-day	3.0E-04	mg/kg-day	6E-02
				Cadmium	1.5E+01	mg/kg	4.7E-06	mg/kg-day	NA	--	NA	1.3E-05	mg/kg-day	1.0E-03	mg/kg-day	1E-02
				Cobalt	1.4E+01	mg/kg	4.4E-06	mg/kg-day	NA	--	NA	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Copper	2.3E+02	mg/kg	7.2E-05	mg/kg-day	NA	--	NA	2.0E-04	mg/kg-day	4.0E-02	mg/kg-day	5E-03
				Iron	3.4E+04	mg/kg	1.1E-02	mg/kg-day	NA	--	NA	3.0E-02	mg/kg-day	7.0E-01	mg/kg-day	4E-02
				Lead	2.6E+02	mg/kg	8.1E-05	mg/kg-day	NA	--	NA	2.3E-04	mg/kg-day	NA	--	NA
				Manganese	4.9E+02	mg/kg	1.6E-04	mg/kg-day	NA	--	NA	4.3E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Vanadium	5.1E+01	mg/kg	1.6E-05	mg/kg-day	NA	--	NA	4.5E-05	mg/kg-day	5.0E-03	mg/kg-day	9E-03
			Exposure Route Total								1E-04					2E+00

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Acenaphthylene	3.2E-01	mg/kg	8.6E-08	mg/kg-day	NA	--	NA	2.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.8E+00	mg/kg	1.0E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	2.9E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.7E+00	mg/kg	1.0E-06	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-06	2.8E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	1.5E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	4.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.6E+00	mg/kg	7.0E-07	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.1E+00	mg/kg	5.7E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-08	1.6E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.8E+01	mg/kg	1.4E-05	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-07	4.0E-05	mg/kg-day	2.0E-02	mg/kg-day	2E-03
				Carbazole	1.5E-01	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	8.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-01	mg/kg	1.2E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	3.3E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	7.5E-07	mg/kg-day	NA	--	NA	2.1E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+00	mg/kg	2.7E-07	mg/kg-day	NA	--	NA	7.6E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.4E+00	mg/kg	6.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	1.8E-06	mg/kg-day	NA	--	NA
				Phenanthrene	4.4E+00	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	3.3E-06	mg/kg-day	NA	--	NA
				Dieldrin	1.0E+01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	3.5E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	9.8E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.9E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	8.0E-01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	1.8E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	4.1E+01	mg/kg	1.2E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	3.3E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				Aluminum	1.7E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	4.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	2.0E+01	mg/kg	1.2E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	3.5E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	1.5E+01	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	8.7E-08	mg/kg-day	2.5E-05	mg/kg-day	3E-03
				Cobalt	1.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	2.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	3.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	5.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								4E-05					2E+00

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	1.6E-05	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Acenaphthylene	2.3E-07	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Benzo(a)anthracene	2.8E-06	µg/m^3	2.0E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	5.7E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.7E-06	µg/m^3	2.0E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-10	5.5E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.9E-06	µg/m^3	2.9E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	8.0E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.9E-06	µg/m^3	1.4E-07	µg/m^3	NA	--	NA	3.9E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.5E-06	µg/m^3	1.1E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	3.1E-07	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	4.9E-05	µg/m^3	3.6E-06	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	9E-12	1.0E-05	µg/m^3	NA	--	NA
				Carbazole	1.1E-07	µg/m^3	8.0E-09	µg/m^3	NA	--	NA	2.2E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-07	µg/m^3	2.3E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-11	6.6E-08	µg/m^3	NA	--	NA
				Dimethyl phthalate	2.6E-06	µg/m^3	1.9E-07	µg/m^3	NA	--	NA	5.4E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	9.4E-07	µg/m^3	6.9E-08	µg/m^3	NA	--	NA	1.9E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-06	µg/m^3	1.3E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	3.6E-07	µg/m^3	NA	--	NA
				Phenanthrene	3.2E-06	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Dieldrin	7.2E-06	µg/m^3	5.3E-07	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	2E-09	1.5E-06	µg/m^3	NA	--	NA
				4,4'-DDE	4.1E-05	µg/m^3	3.0E-06	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	3E-10	8.3E-06	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.4E-09	µg/m^3	1.0E-10	µg/m^3	NA	--	NA	2.8E-10	µg/m^3	NA	--	NA
				Endrin aldehyde	5.8E-07	µg/m^3	4.3E-08	µg/m^3	NA	--	NA	1.2E-07	µg/m^3	NA	--	NA
				Heptachlor epoxide	1.3E-06	µg/m^3	9.6E-08	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	2E-10	2.7E-07	µg/m^3	NA	--	NA
				Total PCB Aroclors	3.0E-05	µg/m^3	2.2E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-10	6.1E-06	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	9.1E-04	µg/m^3	NA	--	NA	2.6E-03	µg/m^3	5.0E+00	µg/m^3	5E-04
				Antimony	3.3E-06	µg/m^3	2.4E-07	µg/m^3	NA	--	NA	6.8E-07	µg/m^3	NA	--	NA
				Arsenic	1.4E-05	µg/m^3	1.1E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	5E-09	3.0E-06	µg/m^3	1.5E-02	µg/m^3	2E-04
				Cadmium	1.1E-05	µg/m^3	8.0E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	1E-09	2.2E-06	µg/m^3	2.0E-02	µg/m^3	1E-04
				Cobalt	1.0E-05	µg/m^3	7.4E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	7E-09	2.1E-06	µg/m^3	6.0E-03	µg/m^3	3E-04
				Copper	1.7E-04	µg/m^3	1.2E-05	µg/m^3	NA	--	NA	3.4E-05	µg/m^3	NA	--	NA
				Iron	2.5E-02	µg/m^3	1.8E-03	µg/m^3	NA	--	NA	5.1E-03	µg/m^3	NA	--	NA
				Lead	1.9E-04	µg/m^3	1.4E-05	µg/m^3	NA	--	NA	3.8E-05	µg/m^3	NA	--	NA
				Manganese	3.6E-04	µg/m^3	2.6E-05	µg/m^3	NA	--	NA	7.3E-05	µg/m^3	5.0E-02	µg/m^3	1E-03
				Vanadium	3.7E-05	µg/m^3	2.7E-06	µg/m^3	NA	--	NA	7.6E-06	µg/m^3	NA	--	NA
			Exposure Route Total								2E-08					3E-03
		Exposure Point Total									1E-04					4E+00
	Total of Receptor Risks Across Medium										1E-04					4E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.12.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	1.8E-06	mg/kg-day	NA	--	NA	1.9E-05	mg/kg-day	2.0E-03	mg/kg-day	1E-02
				Acenaphthylene	3.2E-01	mg/kg	2.7E-08	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.8E+00	mg/kg	3.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	3.3E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.7E+00	mg/kg	3.1E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	3.3E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	4.5E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	4.8E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.6E+00	mg/kg	2.2E-07	mg/kg-day	NA	--	NA	2.3E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.1E+00	mg/kg	1.7E-07	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-08	1.8E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.8E+01	mg/kg	5.6E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	8E-08	6.0E-05	mg/kg-day	2.0E-02	mg/kg-day	3E-03
				Carbazole	1.5E-01	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-01	mg/kg	3.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	3.9E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	3.0E-07	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+00	mg/kg	1.1E-07	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.4E+00	mg/kg	2.0E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	2.1E-06	mg/kg-day	NA	--	NA
				Phenanthrene	4.4E+00	mg/kg	3.7E-07	mg/kg-day	NA	--	NA	3.9E-06	mg/kg-day	NA	--	NA
				Dieldrin	1.0E+01	mg/kg	8.3E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-05	8.8E-06	mg/kg-day	5.0E-05	mg/kg-day	2E-01
				4,4'-DDE	5.6E+01	mg/kg	4.6E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	4.9E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.9E-03	mg/kg	1.6E-10	mg/kg-day	NA	--	NA	1.7E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	8.0E-01	mg/kg	6.6E-08	mg/kg-day	NA	--	NA	7.0E-07	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.8E+00	mg/kg	1.5E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	1.6E-06	mg/kg-day	1.3E-05	mg/kg-day	1E-01
				Total PCB Aroclors	4.1E+01	mg/kg	3.4E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-06	3.6E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				Aluminum	1.7E+04	mg/kg	1.4E-03	mg/kg-day	NA	--	NA	1.5E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Antimony	4.6E+00	mg/kg	3.8E-07	mg/kg-day	NA	--	NA	4.1E-06	mg/kg-day	4.0E-04	mg/kg-day	1E-02
				Arsenic	2.0E+01	mg/kg	1.7E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.8E-05	mg/kg-day	3.0E-04	mg/kg-day	6E-02
				Cadmium	1.5E+01	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	1.3E-05	mg/kg-day	1.0E-03	mg/kg-day	1E-02
				Cobalt	1.4E+01	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Copper	2.3E+02	mg/kg	1.9E-05	mg/kg-day	NA	--	NA	2.0E-04	mg/kg-day	4.0E-02	mg/kg-day	5E-03
				Iron	3.4E+04	mg/kg	2.8E-03	mg/kg-day	NA	--	NA	3.0E-02	mg/kg-day	7.0E-01	mg/kg-day	4E-02
				Lead	2.6E+02	mg/kg	2.1E-05	mg/kg-day	NA	--	NA	2.3E-04	mg/kg-day	NA	--	NA
				Manganese	4.9E+02	mg/kg	4.1E-05	mg/kg-day	NA	--	NA	4.3E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Vanadium	5.1E+01	mg/kg	4.2E-06	mg/kg-day	NA	--	NA	4.5E-05	mg/kg-day	5.0E-03	mg/kg-day	9E-03
			Exposure Route Total								3E-05					2E+00

TABLE 7.12.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-03	mg/kg-day	--
				Acenaphthylene	3.2E-01	mg/kg	2.3E-09	mg/kg-day	NA	--	NA	2.4E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	3.8E+00	mg/kg	2.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.7E+00	mg/kg	2.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	5.4E+00	mg/kg	3.8E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	4.1E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.6E+00	mg/kg	1.9E-08	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.1E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-09	1.6E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	6.8E+01	mg/kg	3.7E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	5E-09	4.0E-06	mg/kg-day	2.0E-02	mg/kg-day	2E-04
				Carbazole	1.5E-01	mg/kg	8.2E-10	mg/kg-day	NA	--	NA	8.7E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-01	mg/kg	3.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	3.3E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	2.1E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.3E+00	mg/kg	7.1E-09	mg/kg-day	NA	--	NA	7.6E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.4E+00	mg/kg	1.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.8E-07	mg/kg-day	NA	--	NA
				Phenanthrene	4.4E+00	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	3.3E-07	mg/kg-day	NA	--	NA
				Dieldrin	1.0E+01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	5.0E-05	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	9.2E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	9.8E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	1.9E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	8.0E-01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	1.8E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	4.1E+01	mg/kg	3.1E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	3.3E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				Aluminum	1.7E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	4.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	2.0E+01	mg/kg	3.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	3.5E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cadmium	1.5E+01	mg/kg	8.2E-10	mg/kg-day	NA	--	NA	8.7E-09	mg/kg-day	2.5E-05	mg/kg-day	3E-04
				Cobalt	1.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Copper	2.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	3.4E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	5.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								1E-06					2E-01

TABLE 7.12.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	1.6E-05	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Acenaphthylene	2.3E-07	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Benzo(a)anthracene	2.8E-06	µg/m^3	4.0E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-12	4.2E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.7E-06	µg/m^3	3.9E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	4E-11	4.1E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.9E-06	µg/m^3	5.7E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-12	6.0E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.9E-06	µg/m^3	2.7E-08	µg/m^3	NA	--	NA	2.9E-07	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.5E-06	µg/m^3	2.2E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-12	2.3E-07	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	4.9E-05	µg/m^3	7.2E-07	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	2E-12	7.6E-06	µg/m^3	NA	--	NA
				Carbazole	1.1E-07	µg/m^3	1.6E-09	µg/m^3	NA	--	NA	1.7E-08	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-07	µg/m^3	4.6E-09	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	6E-12	4.9E-08	µg/m^3	NA	--	NA
				Dimethyl phthalate	2.6E-06	µg/m^3	3.8E-08	µg/m^3	NA	--	NA	4.0E-07	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	9.4E-07	µg/m^3	1.4E-08	µg/m^3	NA	--	NA	1.5E-07	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-06	µg/m^3	2.5E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-12	2.7E-07	µg/m^3	NA	--	NA
				Phenanthrene	3.2E-06	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Dieldrin	7.2E-06	µg/m^3	1.1E-07	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	5E-10	1.1E-06	µg/m^3	NA	--	NA
				4,4'-DDE	4.1E-05	µg/m^3	5.9E-07	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	6E-11	6.3E-06	µg/m^3	NA	--	NA
				Endosulfan sulfate	1.4E-09	µg/m^3	2.0E-11	µg/m^3	NA	--	NA	2.1E-10	µg/m^3	NA	--	NA
				Endrin aldehyde	5.8E-07	µg/m^3	8.4E-09	µg/m^3	NA	--	NA	8.9E-08	µg/m^3	NA	--	NA
				Heptachlor epoxide	1.3E-06	µg/m^3	1.9E-08	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	5E-11	2.0E-07	µg/m^3	NA	--	NA
				Total PCB Aroclors	3.0E-05	µg/m^3	4.3E-07	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	4E-11	4.6E-06	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	1.8E-04	µg/m^3	NA	--	NA	1.9E-03	µg/m^3	5.0E+00	µg/m^3	4E-04
				Antimony	3.3E-06	µg/m^3	4.8E-08	µg/m^3	NA	--	NA	5.1E-07	µg/m^3	NA	--	NA
				Arsenic	1.4E-05	µg/m^3	2.1E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	9E-10	2.2E-06	µg/m^3	1.5E-02	µg/m^3	1E-04
				Cadmium	1.1E-05	µg/m^3	1.6E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	3E-10	1.7E-06	µg/m^3	2.0E-02	µg/m^3	8E-05
				Cobalt	1.0E-05	µg/m^3	1.5E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	1E-09	1.6E-06	µg/m^3	6.0E-03	µg/m^3	3E-04
				Copper	1.7E-04	µg/m^3	2.4E-06	µg/m^3	NA	--	NA	2.6E-05	µg/m^3	NA	--	NA
				Iron	2.5E-02	µg/m^3	3.6E-04	µg/m^3	NA	--	NA	3.8E-03	µg/m^3	NA	--	NA
				Lead	1.9E-04	µg/m^3	2.7E-06	µg/m^3	NA	--	NA	2.9E-05	µg/m^3	NA	--	NA
				Manganese	3.6E-04	µg/m^3	5.2E-06	µg/m^3	NA	--	NA	5.5E-05	µg/m^3	5.0E-02	µg/m^3	1E-03
				Vanadium	3.7E-05	µg/m^3	5.4E-07	µg/m^3	NA	--	NA	5.7E-06	µg/m^3	NA	--	NA
			Exposure Route Total								3E-09					2E-03
		Exposure Point Total									3E-05					2E+00
	Total of Receptor Risks Across Medium										3E-05					2E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB6	Ingestion	Acenaphthylene	1.1E-02	mg/kg	3.5E-09	mg/kg-day	NA	--	NA	9.7E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	6.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	1.8E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	3.5E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	9.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	7.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	2.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	2.1E-07	mg/kg-day	NA	--	NA	6.0E-07	mg/kg-day	NA	--	NA
				Carbazole	3.9E-02	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	3.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.0E-01	mg/kg	6.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.8E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	3.7E-08	mg/kg-day	NA	--	NA	1.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	4.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.2E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	6.3E-07	mg/kg-day	NA	--	NA	1.8E-06	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	3.5E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	1.9E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	5.5E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				Aluminum	1.6E+04	mg/kg	5.1E-03	mg/kg-day	NA	--	NA	1.4E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	2.5E+00	mg/kg	7.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	2.2E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Cadmium	6.1E+00	mg/kg	1.9E-06	mg/kg-day	NA	--	NA	5.4E-06	mg/kg-day	1.0E-03	mg/kg-day	5E-03
				Cobalt	7.3E+00	mg/kg	2.3E-06	mg/kg-day	NA	--	NA	6.4E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cyanide	3.4E+00	mg/kg	1.1E-06	mg/kg-day	NA	--	NA	3.0E-06	mg/kg-day	6.0E-04	mg/kg-day	5E-03
				Iron	2.5E+04	mg/kg	7.9E-03	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Manganese	6.2E+02	mg/kg	1.9E-04	mg/kg-day	NA	--	NA	5.4E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
			Exposure Route Total								4E-05					3E+00
Floodplain Soil	Surface Soil	EU BB6	Dermal	Acenaphthylene	1.1E-02	mg/kg	3.0E-09	mg/kg-day	NA	--	NA	8.3E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	5.4E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	3.0E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	8.3E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	6.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	5.1E-07	mg/kg-day	NA	--	NA
				Carbazole	3.9E-02	mg/kg	8.1E-09	mg/kg-day	NA	--	NA	2.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.0E-01	mg/kg	5.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.5E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	6.9E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	3.8E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.1E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	5.4E-07	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.2E+01	mg/kg	1.8E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	5.0E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.5E+00	mg/kg	1.6E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	4.4E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cadmium	6.1E+00	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	3.5E-08	mg/kg-day	2.5E-05	mg/kg-day	1E-03
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Cyanide	3.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	6.2E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								4E-05					3E+00

TABLE 7.12.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB6	Inhalation	Acenaphthylene	8.0E-09	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.4E-06	µg/m^3	1.1E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	3.0E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	8.0E-07	µg/m^3	5.8E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	6E-11	1.6E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.7E-06	µg/m^3	1.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	3.4E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.9E-07	µg/m^3	3.6E-08	µg/m^3	NA	--	NA	1.0E-07	µg/m^3	NA	--	NA
				Carbazole	2.8E-08	µg/m^3	2.1E-09	µg/m^3	NA	--	NA	5.8E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.4E-07	µg/m^3	1.1E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-11	3.0E-08	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.6E-08	µg/m^3	6.3E-09	µg/m^3	NA	--	NA	1.8E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.0E-06	µg/m^3	7.4E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-12	2.1E-07	µg/m^3	NA	--	NA
				Phenanthrene	1.4E-06	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Endrin ketone	2.9E-09	µg/m^3	2.1E-10	µg/m^3	NA	--	NA	6.0E-10	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.5E-05	µg/m^3	3.3E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	3E-10	9.2E-06	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	8.6E-04	µg/m^3	NA	--	NA	2.4E-03	µg/m^3	5.0E+00	µg/m^3	5E-04
				Arsenic	1.8E-06	µg/m^3	1.3E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	6E-10	3.7E-07	µg/m^3	1.5E-02	µg/m^3	2E-05
				Cadmium	4.4E-06	µg/m^3	3.2E-07	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	6E-10	9.1E-07	µg/m^3	2.0E-02	µg/m^3	5E-05
				Cobalt	5.3E-06	µg/m^3	3.9E-07	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-09	1.1E-06	µg/m^3	6.0E-03	µg/m^3	2E-04
				Cyanide	2.5E-06	µg/m^3	1.8E-07	µg/m^3	NA	--	NA	5.1E-07	µg/m^3	NA	--	NA
				Iron	1.8E-02	µg/m^3	1.3E-03	µg/m^3	NA	--	NA	3.7E-03	µg/m^3	NA	--	NA
				Manganese	4.5E-04	µg/m^3	3.3E-05	µg/m^3	NA	--	NA	9.2E-05	µg/m^3	5.0E-02	µg/m^3	2E-03
			Exposure Route Total								5E-09					3E-03
		Exposure Point Total									8E-05					5E+00
	Total of Receptor Risks Across Medium										8E-05					5E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.12.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB6	Ingestion	Acenaphthylene	1.1E-02	mg/kg	9.1E-10	mg/kg-day	NA	--	NA	9.7E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	1.7E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	1.8E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	9.1E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	9.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	1.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	2.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	5.6E-08	mg/kg-day	NA	--	NA	6.0E-07	mg/kg-day	NA	--	NA
				Carbazole	3.9E-02	mg/kg	3.2E-09	mg/kg-day	NA	--	NA	3.4E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.0E-01	mg/kg	1.7E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.8E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	9.8E-09	mg/kg-day	NA	--	NA	1.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	1.2E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	1.2E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	1.7E-07	mg/kg-day	NA	--	NA	1.8E-06	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	3.3E-10	mg/kg-day	NA	--	NA	3.5E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	5.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	5.5E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				Aluminum	1.6E+04	mg/kg	1.3E-03	mg/kg-day	NA	--	NA	1.4E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	2.5E+00	mg/kg	2.1E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	2.2E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Cadmium	6.1E+00	mg/kg	5.1E-07	mg/kg-day	NA	--	NA	5.4E-06	mg/kg-day	1.0E-03	mg/kg-day	5E-03
				Cobalt	7.3E+00	mg/kg	6.1E-07	mg/kg-day	NA	--	NA	6.4E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cyanide	3.4E+00	mg/kg	2.8E-07	mg/kg-day	NA	--	NA	3.0E-06	mg/kg-day	6.0E-04	mg/kg-day	5E-03
				Iron	2.5E+04	mg/kg	2.1E-03	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Manganese	6.2E+02	mg/kg	5.1E-05	mg/kg-day	NA	--	NA	5.4E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
			Exposure Route Total								1E-05					3E+00
Floodplain Soil	Surface Soil	EU BB6	Dermal	Acenaphthylene	1.1E-02	mg/kg	7.8E-11	mg/kg-day	NA	--	NA	8.3E-10	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.0E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	7.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	8.3E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.3E+00	mg/kg	1.6E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.7E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.8E-01	mg/kg	4.8E-09	mg/kg-day	NA	--	NA	5.1E-08	mg/kg-day	NA	--	NA
				Carbazole	3.9E-02	mg/kg	2.1E-10	mg/kg-day	NA	--	NA	2.3E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.0E-01	mg/kg	1.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.5E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	6.5E-10	mg/kg-day	NA	--	NA	6.9E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.4E+00	mg/kg	1.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	1.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.0E+00	mg/kg	1.4E-08	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.2E+01	mg/kg	4.8E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	5.0E-06	mg/kg-day	2.0E-05	mg/kg-day	3E-01
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.5E+00	mg/kg	4.1E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	4.4E-08	mg/kg-day	3.0E-04	mg/kg-day	1E-04
				Cadmium	6.1E+00	mg/kg	3.3E-10	mg/kg-day	NA	--	NA	3.5E-09	mg/kg-day	2.5E-05	mg/kg-day	1E-04
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-04	mg/kg-day	--
				Cyanide	3.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	6.2E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								1E-06					3E-01

TABLE 7.12.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	Surface Soil	EU BB6	Inhalation	Acenaphthylene	8.0E-09	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.4E-06	µg/m^3	2.1E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-12	2.2E-07	µg/m^3	NA	--	NA
				Benzo(a)pyrene	8.0E-07	µg/m^3	1.2E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-11	1.2E-07	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.7E-06	µg/m^3	2.4E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-12	2.6E-07	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	4.9E-07	µg/m^3	7.2E-09	µg/m^3	NA	--	NA	7.6E-08	µg/m^3	NA	--	NA
				Carbazole	2.8E-08	µg/m^3	4.1E-10	µg/m^3	NA	--	NA	4.4E-09	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.4E-07	µg/m^3	2.1E-09	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-12	2.2E-08	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.6E-08	µg/m^3	1.2E-09	µg/m^3	NA	--	NA	1.3E-08	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.0E-06	µg/m^3	1.5E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-12	1.6E-07	µg/m^3	NA	--	NA
				Phenanthrene	1.4E-06	µg/m^3	N/A	µg/m^3	NA	--	--	N/A	µg/m^3	NA	--	--
				Endrin ketone	2.9E-09	µg/m^3	4.2E-11	µg/m^3	NA	--	NA	4.5E-10	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.5E-05	µg/m^3	6.5E-07	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	7E-11	6.9E-06	µg/m^3	NA	--	NA
				Aluminum	1.2E-02	µg/m^3	1.7E-04	µg/m^3	NA	--	NA	1.8E-03	µg/m^3	5.0E+00	µg/m^3	4E-04
				Arsenic	1.8E-06	µg/m^3	2.6E-08	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	1E-10	2.8E-07	µg/m^3	1.5E-02	µg/m^3	2E-05
				Cadmium	4.4E-06	µg/m^3	6.4E-08	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	1E-10	6.8E-07	µg/m^3	2.0E-02	µg/m^3	3E-05
				Cobalt	5.3E-06	µg/m^3	7.7E-08	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	7E-10	8.2E-07	µg/m^3	6.0E-03	µg/m^3	1E-04
				Cyanide	2.5E-06	µg/m^3	3.6E-08	µg/m^3	NA	--	NA	3.8E-07	µg/m^3	NA	--	NA
				Iron	1.8E-02	µg/m^3	2.6E-04	µg/m^3	NA	--	NA	2.8E-03	µg/m^3	NA	--	NA
				Manganese	4.5E-04	µg/m^3	6.5E-06	µg/m^3	NA	--	NA	6.9E-05	µg/m^3	5.0E-02	µg/m^3	1E-03
			Exposure Route Total								1E-09					2E-03
		Exposure Point Total									1E-05					3E+00
	Total of Receptor Risks Across Medium										1E-05					3E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU GB	Ingestion	Acenaphthylene	2.0E-01	mg/kg	2.2E-09	mg/kg-day	NA	--	NA	1.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.5E-01	mg/kg	8.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	5.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	7.8E-01	mg/kg	8.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	6.0E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.1E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-09	8.9E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.5E-01	mg/kg	4.9E-09	mg/kg-day	NA	--	NA	3.4E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	3.2E-09	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-01	mg/kg	3.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	2.5E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.8E-01	mg/kg	5.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.8E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.6E-01	mg/kg	9.6E-09	mg/kg-day	NA	--	NA	6.7E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.3E-02	mg/kg	5.9E-10	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-09	4.1E-08	mg/kg-day	6.0E-05	mg/kg-day	7E-04
				Aluminum	2.2E+04	mg/kg	2.4E-04	mg/kg-day	NA	--	NA	1.7E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Arsenic	5.7E+00	mg/kg	6.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	4.4E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cobalt	1.2E+01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	9.3E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Iron	3.0E+04	mg/kg	3.3E-04	mg/kg-day	NA	--	NA	2.3E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Manganese	6.4E+02	mg/kg	7.1E-06	mg/kg-day	NA	--	NA	5.0E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Mercury	2.2E+00	mg/kg	2.5E-08	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Vanadium	4.8E+01	mg/kg	5.3E-07	mg/kg-day	NA	--	NA	3.7E-05	mg/kg-day	5.0E-03	mg/kg-day	7E-03
			Exposure Route Total								2E-07					1E-01
Floodplain Soil	All Soil	EU GB	Dermal	Acenaphthylene	2.0E-01	mg/kg	8.6E-10	mg/kg-day	NA	--	NA	6.0E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.5E-01	mg/kg	3.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	2.3E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	7.8E-01	mg/kg	3.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.4E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.1E+00	mg/kg	5.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.5E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.5E-01	mg/kg	1.9E-09	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	9.6E-10	mg/kg-day	NA	--	NA	6.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-01	mg/kg	1.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	9.7E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.8E-01	mg/kg	2.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.6E-01	mg/kg	3.7E-09	mg/kg-day	NA	--	NA	2.6E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.3E-02	mg/kg	2.5E-10	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-10	1.7E-08	mg/kg-day	6.0E-05	mg/kg-day	3E-04
				Aluminum	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	5.7E+00	mg/kg	5.7E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-09	4.0E-07	mg/kg-day	3.0E-04	mg/kg-day	1E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	3.0E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	6.4E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.2E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Vanadium	4.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-08					2E-03

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU GB	Inhalation	Acenaphthylene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Benzo(a)anthracene	1.0E-03	$\mu g/m^3$	8.1E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	9E-11	2.5E-04	$\mu g/m^3$	NA	--	NA
				Benzo(a)pyrene	1.1E-03	$\mu g/m^3$	8.4E-07	$\mu g/m^3$	1.1E-03	$(\mu g/m^3)^{-1}$	9E-10	2.6E-04	$\mu g/m^3$	NA	--	NA
				Benzo(b)fluoranthene	1.5E-03	$\mu g/m^3$	1.2E-06	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	1E-10	3.7E-04	$\mu g/m^3$	NA	--	NA
				Benzo(g,h,i)perylene	6.2E-04	$\mu g/m^3$	4.8E-07	$\mu g/m^3$	NA	--	NA	1.5E-04	$\mu g/m^3$	NA	--	NA
				Carbazole	4.4E-04	$\mu g/m^3$	3.4E-07	$\mu g/m^3$	NA	--	NA	1.1E-04	$\mu g/m^3$	NA	--	NA
				Dibenzo(a,h)anthracene	2.3E-04	$\mu g/m^3$	1.8E-07	$\mu g/m^3$	1.2E-03	$(\mu g/m^3)^{-1}$	2E-10	5.7E-05	$\mu g/m^3$	NA	--	NA
				Indeno(1,2,3-cd)pyrene	6.6E-04	$\mu g/m^3$	5.2E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	6E-11	1.6E-04	$\mu g/m^3$	NA	--	NA
				Phenanthrene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Total PCB Aroclors	7.3E-05	$\mu g/m^3$	5.7E-08	$\mu g/m^3$	1.0E-04	$(\mu g/m^3)^{-1}$	6E-12	1.8E-05	$\mu g/m^3$	NA	--	NA
				Aluminum	3.0E+01	$\mu g/m^3$	2.3E-02	$\mu g/m^3$	NA	--	NA	7.3E+00	$\mu g/m^3$	5.0E+00	$\mu g/m^3$	1E+00
				Arsenic	7.8E-03	$\mu g/m^3$	6.1E-06	$\mu g/m^3$	4.3E-03	$(\mu g/m^3)^{-1}$	3E-08	1.9E-03	$\mu g/m^3$	1.5E-02	$\mu g/m^3$	1E-01
				Cobalt	1.7E-02	$\mu g/m^3$	1.3E-05	$\mu g/m^3$	9.0E-03	$(\mu g/m^3)^{-1}$	1E-07	4.0E-03	$\mu g/m^3$	6.0E-03	$\mu g/m^3$	7E-01
				Iron	4.1E+01	$\mu g/m^3$	3.2E-02	$\mu g/m^3$	NA	--	NA	1.0E+01	$\mu g/m^3$	NA	--	NA
				Manganese	8.8E-01	$\mu g/m^3$	6.9E-04	$\mu g/m^3$	NA	--	NA	2.2E-01	$\mu g/m^3$	5.0E-02	$\mu g/m^3$	4E+00
				Mercury	3.0E-03	$\mu g/m^3$	2.4E-06	$\mu g/m^3$	NA	--	NA	7.4E-04	$\mu g/m^3$	3.0E-02	$\mu g/m^3$	2E-02
				Vanadium	6.6E-02	$\mu g/m^3$	5.2E-05	$\mu g/m^3$	NA	--	NA	1.6E-02	$\mu g/m^3$	NA	--	NA
			Exposure Route Total								1E-07					7E+00
		Exposure Point Total									4E-07					7E+00
	Total of Receptor Risks Across Medium										4E-07					7E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU GB	Ingestion	Acenaphthylene	2.0E-01	mg/kg	7.4E-10	mg/kg-day	NA	--	NA	5.2E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.5E-01	mg/kg	2.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.9E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	7.8E-01	mg/kg	2.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.1E+00	mg/kg	4.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	3.0E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.5E-01	mg/kg	1.6E-09	mg/kg-day	NA	--	NA	1.1E-07	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	7.5E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-01	mg/kg	1.2E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-09	8.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.8E-01	mg/kg	1.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.3E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.6E-01	mg/kg	3.2E-09	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.3E-02	mg/kg	2.0E-10	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-10	1.4E-08	mg/kg-day	6.0E-05	mg/kg-day	2E-04
				Aluminum	2.2E+04	mg/kg	8.0E-05	mg/kg-day	NA	--	NA	5.6E-03	mg/kg-day	1.0E+00	mg/kg-day	6E-03
				Arsenic	5.7E+00	mg/kg	2.1E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	1.5E-06	mg/kg-day	3.0E-04	mg/kg-day	5E-03
				Cobalt	1.2E+01	mg/kg	4.4E-08	mg/kg-day	NA	--	NA	3.1E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Iron	3.0E+04	mg/kg	1.1E-04	mg/kg-day	NA	--	NA	7.8E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Manganese	6.4E+02	mg/kg	2.4E-06	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	2.4E-02	mg/kg-day	7E-03
				Mercury	2.2E+00	mg/kg	8.2E-09	mg/kg-day	NA	--	NA	5.7E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Vanadium	4.8E+01	mg/kg	1.8E-07	mg/kg-day	NA	--	NA	1.2E-05	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								7E-08					3E-02
Floodplain Soil	All Soil	EU GB	Dermal	Acenaphthylene	2.0E-01	mg/kg	9.6E-11	mg/kg-day	NA	--	NA	6.7E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	7.5E-01	mg/kg	3.6E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-10	2.5E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	7.8E-01	mg/kg	3.7E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-09	2.6E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.1E+00	mg/kg	5.5E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-10	3.9E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.5E-01	mg/kg	2.1E-10	mg/kg-day	NA	--	NA	1.5E-08	mg/kg-day	NA	--	NA
				Carbazole	2.9E-01	mg/kg	1.1E-10	mg/kg-day	NA	--	NA	7.5E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	3.2E-01	mg/kg	1.5E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-09	1.1E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.8E-01	mg/kg	2.3E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-10	1.6E-08	mg/kg-day	NA	--	NA
				Phenanthrene	8.6E-01	mg/kg	4.1E-10	mg/kg-day	NA	--	NA	2.9E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.3E-02	mg/kg	2.7E-11	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-11	1.9E-09	mg/kg-day	6.0E-05	mg/kg-day	3E-05
				Aluminum	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	5.7E+00	mg/kg	6.3E-10	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-10	4.4E-08	mg/kg-day	3.0E-04	mg/kg-day	1E-04
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	3.0E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	6.4E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.2E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Vanadium	4.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								6E-09					2E-04

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU GB	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.0E-03	µg/m^3	2.0E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	2.0E-04	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.1E-03	µg/m^3	2.1E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-10	2.1E-04	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.5E-03	µg/m^3	3.0E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	2.9E-04	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	6.2E-04	µg/m^3	1.2E-07	µg/m^3	NA	--	NA	1.2E-04	µg/m^3	NA	--	NA
				Carbazole	4.0E-04	µg/m^3	7.8E-08	µg/m^3	NA	--	NA	7.7E-05	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	4.4E-04	µg/m^3	8.6E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	1E-10	8.5E-05	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	6.6E-04	µg/m^3	1.3E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	1.3E-04	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Total PCB Aroclors	7.3E-05	µg/m^3	1.4E-08	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-12	1.4E-05	µg/m^3	NA	--	NA
				Aluminum	3.0E+01	µg/m^3	5.8E-03	µg/m^3	NA	--	NA	5.7E+00	µg/m^3	5.0E+00	µg/m^3	1E+00
				Arsenic	7.8E-03	µg/m^3	1.5E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	7E-09	1.5E-03	µg/m^3	1.5E-02	µg/m^3	1E-01
				Cobalt	1.7E-02	µg/m^3	3.2E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-08	3.2E-03	µg/m^3	6.0E-03	µg/m^3	5E-01
				Iron	4.1E+01	µg/m^3	8.1E-03	µg/m^3	NA	--	NA	8.0E+00	µg/m^3	NA	--	NA
				Manganese	8.8E-01	µg/m^3	1.7E-04	µg/m^3	NA	--	NA	1.7E-01	µg/m^3	5.0E-02	µg/m^3	3E+00
				Mercury	3.0E-03	µg/m^3	5.9E-07	µg/m^3	NA	--	NA	5.8E-04	µg/m^3	3.0E-02	µg/m^3	2E-02
				Vanadium	6.6E-02	µg/m^3	1.3E-05	µg/m^3	NA	--	NA	1.3E-02	µg/m^3	NA	--	NA
			Exposure Route Total								4E-08					5E+00
		Exposure Point Total									1E-07					5E+00
	Total of Receptor Risks Across Medium										1E-07					5E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB1	Ingestion	Acenaphthylene	3.7E-02	mg/kg	4.1E-10	mg/kg-day	NA	--	NA	2.9E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.0E+00	mg/kg	1.2E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	8.1E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	1.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	8.7E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.2E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	9.6E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.1E-01	mg/kg	6.7E-09	mg/kg-day	NA	--	NA	4.7E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.1E+00	mg/kg	1.2E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	9E-10	8.2E-07	mg/kg-day	NA	--	NA
				Carbazole	4.6E-02	mg/kg	5.1E-10	mg/kg-day	NA	--	NA	3.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	2.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.7E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	9.2E+00	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	7.1E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	9.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-01	mg/kg	6.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	4.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.9E-01	mg/kg	9.8E-09	mg/kg-day	NA	--	NA	6.9E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	6.8E-11	mg/kg-day	NA	--	NA	4.7E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.5E-01	mg/kg	6.1E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	4.3E-07	mg/kg-day	6.0E-05	mg/kg-day	7E-03
				Aluminum	1.3E+04	mg/kg	1.5E-04	mg/kg-day	NA	--	NA	1.0E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	8.6E+00	mg/kg	9.5E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	6.7E-06	mg/kg-day	3.0E-04	mg/kg-day	2E-02
				Cobalt	1.2E+01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	9.0E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Iron	2.2E+04	mg/kg	2.5E-04	mg/kg-day	NA	--	NA	1.7E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	5.5E+02	mg/kg	6.1E-06	mg/kg-day	NA	--	NA	4.3E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Vanadium	4.3E+01	mg/kg	4.8E-07	mg/kg-day	NA	--	NA	3.4E-05	mg/kg-day	5.0E-03	mg/kg-day	7E-03
			Exposure Route Total								3E-07					9E-02
Floodplain Soil	All Soil	EU BB1	Dermal	Acenaphthylene	3.7E-02	mg/kg	1.6E-10	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.0E+00	mg/kg	4.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	3.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	4.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	3.4E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.2E+00	mg/kg	5.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.8E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.1E-01	mg/kg	2.6E-09	mg/kg-day	NA	--	NA	1.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.1E+00	mg/kg	4.6E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	3.2E-07	mg/kg-day	NA	--	NA
				Carbazole	4.6E-02	mg/kg	1.5E-10	mg/kg-day	NA	--	NA	1.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	9.5E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	6.7E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	9.2E+00	mg/kg	3.1E-08	mg/kg-day	NA	--	NA	2.1E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	4.0E-10	mg/kg-day	NA	--	NA	2.8E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-01	mg/kg	2.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.9E-01	mg/kg	3.8E-09	mg/kg-day	NA	--	NA	2.7E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	5.5E-01	mg/kg	2.6E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-09	1.8E-07	mg/kg-day	6.0E-05	mg/kg-day	3E-03
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.6E+00	mg/kg	8.6E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	6.0E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								7E-08					5E-03

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB1	Inhalation	Acenaphthylene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Benzo(a)anthracene	1.4E-03	$\mu g/m^3$	1.1E-06	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	1E-10	3.4E-04	$\mu g/m^3$	NA	--	NA
				Benzo(a)pyrene	1.5E-03	$\mu g/m^3$	1.2E-06	$\mu g/m^3$	1.1E-03	$(\mu g/m^3)^{-1}$	1E-09	3.7E-04	$\mu g/m^3$	NA	--	NA
				Benzo(b)fluoranthene	1.7E-03	$\mu g/m^3$	1.3E-06	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	1E-10	4.0E-04	$\mu g/m^3$	NA	--	NA
				Benzo(g,h,i)perylene	8.4E-04	$\mu g/m^3$	6.6E-07	$\mu g/m^3$	NA	--	NA	2.0E-04	$\mu g/m^3$	NA	--	NA
				Benzo(k)fluoranthene	1.5E-03	$\mu g/m^3$	1.2E-06	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	1E-10	3.7E-04	$\mu g/m^3$	NA	--	NA
				Carbazole	6.3E-05	$\mu g/m^3$	5.0E-08	$\mu g/m^3$	NA	--	NA	1.5E-05	$\mu g/m^3$	NA	--	NA
				Dibenzo(a,h)anthracene	3.0E-04	$\mu g/m^3$	2.4E-07	$\mu g/m^3$	1.2E-03	$(\mu g/m^3)^{-1}$	3E-10	7.4E-05	$\mu g/m^3$	NA	--	NA
				Dimethyl phthalate	1.3E-02	$\mu g/m^3$	9.9E-06	$\mu g/m^3$	NA	--	NA	3.1E-03	$\mu g/m^3$	NA	--	NA
				di-n-Octyl phthalate	1.7E-04	$\mu g/m^3$	1.3E-07	$\mu g/m^3$	NA	--	NA	4.0E-05	$\mu g/m^3$	NA	--	NA
				Indeno(1,2,3-cd)pyrene	7.8E-04	$\mu g/m^3$	6.1E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	7E-11	1.9E-04	$\mu g/m^3$	NA	--	NA
				Phenanthrene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Endrin aldehyde	8.4E-06	$\mu g/m^3$	6.6E-09	$\mu g/m^3$	NA	--	NA	2.0E-06	$\mu g/m^3$	NA	--	NA
				Total PCB Aroclors	7.6E-04	$\mu g/m^3$	5.9E-07	$\mu g/m^3$	1.0E-04	$(\mu g/m^3)^{-1}$	6E-11	1.8E-04	$\mu g/m^3$	NA	--	NA
				Aluminum	1.8E+01	$\mu g/m^3$	1.4E-02	$\mu g/m^3$	NA	--	NA	4.5E+00	$\mu g/m^3$	5.0E+00	$\mu g/m^3$	9E-01
				Arsenic	1.2E-02	$\mu g/m^3$	9.3E-06	$\mu g/m^3$	4.3E-03	$(\mu g/m^3)^{-1}$	4E-08	2.9E-03	$\mu g/m^3$	1.5E-02	$\mu g/m^3$	2E-01
				Cobalt	1.7E-02	$\mu g/m^3$	1.3E-05	$\mu g/m^3$	9.0E-03	$(\mu g/m^3)^{-1}$	1E-07	4.0E-03	$\mu g/m^3$	6.0E-03	$\mu g/m^3$	7E-01
				Iron	3.1E+01	$\mu g/m^3$	2.4E-02	$\mu g/m^3$	NA	--	NA	7.5E+00	$\mu g/m^3$	NA	--	NA
				Manganese	7.6E-01	$\mu g/m^3$	6.0E-04	$\mu g/m^3$	NA	--	NA	1.9E-01	$\mu g/m^3$	5.0E-02	$\mu g/m^3$	4E+00
				Vanadium	5.9E-02	$\mu g/m^3$	4.6E-05	$\mu g/m^3$	NA	--	NA	1.4E-02	$\mu g/m^3$	NA	--	NA
			Exposure Route Total								2E-07					5E+00
		Exposure Point Total									5E-07					6E+00
	Total of Receptor Risks Across Medium										5E-07					6E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB1	Ingestion	Acenaphthylene	3.7E-02	mg/kg	1.4E-10	mg/kg-day	NA	--	NA	9.6E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.0E+00	mg/kg	3.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	2.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	4.1E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	2.9E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.2E+00	mg/kg	4.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	3.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.1E-01	mg/kg	2.2E-09	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.1E+00	mg/kg	3.9E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	2.7E-07	mg/kg-day	NA	--	NA
				Carbazole	4.6E-02	mg/kg	1.7E-10	mg/kg-day	NA	--	NA	1.2E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	8.2E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	5.7E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	9.2E+00	mg/kg	3.4E-08	mg/kg-day	NA	--	NA	2.4E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	4.4E-10	mg/kg-day	NA	--	NA	3.1E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-01	mg/kg	2.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	8.9E-01	mg/kg	3.3E-09	mg/kg-day	NA	--	NA	2.3E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	2.3E-11	mg/kg-day	NA	--	NA	1.6E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.5E-01	mg/kg	2.0E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-09	1.4E-07	mg/kg-day	6.0E-05	mg/kg-day	2E-03
				Aluminum	1.3E+04	mg/kg	4.9E-05	mg/kg-day	NA	--	NA	3.4E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Arsenic	8.6E+00	mg/kg	3.2E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	2.2E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Cobalt	1.2E+01	mg/kg	4.3E-08	mg/kg-day	NA	--	NA	3.0E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Iron	2.2E+04	mg/kg	8.2E-05	mg/kg-day	NA	--	NA	5.8E-03	mg/kg-day	7.0E-01	mg/kg-day	8E-03
				Manganese	5.5E+02	mg/kg	2.0E-06	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
				Vanadium	4.3E+01	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								1E-07					3E-02
Floodplain Soil	All Soil	EU BB1	Dermal	Acenaphthylene	3.7E-02	mg/kg	1.8E-11	mg/kg-day	NA	--	NA	1.2E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.0E+00	mg/kg	5.0E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-10	3.5E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.1E+00	mg/kg	5.4E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-09	3.8E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	1.2E+00	mg/kg	6.0E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-10	4.2E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.1E-01	mg/kg	2.9E-10	mg/kg-day	NA	--	NA	2.0E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.1E+00	mg/kg	5.1E-10	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-11	3.6E-08	mg/kg-day	NA	--	NA
				Carbazole	4.6E-02	mg/kg	1.7E-11	mg/kg-day	NA	--	NA	1.2E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-01	mg/kg	1.1E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-10	7.4E-09	mg/kg-day	NA	--	NA
				Dimethyl phthalate	9.2E+00	mg/kg	3.4E-09	mg/kg-day	NA	--	NA	2.4E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E-01	mg/kg	4.4E-11	mg/kg-day	NA	--	NA	3.1E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	5.7E-01	mg/kg	2.7E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-10	1.9E-08	mg/kg-day	NA	--	NA
				Phenanthrene	8.9E-01	mg/kg	4.3E-10	mg/kg-day	NA	--	NA	3.0E-08	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.1E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	5.5E-01	mg/kg	2.8E-10	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-10	2.0E-08	mg/kg-day	6.0E-05	mg/kg-day	3E-04
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	8.6E+00	mg/kg	9.5E-10	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-09	6.7E-08	mg/kg-day	3.0E-04	mg/kg-day	2E-04
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	2.2E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								8E-09					6E-04

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB1	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	1.4E-03	µg/m^3	2.7E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	2.6E-04	µg/m^3	NA	--	NA
				Benzo(a)pyrene	1.5E-03	µg/m^3	3.0E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	3E-10	2.9E-04	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.7E-03	µg/m^3	3.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	3.2E-04	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	8.4E-04	µg/m^3	1.6E-07	µg/m^3	NA	--	NA	1.6E-04	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.5E-03	µg/m^3	3.0E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	2.9E-04	µg/m^3	NA	--	NA
				Carbazole	6.3E-05	µg/m^3	1.2E-08	µg/m^3	NA	--	NA	1.2E-05	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.0E-04	µg/m^3	5.9E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	7E-11	5.8E-05	µg/m^3	NA	--	NA
				Dimethyl phthalate	1.3E-02	µg/m^3	2.5E-06	µg/m^3	NA	--	NA	2.4E-03	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	1.7E-04	µg/m^3	3.2E-08	µg/m^3	NA	--	NA	3.2E-05	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	7.8E-04	µg/m^3	1.5E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	1.5E-04	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	8.4E-06	µg/m^3	1.6E-09	µg/m^3	NA	--	NA	1.6E-06	µg/m^3	NA	--	NA
				Total PCB Aroclors	7.6E-04	µg/m^3	1.5E-07	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-11	1.5E-04	µg/m^3	NA	--	NA
				Aluminum	1.8E+01	µg/m^3	3.6E-03	µg/m^3	NA	--	NA	3.5E+00	µg/m^3	5.0E+00	µg/m^3	7E-01
				Arsenic	1.2E-02	µg/m^3	2.3E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	1E-08	2.3E-03	µg/m^3	1.5E-02	µg/m^3	2E-01
				Cobalt	1.7E-02	µg/m^3	3.2E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-08	3.2E-03	µg/m^3	6.0E-03	µg/m^3	5E-01
				Iron	3.1E+01	µg/m^3	6.0E-03	µg/m^3	NA	--	NA	5.9E+00	µg/m^3	NA	--	NA
				Manganese	7.6E-01	µg/m^3	1.5E-04	µg/m^3	NA	--	NA	1.5E-01	µg/m^3	5.0E-02	µg/m^3	3E+00
				Vanadium	5.9E-02	µg/m^3	1.2E-05	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	NA	--	NA
			Exposure Route Total								4E-08					4E+00
		Exposure Point Total									1E-07					4E+00
	Total of Receptor Risks Across Medium										1E-07					4E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB2	Ingestion	Acenaphthylene	2.4E-02	mg/kg	2.7E-10	mg/kg-day	NA	--	NA	1.9E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	3.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	2.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	3.7E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	2.6E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	4.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	3.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	2.8E-09	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	2.8E-10	mg/kg-day	NA	--	NA	1.9E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	8.5E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	6.0E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	2.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.8E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	3.2E-09	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	6.1E-11	mg/kg-day	NA	--	NA	4.3E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	8.3E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	5.8E-07	mg/kg-day	6.0E-05	mg/kg-day	1E-02
				Aluminum	1.3E+04	mg/kg	1.5E-04	mg/kg-day	NA	--	NA	1.0E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	1.2E+01	mg/kg	1.3E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	9.3E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-02
				Cobalt	5.6E+00	mg/kg	6.2E-08	mg/kg-day	NA	--	NA	4.3E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Iron	1.6E+04	mg/kg	1.7E-04	mg/kg-day	NA	--	NA	1.2E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Manganese	4.9E+02	mg/kg	5.4E-06	mg/kg-day	NA	--	NA	3.8E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
			Exposure Route Total								3E-07					9E-02
Floodplain Soil	All Soil	EU BB2	Dermal	Acenaphthylene	2.4E-02	mg/kg	1.0E-10	mg/kg-day	NA	--	NA	7.3E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	1.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-10	8.8E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	1.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.0E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	1.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	7.6E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	8.3E-11	mg/kg-day	NA	--	NA	5.8E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	3.3E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	2.3E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	9.9E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-10	7.0E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	8.8E-08	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	7.5E-01	mg/kg	3.5E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	2.4E-07	mg/kg-day	6.0E-05	mg/kg-day	4E-03
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	1.2E+01	mg/kg	1.2E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	8.4E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cobalt	5.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								4E-08					7E-03

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB2	Inhalation	Acenaphthylene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Benzo(a)anthracene	4.0E-04	$\mu g/m^3$	3.1E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	3E-11	9.7E-05	$\mu g/m^3$	NA	--	NA
				Benzo(a)pyrene	4.5E-04	$\mu g/m^3$	3.6E-07	$\mu g/m^3$	1.1E-03	$(\mu g/m^3)^{-1}$	4E-10	1.1E-04	$\mu g/m^3$	NA	--	NA
				Benzo(b)fluoranthene	5.6E-04	$\mu g/m^3$	4.4E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	5E-11	1.4E-04	$\mu g/m^3$	NA	--	NA
				Benzo(g,h,i)perylene	3.4E-04	$\mu g/m^3$	2.7E-07	$\mu g/m^3$	NA	--	NA	8.4E-05	$\mu g/m^3$	NA	--	NA
				Carbazole	3.4E-05	$\mu g/m^3$	2.7E-08	$\mu g/m^3$	NA	--	NA	8.4E-06	$\mu g/m^3$	NA	--	NA
				Dibenzo(a,h)anthracene	1.1E-04	$\mu g/m^3$	8.3E-08	$\mu g/m^3$	1.2E-03	$(\mu g/m^3)^{-1}$	1E-10	2.6E-05	$\mu g/m^3$	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.2E-04	$\mu g/m^3$	2.5E-07	$\mu g/m^3$	1.1E-04	$(\mu g/m^3)^{-1}$	3E-11	7.7E-05	$\mu g/m^3$	NA	--	NA
				Phenanthrene	N/A	$\mu g/m^3$	--	$\mu g/m^3$	NA	--	--	--	$\mu g/m^3$	NA	--	--
				Endosulfan sulfate	7.6E-06	$\mu g/m^3$	5.9E-09	$\mu g/m^3$	NA	--	NA	1.8E-06	$\mu g/m^3$	NA	--	NA
				Total PCB Aroclors	1.0E-03	$\mu g/m^3$	8.1E-07	$\mu g/m^3$	1.0E-04	$(\mu g/m^3)^{-1}$	8E-11	2.5E-04	$\mu g/m^3$	NA	--	NA
				Aluminum	1.8E+01	$\mu g/m^3$	1.4E-02	$\mu g/m^3$	NA	--	NA	4.4E+00	$\mu g/m^3$	5.0E+00	$\mu g/m^3$	9E-01
				Arsenic	1.7E-02	$\mu g/m^3$	1.3E-05	$\mu g/m^3$	4.3E-03	$(\mu g/m^3)^{-1}$	6E-08	4.0E-03	$\mu g/m^3$	1.5E-02	$\mu g/m^3$	3E-01
				Cobalt	7.7E-03	$\mu g/m^3$	6.0E-06	$\mu g/m^3$	9.0E-03	$(\mu g/m^3)^{-1}$	5E-08	1.9E-03	$\mu g/m^3$	6.0E-03	$\mu g/m^3$	3E-01
				Iron	2.2E+01	$\mu g/m^3$	1.7E-02	$\mu g/m^3$	NA	--	NA	5.3E+00	$\mu g/m^3$	NA	--	NA
				Manganese	6.8E-01	$\mu g/m^3$	5.3E-04	$\mu g/m^3$	NA	--	NA	1.7E-01	$\mu g/m^3$	5.0E-02	$\mu g/m^3$	3E+00
			Exposure Route Total								1E-07					5E+00
		Exposure Point Total									4E-07					5E+00
	Total of Receptor Risks Across Medium										4E-07					5E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB2	Ingestion	Acenaphthylene	2.4E-02	mg/kg	8.9E-11	mg/kg-day	NA	--	NA	6.2E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	1.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-10	7.5E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	1.2E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-09	8.5E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	1.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	9.2E-10	mg/kg-day	NA	--	NA	6.5E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	9.2E-11	mg/kg-day	NA	--	NA	6.5E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	2.8E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	2.0E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	8.5E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-10	5.9E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	7.5E-08	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	2.0E-11	mg/kg-day	NA	--	NA	1.4E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	7.5E-01	mg/kg	2.8E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	1.9E-07	mg/kg-day	6.0E-05	mg/kg-day	3E-03
				Aluminum	1.3E+04	mg/kg	4.8E-05	mg/kg-day	NA	--	NA	3.4E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Arsenic	1.2E+01	mg/kg	4.4E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	3.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cobalt	5.6E+00	mg/kg	2.1E-08	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	3.0E-03	mg/kg-day	5E-04
				Iron	1.6E+04	mg/kg	5.8E-05	mg/kg-day	NA	--	NA	4.1E-03	mg/kg-day	7.0E-01	mg/kg-day	6E-03
				Manganese	4.9E+02	mg/kg	1.8E-06	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	2.4E-02	mg/kg-day	5E-03
			Exposure Route Total								9E-08					3E-02
Floodplain Soil	All Soil	EU BB2	Dermal	Acenaphthylene	2.4E-02	mg/kg	1.2E-11	mg/kg-day	NA	--	NA	8.1E-10	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.9E-01	mg/kg	1.4E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-10	9.7E-09	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E-01	mg/kg	1.6E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-09	1.1E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.1E-01	mg/kg	2.0E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-10	1.4E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	2.5E-01	mg/kg	1.2E-10	mg/kg-day	NA	--	NA	8.4E-09	mg/kg-day	NA	--	NA
				Carbazole	2.5E-02	mg/kg	9.2E-12	mg/kg-day	NA	--	NA	6.5E-10	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	7.7E-02	mg/kg	3.7E-11	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-10	2.6E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.3E-01	mg/kg	1.1E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-11	7.7E-09	mg/kg-day	NA	--	NA
				Phenanthrene	2.9E-01	mg/kg	1.4E-10	mg/kg-day	NA	--	NA	9.7E-09	mg/kg-day	NA	--	NA
				Endosulfan sulfate	5.5E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	7.5E-01	mg/kg	3.9E-10	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-10	2.7E-08	mg/kg-day	6.0E-05	mg/kg-day	5E-04
				Aluminum	1.3E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	1.2E+01	mg/kg	1.3E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	9.3E-08	mg/kg-day	3.0E-04	mg/kg-day	3E-04
				Cobalt	5.6E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Manganese	4.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								5E-09					8E-04

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB2	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	4.0E-04	µg/m^3	7.8E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	9E-12	7.7E-05	µg/m^3	NA	--	NA
				Benzo(a)pyrene	4.5E-04	µg/m^3	8.9E-08	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-10	8.7E-05	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	5.6E-04	µg/m^3	1.1E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	1.1E-04	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	3.4E-04	µg/m^3	6.7E-08	µg/m^3	NA	--	NA	6.6E-05	µg/m^3	NA	--	NA
				Carbazole	3.4E-05	µg/m^3	6.7E-09	µg/m^3	NA	--	NA	6.6E-06	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	1.1E-04	µg/m^3	2.1E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-11	2.0E-05	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	3.2E-04	µg/m^3	6.2E-08	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-12	6.1E-05	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endosulfan sulfate	7.6E-06	µg/m^3	1.5E-09	µg/m^3	NA	--	NA	1.5E-06	µg/m^3	NA	--	NA
				Total PCB Aroclors	1.0E-03	µg/m^3	2.0E-07	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-11	2.0E-04	µg/m^3	NA	--	NA
				Aluminum	1.8E+01	µg/m^3	3.5E-03	µg/m^3	NA	--	NA	3.5E+00	µg/m^3	5.0E+00	µg/m^3	7E-01
				Arsenic	1.7E-02	µg/m^3	3.2E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	1E-08	3.2E-03	µg/m^3	1.5E-02	µg/m^3	2E-01
				Cobalt	7.7E-03	µg/m^3	1.5E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	1E-08	1.5E-03	µg/m^3	6.0E-03	µg/m^3	2E-01
				Iron	2.2E+01	µg/m^3	4.3E-03	µg/m^3	NA	--	NA	4.2E+00	µg/m^3	NA	--	NA
				Manganese	6.8E-01	µg/m^3	1.3E-04	µg/m^3	NA	--	NA	1.3E-01	µg/m^3	5.0E-02	µg/m^3	3E+00
			Exposure Route Total								3E-08					4E+00
		Exposure Point Total									1E-07					4E+00
	Total of Receptor Risks Across Medium										1E-07					4E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Ingestion	Acenaphthylene	1.2E-01	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	9.0E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	2.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	2.0E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	3.6E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	2.6E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	3.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	2.7E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	2.1E-08	mg/kg-day	NA	--	NA	1.5E-06	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	3.4E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	2.4E-06	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	9.7E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	1E-07	6.8E-04	mg/kg-day	2.0E-01	mg/kg-day	3E-03
				Carbazole	3.7E-01	mg/kg	4.1E-09	mg/kg-day	NA	--	NA	2.9E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	7.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	5.1E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	6.1E-09	mg/kg-day	NA	--	NA	4.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	1.9E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.4E-06	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	2.9E-08	mg/kg-day	NA	--	NA	2.1E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	1.1E-10	mg/kg-day	NA	--	NA	7.6E-09	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	6.4E-11	mg/kg-day	NA	--	NA	4.5E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.0E+00	mg/kg	5.6E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.9E-06	mg/kg-day	6.0E-05	mg/kg-day	6E-02
				Aluminum	1.1E+04	mg/kg	1.3E-04	mg/kg-day	NA	--	NA	8.8E-03	mg/kg-day	1.0E+00	mg/kg-day	9E-03
				Antimony	1.1E+02	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	8.5E-05	mg/kg-day	4.0E-04	mg/kg-day	2E-01
				Arsenic	1.7E+01	mg/kg	1.9E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.3E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Cadmium	5.0E+00	mg/kg	5.6E-08	mg/kg-day	NA	--	NA	3.9E-06	mg/kg-day	1.0E-03	mg/kg-day	4E-03
				Cobalt	1.2E+01	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	9.5E-06	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Copper	1.7E+03	mg/kg	1.9E-05	mg/kg-day	NA	--	NA	1.4E-03	mg/kg-day	4.0E-02	mg/kg-day	3E-02
				Iron	9.6E+04	mg/kg	1.1E-03	mg/kg-day	NA	--	NA	7.5E-02	mg/kg-day	7.0E-01	mg/kg-day	1E-01
				Lead	1.4E+03	mg/kg	1.5E-05	mg/kg-day	NA	--	NA	1.1E-03	mg/kg-day	NA	--	NA
				Manganese	7.1E+02	mg/kg	7.8E-06	mg/kg-day	NA	--	NA	5.5E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Mercury	2.4E+00	mg/kg	2.7E-08	mg/kg-day	NA	--	NA	1.9E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Nickel	1.1E+02	mg/kg	1.2E-06	mg/kg-day	NA	--	NA	8.4E-05	mg/kg-day	2.0E-02	mg/kg-day	4E-03
				Thallium	4.0E+00	mg/kg	4.4E-08	mg/kg-day	NA	--	NA	3.1E-06	mg/kg-day	3.0E-05	mg/kg-day	1E-01
				Vanadium	2.8E+01	mg/kg	3.1E-07	mg/kg-day	NA	--	NA	2.2E-05	mg/kg-day	5.0E-03	mg/kg-day	4E-03
				Zinc	1.3E+03	mg/kg	1.5E-05	mg/kg-day	NA	--	NA	1.0E-03	mg/kg-day	3.0E-01	mg/kg-day	3E-03
			Exposure Route Total								9E-07					6E-01

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Dermal	Acenaphthylene	1.2E-01	mg/kg	5.0E-10	mg/kg-day	NA	--	NA	3.5E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	1.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	7.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	1.4E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	8.3E-09	mg/kg-day	NA	--	NA	5.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-09	9.4E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	2.9E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	4E-08	2.0E-04	mg/kg-day	2.0E-01	mg/kg-day	1E-03
				Carbazole	3.7E-01	mg/kg	1.2E-09	mg/kg-day	NA	--	NA	8.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	2.8E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.0E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	1.8E-09	mg/kg-day	NA	--	NA	1.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	7.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	5.3E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	8.0E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	5.0E+00	mg/kg	2.3E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	1.6E-06	mg/kg-day	6.0E-05	mg/kg-day	3E-02
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.7E+01	mg/kg	1.7E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	1.2E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	5.0E+00	mg/kg	1.7E-10	mg/kg-day	NA	--	NA	1.2E-08	mg/kg-day	2.5E-05	mg/kg-day	5E-04
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Copper	1.7E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	9.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								3E-07					3E-02

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	3.6E-03	µg/m^3	2.8E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-10	8.7E-04	µg/m^3	NA	--	NA
				Benzo(a)pyrene	4.5E-03	µg/m^3	3.6E-06	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	4E-09	1.1E-03	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	4.8E-03	µg/m^3	3.8E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-10	1.2E-03	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	2.6E-03	µg/m^3	2.0E-06	µg/m^3	NA	--	NA	6.4E-04	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	4.3E-03	µg/m^3	3.3E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-10	1.0E-03	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.2E+00	µg/m^3	9.5E-04	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	2E-09	3.0E-01	µg/m^3	NA	--	NA
				Carbazole	5.1E-04	µg/m^3	4.0E-07	µg/m^3	NA	--	NA	1.2E-04	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	9.1E-04	µg/m^3	7.1E-07	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	9E-10	2.2E-04	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	7.6E-04	µg/m^3	5.9E-07	µg/m^3	NA	--	NA	1.8E-04	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.5E-03	µg/m^3	1.9E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-10	6.0E-04	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	1.3E-05	µg/m^3	1.1E-08	µg/m^3	NA	--	NA	3.3E-06	µg/m^3	NA	--	NA
				Endrin ketone	8.0E-06	µg/m^3	6.2E-09	µg/m^3	NA	--	NA	1.9E-06	µg/m^3	NA	--	NA
				Total PCB Aroclors	6.9E-03	µg/m^3	5.4E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	5E-10	1.7E-03	µg/m^3	NA	--	NA
				Aluminum	1.6E+01	µg/m^3	1.2E-02	µg/m^3	NA	--	NA	3.8E+00	µg/m^3	5.0E+00	µg/m^3	8E-01
				Antimony	1.5E-01	µg/m^3	1.2E-04	µg/m^3	NA	--	NA	3.7E-02	µg/m^3	NA	--	NA
				Arsenic	2.3E-02	µg/m^3	1.8E-05	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	8E-08	5.7E-03	µg/m^3	1.5E-02	µg/m^3	4E-01
				Cadmium	6.9E-03	µg/m^3	5.4E-06	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	1E-08	1.7E-03	µg/m^3	2.0E-02	µg/m^3	8E-02
				Cobalt	1.7E-02	µg/m^3	1.3E-05	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	1E-07	4.0E-03	µg/m^3	6.0E-03	µg/m^3	7E-01
				Copper	2.4E+00	µg/m^3	1.9E-03	µg/m^3	NA	--	NA	5.9E-01	µg/m^3	NA	--	NA
				Iron	1.3E+02	µg/m^3	1.0E-01	µg/m^3	NA	--	NA	3.2E+01	µg/m^3	NA	--	NA
				Lead	6.7E+00	µg/m^3	5.3E-03	µg/m^3	NA	--	NA	1.6E+00	µg/m^3	NA	--	NA
				Manganese	9.7E-01	µg/m^3	7.6E-04	µg/m^3	NA	--	NA	2.4E-01	µg/m^3	5.0E-02	µg/m^3	5E+00
				Mercury	3.3E-03	µg/m^3	2.6E-06	µg/m^3	NA	--	NA	8.1E-04	µg/m^3	3.0E-02	µg/m^3	3E-02
				Nickel	1.5E-01	µg/m^3	1.2E-04	µg/m^3	2.6E-04	(µg/m^3)$^{-1}$	3E-08	3.6E-02	µg/m^3	2.0E-01	µg/m^3	2E-01
				Thallium	5.5E-03	µg/m^3	4.3E-06	µg/m^3	NA	--	NA	1.3E-03	µg/m^3	NA	--	NA
				Vanadium	3.9E-02	µg/m^3	3.0E-05	µg/m^3	NA	--	NA	9.4E-03	µg/m^3	NA	--	NA
				Zinc	1.8E+00	µg/m^3	1.4E-03	µg/m^3	NA	--	NA	4.4E-01	µg/m^3	NA	--	NA
			Exposure Route Total								2E-07					7E+00
		Exposure Point Total									1E-06					8E+00
	Total of Receptor Risks Across Medium										1E-06					8E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Ingestion	Acenaphthylene	1.2E-01	mg/kg	4.3E-10	mg/kg-day	NA	--	NA	3.0E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	9.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	6.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	1.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	8.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	9.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	7.1E-09	mg/kg-day	NA	--	NA	5.0E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	1.1E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-10	8.0E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	3.2E-06	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	5E-08	2.3E-04	mg/kg-day	2.0E-01	mg/kg-day	1E-03
				Carbazole	3.7E-01	mg/kg	1.4E-09	mg/kg-day	NA	--	NA	9.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	2.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.7E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	2.0E-09	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	6.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	4.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	9.8E-09	mg/kg-day	NA	--	NA	6.9E-07	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	3.6E-11	mg/kg-day	NA	--	NA	2.5E-09	mg/kg-day	NA	--	NA
				Endrin ketone	5.8E-03	mg/kg	2.1E-11	mg/kg-day	NA	--	NA	1.5E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	5.0E+00	mg/kg	1.9E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	1.3E-06	mg/kg-day	6.0E-05	mg/kg-day	2E-02
				Aluminum	1.1E+04	mg/kg	4.2E-05	mg/kg-day	NA	--	NA	2.9E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Antimony	1.1E+02	mg/kg	4.0E-07	mg/kg-day	NA	--	NA	2.8E-05	mg/kg-day	4.0E-04	mg/kg-day	7E-02
				Arsenic	1.7E+01	mg/kg	6.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-08	4.4E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	5.0E+00	mg/kg	1.9E-08	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	1.0E-03	mg/kg-day	1E-03
				Cobalt	1.2E+01	mg/kg	4.5E-08	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Copper	1.7E+03	mg/kg	6.5E-06	mg/kg-day	NA	--	NA	4.5E-04	mg/kg-day	4.0E-02	mg/kg-day	1E-02
				Iron	9.6E+04	mg/kg	3.6E-04	mg/kg-day	NA	--	NA	2.5E-02	mg/kg-day	7.0E-01	mg/kg-day	4E-02
				Lead	1.4E+03	mg/kg	5.1E-06	mg/kg-day	NA	--	NA	3.5E-04	mg/kg-day	NA	--	NA
				Manganese	7.1E+02	mg/kg	2.6E-06	mg/kg-day	NA	--	NA	1.8E-04	mg/kg-day	2.4E-02	mg/kg-day	8E-03
				Mercury	2.4E+00	mg/kg	9.0E-09	mg/kg-day	NA	--	NA	6.3E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Nickel	1.1E+02	mg/kg	4.0E-07	mg/kg-day	NA	--	NA	2.8E-05	mg/kg-day	2.0E-02	mg/kg-day	1E-03
				Thallium	4.0E+00	mg/kg	1.5E-08	mg/kg-day	NA	--	NA	1.0E-06	mg/kg-day	3.0E-05	mg/kg-day	3E-02
				Vanadium	2.8E+01	mg/kg	1.0E-07	mg/kg-day	NA	--	NA	7.2E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
				Zinc	1.3E+03	mg/kg	4.9E-06	mg/kg-day	NA	--	NA	3.4E-04	mg/kg-day	3.0E-01	mg/kg-day	1E-03
			Exposure Route Total								3E-07					2E-01

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Dermal	Acenaphthylene	1.2E-01	mg/kg	5.6E-11	mg/kg-day	NA	--	NA	3.9E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.6E+00	mg/kg	1.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-10	8.7E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	3.3E+00	mg/kg	1.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	1.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	3.5E+00	mg/kg	1.7E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.9E+00	mg/kg	9.3E-10	mg/kg-day	NA	--	NA	6.5E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	3.1E+00	mg/kg	1.5E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-10	1.0E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	8.8E+02	mg/kg	3.2E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	5E-09	2.3E-05	mg/kg-day	2.0E-01	mg/kg-day	1E-04
				Carbazole	3.7E-01	mg/kg	1.4E-10	mg/kg-day	NA	--	NA	9.6E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	6.6E-01	mg/kg	3.1E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	2.2E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.5E-01	mg/kg	2.0E-10	mg/kg-day	NA	--	NA	1.4E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.8E+00	mg/kg	8.4E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-10	5.9E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.7E+00	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	8.9E-08	mg/kg-day	NA	--	NA
				Endrin aldehyde	9.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin ketone	5.8E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	5.0E+00	mg/kg	2.6E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-09	1.8E-07	mg/kg-day	6.0E-05	mg/kg-day	3E-03
				Aluminum	1.1E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.7E+01	mg/kg	1.9E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-09	1.3E-07	mg/kg-day	3.0E-04	mg/kg-day	4E-04
				Cadmium	5.0E+00	mg/kg	1.9E-11	mg/kg-day	NA	--	NA	1.3E-09	mg/kg-day	2.5E-05	mg/kg-day	5E-05
				Cobalt	1.2E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Copper	1.7E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	9.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	7.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Mercury	2.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.1E-05	mg/kg-day	--
				Nickel	1.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	8.0E-04	mg/kg-day	--
				Thallium	4.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				Vanadium	2.8E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	1.3E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								3E-08					4E-03

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB3	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	3.6E-03	µg/m^3	7.0E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	8E-11	6.9E-04	µg/m^3	NA	--	NA
				Benzo(a)pyrene	4.5E-03	µg/m^3	8.9E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	1E-09	8.7E-04	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	4.8E-03	µg/m^3	9.4E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	9.3E-04	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	2.6E-03	µg/m^3	5.1E-07	µg/m^3	NA	--	NA	5.0E-04	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	4.3E-03	µg/m^3	8.3E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	9E-11	8.2E-04	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	1.2E+00	µg/m^3	2.4E-04	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	6E-10	2.3E-01	µg/m^3	NA	--	NA
				Carbazole	5.1E-04	µg/m^3	1.0E-07	µg/m^3	NA	--	NA	9.8E-05	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	9.1E-04	µg/m^3	1.8E-07	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-10	1.7E-04	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	7.6E-04	µg/m^3	1.5E-07	µg/m^3	NA	--	NA	1.5E-04	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	2.5E-03	µg/m^3	4.8E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-11	4.8E-04	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin aldehyde	1.3E-05	µg/m^3	2.6E-09	µg/m^3	NA	--	NA	2.6E-06	µg/m^3	NA	--	NA
				Endrin ketone	8.0E-06	µg/m^3	1.6E-09	µg/m^3	NA	--	NA	1.5E-06	µg/m^3	NA	--	NA
				Total PCB Aroclors	6.9E-03	µg/m^3	1.3E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	1E-10	1.3E-03	µg/m^3	NA	--	NA
				Aluminum	1.6E+01	µg/m^3	3.1E-03	µg/m^3	NA	--	NA	3.0E+00	µg/m^3	5.0E+00	µg/m^3	6E-01
				Antimony	1.5E-01	µg/m^3	3.0E-05	µg/m^3	NA	--	NA	2.9E-02	µg/m^3	NA	--	NA
				Arsenic	2.3E-02	µg/m^3	4.6E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-08	4.5E-03	µg/m^3	1.5E-02	µg/m^3	3E-01
				Cadmium	6.9E-03	µg/m^3	1.3E-06	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	2E-09	1.3E-03	µg/m^3	2.0E-02	µg/m^3	7E-02
				Cobalt	1.7E-02	µg/m^3	3.2E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-08	3.2E-03	µg/m^3	6.0E-03	µg/m^3	5E-01
				Copper	2.4E+00	µg/m^3	4.7E-04	µg/m^3	NA	--	NA	4.6E-01	µg/m^3	NA	--	NA
				Iron	1.3E+02	µg/m^3	2.6E-02	µg/m^3	NA	--	NA	2.5E+01	µg/m^3	NA	--	NA
				Lead	6.7E+00	µg/m^3	1.3E-03	µg/m^3	NA	--	NA	1.3E+00	µg/m^3	NA	--	NA
				Manganese	9.7E-01	µg/m^3	1.9E-04	µg/m^3	NA	--	NA	1.9E-01	µg/m^3	5.0E-02	µg/m^3	4E+00
				Mercury	3.3E-03	µg/m^3	6.5E-07	µg/m^3	NA	--	NA	6.3E-04	µg/m^3	3.0E-02	µg/m^3	2E-02
				Nickel	1.5E-01	µg/m^3	2.9E-05	µg/m^3	2.6E-04	(µg/m^3)$^{-1}$	8E-09	2.9E-02	µg/m^3	2.0E-01	µg/m^3	1E-01
				Thallium	5.5E-03	µg/m^3	1.1E-06	µg/m^3	NA	--	NA	1.1E-03	µg/m^3	NA	--	NA
				Vanadium	3.9E-02	µg/m^3	7.5E-06	µg/m^3	NA	--	NA	7.4E-03	µg/m^3	NA	--	NA
				Zinc	1.8E+00	µg/m^3	3.5E-04	µg/m^3	NA	--	NA	3.5E-01	µg/m^3	NA	--	NA
			Exposure Route Total								6E-08					5E+00
		Exposure Point Total									4E-07					6E+00
	Total of Receptor Risks Across Medium										4E-07					6E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Ingestion	Acenaphthylene	6.7E-01	mg/kg	7.4E-09	mg/kg-day	NA	--	NA	5.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	6.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	4.2E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	6.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	4.6E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	1.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	7.2E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	5.1E-09	mg/kg-day	NA	--	NA	3.6E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	5.3E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-10	3.7E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	2.8E-09	mg/kg-day	NA	--	NA	1.9E-07	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	1.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.2E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	9.3E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	5.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.5E-07	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	8.6E-09	mg/kg-day	NA	--	NA	6.0E-07	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	1.4E-10	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.0E-08	mg/kg-day	3.0E-05	mg/kg-day	3E-04
				delta-BHC	5.6E-02	mg/kg	6.2E-10	mg/kg-day	NA	--	NA	4.3E-08	mg/kg-day	NA	--	NA
				Dieldrin	2.2E-01	mg/kg	2.4E-09	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.7E-07	mg/kg-day	1.0E-04	mg/kg-day	2E-03
				4,4'-DDT	2.3E-01	mg/kg	2.5E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	9E-10	1.8E-07	mg/kg-day	5.0E-04	mg/kg-day	4E-04
				Endosulfan sulfate	2.2E-02	mg/kg	2.4E-10	mg/kg-day	NA	--	NA	1.7E-08	mg/kg-day	NA	--	NA
				Total PCB Aroclors	2.1E+01	mg/kg	2.3E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.6E-05	mg/kg-day	6.0E-05	mg/kg-day	3E-01
				Aluminum	9.4E+03	mg/kg	1.0E-04	mg/kg-day	NA	--	NA	7.3E-03	mg/kg-day	1.0E+00	mg/kg-day	7E-03
				Antimony	1.1E+01	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	8.5E-06	mg/kg-day	4.0E-04	mg/kg-day	2E-02
				Arsenic	1.5E+01	mg/kg	1.7E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Cadmium	5.4E+00	mg/kg	6.0E-08	mg/kg-day	NA	--	NA	4.2E-06	mg/kg-day	1.0E-03	mg/kg-day	4E-03
				Cobalt	7.0E+00	mg/kg	7.8E-08	mg/kg-day	NA	--	NA	5.4E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Copper	9.5E+01	mg/kg	1.1E-06	mg/kg-day	NA	--	NA	7.4E-05	mg/kg-day	4.0E-02	mg/kg-day	2E-03
				Iron	1.6E+04	mg/kg	1.8E-04	mg/kg-day	NA	--	NA	1.2E-02	mg/kg-day	7.0E-01	mg/kg-day	2E-02
				Lead	1.3E+02	mg/kg	1.4E-06	mg/kg-day	NA	--	NA	1.0E-04	mg/kg-day	NA	--	NA
				Manganese	5.1E+02	mg/kg	5.7E-06	mg/kg-day	NA	--	NA	4.0E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Silver	4.4E+00	mg/kg	4.9E-08	mg/kg-day	NA	--	NA	3.4E-06	mg/kg-day	5.0E-03	mg/kg-day	7E-04
				Vanadium	3.3E+01	mg/kg	3.7E-07	mg/kg-day	NA	--	NA	2.6E-05	mg/kg-day	5.0E-03	mg/kg-day	5E-03
				Zinc	2.6E+02	mg/kg	2.8E-06	mg/kg-day	NA	--	NA	2.0E-04	mg/kg-day	3.0E-01	mg/kg-day	7E-04
			Exposure Route Total								1E-06					4E-01

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Dermal	Acenaphthylene	6.7E-01	mg/kg	2.9E-09	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	2.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	2.6E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.8E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	4.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	2.8E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	2.0E-09	mg/kg-day	NA	--	NA	1.4E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	2.1E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-10	1.5E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	8.3E-10	mg/kg-day	NA	--	NA	5.8E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	6.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	4.8E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	4.0E-09	mg/kg-day	NA	--	NA	2.8E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	1.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	3.4E-09	mg/kg-day	NA	--	NA	2.4E-07	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	N/A	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				delta-BHC	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Dieldrin	2.2E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				4,4'-DDT	2.3E-01	mg/kg	2.3E-10	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8E-11	1.6E-08	mg/kg-day	5.0E-04	mg/kg-day	3E-05
				Endosulfan sulfate	2.2E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	2.1E+01	mg/kg	9.8E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	6.8E-06	mg/kg-day	6.0E-05	mg/kg-day	1E-01
				Aluminum	9.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	1.5E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.0E-06	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cadmium	5.4E+00	mg/kg	1.8E-10	mg/kg-day	NA	--	NA	1.3E-08	mg/kg-day	2.5E-05	mg/kg-day	5E-04
				Cobalt	7.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Copper	9.5E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Silver	4.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								3E-07					1E-01

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	7.4E-04	µg/m^3	5.8E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-11	1.8E-04	µg/m^3	NA	--	NA
				Benzo(a)pyrene	8.3E-04	µg/m^3	6.5E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	7E-10	2.0E-04	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.3E-03	µg/m^3	1.0E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	3.1E-04	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	6.3E-04	µg/m^3	5.0E-07	µg/m^3	NA	--	NA	1.5E-04	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	6.6E-04	µg/m^3	5.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-11	1.6E-04	µg/m^3	NA	--	NA
				Carbazole	3.4E-04	µg/m^3	2.7E-07	µg/m^3	NA	--	NA	8.4E-05	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-03	µg/m^3	1.7E-06	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	2E-09	5.4E-04	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	1.7E-03	µg/m^3	1.3E-06	µg/m^3	NA	--	NA	4.0E-04	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	6.2E-04	µg/m^3	4.8E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-11	1.5E-04	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Aldrin	1.8E-05	µg/m^3	1.4E-08	µg/m^3	4.9E-03	(µg/m^3)$^{-1}$	7E-11	4.4E-06	µg/m^3	NA	--	NA
				delta-BHC	7.7E-05	µg/m^3	6.0E-08	µg/m^3	NA	--	NA	1.9E-05	µg/m^3	NA	--	NA
				Dieldrin	3.0E-04	µg/m^3	2.4E-07	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	1E-09	7.4E-05	µg/m^3	NA	--	NA
				4,4'-DDT	3.2E-04	µg/m^3	2.5E-07	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	2E-11	7.7E-05	µg/m^3	NA	--	NA
				Endosulfan sulfate	3.0E-05	µg/m^3	2.4E-08	µg/m^3	NA	--	NA	7.4E-06	µg/m^3	NA	--	NA
				Total PCB Aroclors	2.9E-02	µg/m^3	2.3E-05	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-09	7.0E-03	µg/m^3	NA	--	NA
				Aluminum	1.3E+01	µg/m^3	1.0E-02	µg/m^3	NA	--	NA	3.1E+00	µg/m^3	5.0E+00	µg/m^3	6E-01
				Antimony	1.5E-02	µg/m^3	1.2E-05	µg/m^3	NA	--	NA	3.7E-03	µg/m^3	NA	--	NA
				Arsenic	2.1E-02	µg/m^3	1.6E-05	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	7E-08	5.0E-03	µg/m^3	1.5E-02	µg/m^3	3E-01
				Cadmium	7.4E-03	µg/m^3	5.8E-06	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	1E-08	1.8E-03	µg/m^3	2.0E-02	µg/m^3	9E-02
				Cobalt	9.6E-03	µg/m^3	7.5E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	7E-08	2.3E-03	µg/m^3	6.0E-03	µg/m^3	4E-01
				Copper	1.3E-01	µg/m^3	1.0E-04	µg/m^3	NA	--	NA	3.2E-02	µg/m^3	NA	--	NA
				Iron	2.2E+01	µg/m^3	1.7E-02	µg/m^3	NA	--	NA	5.3E+00	µg/m^3	NA	--	NA
				Lead	1.8E-01	µg/m^3	1.4E-04	µg/m^3	NA	--	NA	4.3E-02	µg/m^3	NA	--	NA
				Manganese	7.1E-01	µg/m^3	5.5E-04	µg/m^3	NA	--	NA	1.7E-01	µg/m^3	5.0E-02	µg/m^3	3E+00
				Silver	6.1E-03	µg/m^3	4.7E-06	µg/m^3	NA	--	NA	1.5E-03	µg/m^3	NA	--	NA
				Vanadium	4.5E-02	µg/m^3	3.6E-05	µg/m^3	NA	--	NA	1.1E-02	µg/m^3	NA	--	NA
				Zinc	3.5E-01	µg/m^3	2.8E-04	µg/m^3	NA	--	NA	8.6E-02	µg/m^3	NA	--	NA
			Exposure Route Total								2E-07					5E+00
		Exposure Point Total									1E-06					5E+00
	Total of Receptor Risks Across Medium										1E-06					5E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Ingestion	Acenaphthylene	6.7E-01	mg/kg	2.5E-09	mg/kg-day	NA	--	NA	1.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	2.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.4E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	2.2E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.5E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	3.4E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	2.4E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	1.7E-09	mg/kg-day	NA	--	NA	1.2E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	1.8E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1E-10	1.2E-07	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	9.2E-10	mg/kg-day	NA	--	NA	6.5E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	5.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	4.1E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	4.4E-09	mg/kg-day	NA	--	NA	3.1E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	1.7E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.2E-07	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	2.9E-09	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	4.8E-11	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	8E-10	3.4E-09	mg/kg-day	3.0E-05	mg/kg-day	1E-04
				delta-BHC	5.6E-02	mg/kg	2.1E-10	mg/kg-day	NA	--	NA	1.4E-08	mg/kg-day	NA	--	NA
				Dieldrin	2.2E-01	mg/kg	8.1E-10	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-08	5.7E-08	mg/kg-day	1.0E-04	mg/kg-day	6E-04
				4,4'-DDT	2.3E-01	mg/kg	8.5E-10	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-10	5.9E-08	mg/kg-day	5.0E-04	mg/kg-day	1E-04
				Endosulfan sulfate	2.2E-02	mg/kg	8.1E-11	mg/kg-day	NA	--	NA	5.7E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	2.1E+01	mg/kg	7.7E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	5.4E-06	mg/kg-day	6.0E-05	mg/kg-day	9E-02
				Aluminum	9.4E+03	mg/kg	3.5E-05	mg/kg-day	NA	--	NA	2.4E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Antimony	1.1E+01	mg/kg	4.1E-08	mg/kg-day	NA	--	NA	2.8E-06	mg/kg-day	4.0E-04	mg/kg-day	7E-03
				Arsenic	1.5E+01	mg/kg	5.5E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	3.9E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	5.4E+00	mg/kg	2.0E-08	mg/kg-day	NA	--	NA	1.4E-06	mg/kg-day	1.0E-03	mg/kg-day	1E-03
				Cobalt	7.0E+00	mg/kg	2.6E-08	mg/kg-day	NA	--	NA	1.8E-06	mg/kg-day	3.0E-03	mg/kg-day	6E-04
				Copper	9.5E+01	mg/kg	3.5E-07	mg/kg-day	NA	--	NA	2.5E-05	mg/kg-day	4.0E-02	mg/kg-day	6E-04
				Iron	1.6E+04	mg/kg	5.9E-05	mg/kg-day	NA	--	NA	4.1E-03	mg/kg-day	7.0E-01	mg/kg-day	6E-03
				Lead	1.3E+02	mg/kg	4.8E-07	mg/kg-day	NA	--	NA	3.3E-05	mg/kg-day	NA	--	NA
				Manganese	5.1E+02	mg/kg	1.9E-06	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
				Silver	4.4E+00	mg/kg	1.6E-08	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	5.0E-03	mg/kg-day	2E-04
				Vanadium	3.3E+01	mg/kg	1.2E-07	mg/kg-day	NA	--	NA	8.6E-06	mg/kg-day	5.0E-03	mg/kg-day	2E-03
				Zinc	2.6E+02	mg/kg	9.4E-07	mg/kg-day	NA	--	NA	6.6E-05	mg/kg-day	3.0E-01	mg/kg-day	2E-04
			Exposure Route Total								3E-07					1E-01

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Dermal	Acenaphthylene	6.7E-01	mg/kg	3.2E-10	mg/kg-day	NA	--	NA	2.2E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	5.4E-01	mg/kg	2.6E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-10	1.8E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	6.0E-01	mg/kg	2.9E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	2.0E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	9.3E-01	mg/kg	4.5E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-10	3.1E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	4.6E-01	mg/kg	2.2E-10	mg/kg-day	NA	--	NA	1.5E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	4.8E-01	mg/kg	2.3E-10	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-11	1.6E-08	mg/kg-day	NA	--	NA
				Carbazole	2.5E-01	mg/kg	9.2E-11	mg/kg-day	NA	--	NA	6.5E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	1.6E+00	mg/kg	7.7E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	5.4E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	1.2E+00	mg/kg	4.4E-10	mg/kg-day	NA	--	NA	3.1E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	4.5E-01	mg/kg	2.2E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-10	1.5E-08	mg/kg-day	NA	--	NA
				Phenanthrene	7.8E-01	mg/kg	3.7E-10	mg/kg-day	NA	--	NA	2.6E-08	mg/kg-day	NA	--	NA
				Aldrin	1.3E-02	mg/kg	N/A	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	3.0E-05	mg/kg-day	--
				delta-BHC	5.6E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Dieldrin	2.2E-01	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				4,4'-DDT	2.3E-01	mg/kg	2.5E-11	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	9E-12	1.8E-09	mg/kg-day	5.0E-04	mg/kg-day	4E-06
				Endosulfan sulfate	2.2E-02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	2.1E+01	mg/kg	1.1E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	7.6E-07	mg/kg-day	6.0E-05	mg/kg-day	1E-02
				Aluminum	9.4E+03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	1.1E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	1.7E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-09	1.2E-07	mg/kg-day	3.0E-04	mg/kg-day	4E-04
				Cadmium	5.4E+00	mg/kg	2.0E-11	mg/kg-day	NA	--	NA	1.4E-09	mg/kg-day	2.5E-05	mg/kg-day	6E-05
				Cobalt	7.0E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Copper	9.5E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.1E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Silver	4.4E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	2.0E-04	mg/kg-day	--
				Vanadium	3.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
				Zinc	2.6E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-01	mg/kg-day	--
			Exposure Route Total								3E-08					1E-02

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB4	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	7.4E-04	µg/m^3	1.5E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-11	1.4E-04	µg/m^3	NA	--	NA
				Benzo(a)pyrene	8.3E-04	µg/m^3	1.6E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-10	1.6E-04	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	1.3E-03	µg/m^3	2.5E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	2.5E-04	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	6.3E-04	µg/m^3	1.2E-07	µg/m^3	NA	--	NA	1.2E-04	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	6.6E-04	µg/m^3	1.3E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	1.3E-04	µg/m^3	NA	--	NA
				Carbazole	3.4E-04	µg/m^3	6.7E-08	µg/m^3	NA	--	NA	6.6E-05	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	2.2E-03	µg/m^3	4.3E-07	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	5E-10	4.2E-04	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	1.7E-03	µg/m^3	3.2E-07	µg/m^3	NA	--	NA	3.2E-04	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	6.2E-04	µg/m^3	1.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-11	1.2E-04	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Aldrin	1.8E-05	µg/m^3	3.5E-09	µg/m^3	4.9E-03	(µg/m^3)$^{-1}$	2E-11	3.4E-06	µg/m^3	NA	--	NA
				delta-BHC	7.7E-05	µg/m^3	1.5E-08	µg/m^3	NA	--	NA	1.5E-05	µg/m^3	NA	--	NA
				Dieldrin	3.0E-04	µg/m^3	5.9E-08	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	3E-10	5.8E-05	µg/m^3	NA	--	NA
				4,4'-DDT	3.2E-04	µg/m^3	6.2E-08	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	6E-12	6.1E-05	µg/m^3	NA	--	NA
				Endosulfan sulfate	3.0E-05	µg/m^3	5.9E-09	µg/m^3	NA	--	NA	5.8E-06	µg/m^3	NA	--	NA
				Total PCB Aroclors	2.9E-02	µg/m^3	5.7E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	6E-10	5.6E-03	µg/m^3	NA	--	NA
				Aluminum	1.3E+01	µg/m^3	2.5E-03	µg/m^3	NA	--	NA	2.5E+00	µg/m^3	5.0E+00	µg/m^3	5E-01
				Antimony	1.5E-02	µg/m^3	3.0E-06	µg/m^3	NA	--	NA	2.9E-03	µg/m^3	NA	--	NA
				Arsenic	2.1E-02	µg/m^3	4.0E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-08	4.0E-03	µg/m^3	1.5E-02	µg/m^3	3E-01
				Cadmium	7.4E-03	µg/m^3	1.5E-06	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	3E-09	1.4E-03	µg/m^3	2.0E-02	µg/m^3	7E-02
				Cobalt	9.6E-03	µg/m^3	1.9E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	2E-08	1.9E-03	µg/m^3	6.0E-03	µg/m^3	3E-01
				Copper	1.3E-01	µg/m^3	2.6E-05	µg/m^3	NA	--	NA	2.5E-02	µg/m^3	NA	--	NA
				Iron	2.2E+01	µg/m^3	4.3E-03	µg/m^3	NA	--	NA	4.2E+00	µg/m^3	NA	--	NA
				Lead	1.8E-01	µg/m^3	3.5E-05	µg/m^3	NA	--	NA	3.4E-02	µg/m^3	NA	--	NA
				Manganese	7.1E-01	µg/m^3	1.4E-04	µg/m^3	NA	--	NA	1.4E-01	µg/m^3	5.0E-02	µg/m^3	3E+00
				Silver	6.1E-03	µg/m^3	1.2E-06	µg/m^3	NA	--	NA	1.2E-03	µg/m^3	NA	--	NA
				Vanadium	4.5E-02	µg/m^3	8.9E-06	µg/m^3	NA	--	NA	8.7E-03	µg/m^3	NA	--	NA
				Zinc	3.5E-01	µg/m^3	6.9E-05	µg/m^3	NA	--	NA	6.8E-02	µg/m^3	NA	--	NA
			Exposure Route Total								4E-08					4E+00
		Exposure Point Total									4E-07					4E+00
	Total of Receptor Risks Across Medium										4E-07					4E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	2.4E-07	mg/kg-day	NA	--	NA	1.7E-05	mg/kg-day	2.0E-02	mg/kg-day	9E-04
				Acenaphthylene	2.1E-01	mg/kg	2.3E-09	mg/kg-day	NA	--	NA	1.6E-07	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	2.0E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.4E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	3.0E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	2.1E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	4.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	3.1E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	1.4E-08	mg/kg-day	NA	--	NA	9.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	1.1E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	8E-10	8.0E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	5.8E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	8E-09	4.1E-05	mg/kg-day	2.0E-01	mg/kg-day	2E-04
				Carbazole	1.0E-01	mg/kg	1.1E-09	mg/kg-day	NA	--	NA	7.8E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	3.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	2.1E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	4.0E-08	mg/kg-day	NA	--	NA	2.8E-06	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	8.6E-08	mg/kg-day	NA	--	NA	6.0E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	9.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	2.4E-08	mg/kg-day	NA	--	NA	1.7E-06	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	8.2E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-06	5.7E-06	mg/kg-day	1.0E-04	mg/kg-day	6E-02
				4,4'-DDE	5.6E+01	mg/kg	6.2E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	4.3E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	2.7E-11	mg/kg-day	NA	--	NA	1.9E-09	mg/kg-day	NA	--	NA
				Endrin aldehyde	5.2E+00	mg/kg	5.8E-08	mg/kg-day	NA	--	NA	4.0E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.3E+00	mg/kg	1.5E-08	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.0E-06	mg/kg-day	1.3E-05	mg/kg-day	8E-02
				Total PCB Aroclors	3.3E+01	mg/kg	3.7E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	2.6E-05	mg/kg-day	6.0E-05	mg/kg-day	4E-01
				Aluminum	1.6E+04	mg/kg	1.8E-04	mg/kg-day	NA	--	NA	1.2E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Antimony	2.9E+00	mg/kg	3.2E-08	mg/kg-day	NA	--	NA	2.2E-06	mg/kg-day	4.0E-04	mg/kg-day	6E-03
				Arsenic	1.5E+01	mg/kg	1.7E-07	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	4E-02
				Cadmium	1.2E+01	mg/kg	1.3E-07	mg/kg-day	NA	--	NA	9.1E-06	mg/kg-day	1.0E-03	mg/kg-day	9E-03
				Cobalt	1.3E+01	mg/kg	1.4E-07	mg/kg-day	NA	--	NA	1.0E-05	mg/kg-day	3.0E-03	mg/kg-day	3E-03
				Copper	1.7E+02	mg/kg	1.9E-06	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	4.0E-02	mg/kg-day	3E-03
				Iron	2.8E+04	mg/kg	3.1E-04	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Lead	1.9E+02	mg/kg	2.1E-06	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	NA	--	NA
				Manganese	5.3E+02	mg/kg	5.9E-06	mg/kg-day	NA	--	NA	4.1E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
				Vanadium	4.4E+01	mg/kg	4.9E-07	mg/kg-day	NA	--	NA	3.4E-05	mg/kg-day	5.0E-03	mg/kg-day	7E-03
			Exposure Route Total								3E-06					7E-01

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	2.0E-02	mg/kg-day	--
				Acenaphthylene	2.1E-01	mg/kg	9.0E-10	mg/kg-day	NA	--	NA	6.3E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	7.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	5.5E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	1.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	8.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	1.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	5.5E-09	mg/kg-day	NA	--	NA	3.8E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	4.5E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	3.1E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	1.8E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	1.2E-05	mg/kg-day	2.0E-01	mg/kg-day	6E-05
				Carbazole	1.0E-01	mg/kg	3.4E-10	mg/kg-day	NA	--	NA	2.3E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	1.2E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	8E-09	8.1E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.2E-08	mg/kg-day	NA	--	NA	8.4E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	2.6E-08	mg/kg-day	NA	--	NA	1.8E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.6E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	9.3E-09	mg/kg-day	NA	--	NA	6.5E-07	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	5.6E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	3.9E-06	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	5.2E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	1.3E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	3.3E+01	mg/kg	1.6E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-07	1.1E-05	mg/kg-day	6.0E-05	mg/kg-day	2E-01
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	2.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	1.5E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Cadmium	1.2E+01	mg/kg	3.9E-10	mg/kg-day	NA	--	NA	2.7E-08	mg/kg-day	2.5E-05	mg/kg-day	1E-03
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Copper	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-07					2E-01

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	2.5E-03	µg/m^3	1.9E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-10	6.0E-04	µg/m^3	NA	--	NA
				Benzo(a)pyrene	3.7E-03	µg/m^3	2.9E-06	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	3E-09	9.1E-04	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	5.5E-03	µg/m^3	4.3E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-10	1.3E-03	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.8E-03	µg/m^3	1.4E-06	µg/m^3	NA	--	NA	4.4E-04	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.4E-03	µg/m^3	1.1E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	3.4E-04	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	7.3E-02	µg/m^3	5.7E-05	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	1E-10	1.8E-02	µg/m^3	NA	--	NA
				Carbazole	1.4E-04	µg/m^3	1.1E-07	µg/m^3	NA	--	NA	3.4E-05	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.7E-04	µg/m^3	2.9E-07	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-10	9.1E-05	µg/m^3	NA	--	NA
				Dimethyl phthalate	5.0E-03	µg/m^3	3.9E-06	µg/m^3	NA	--	NA	1.2E-03	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	1.1E-02	µg/m^3	8.4E-06	µg/m^3	NA	--	NA	2.6E-03	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-03	µg/m^3	1.3E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	4.0E-04	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Dieldrin	1.0E-02	µg/m^3	8.0E-06	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	4E-08	2.5E-03	µg/m^3	NA	--	NA
				4,4'-DDE	7.7E-02	µg/m^3	6.0E-05	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	6E-09	1.9E-02	µg/m^3	NA	--	NA
				Endosulfan sulfate	3.3E-06	µg/m^3	2.6E-09	µg/m^3	NA	--	NA	8.1E-07	µg/m^3	NA	--	NA
				Endrin aldehyde	7.2E-03	µg/m^3	5.6E-06	µg/m^3	NA	--	NA	1.7E-03	µg/m^3	NA	--	NA
				Heptachlor epoxide	1.8E-03	µg/m^3	1.4E-06	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	4E-09	4.4E-04	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.5E-02	µg/m^3	3.6E-05	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	4E-09	1.1E-02	µg/m^3	NA	--	NA
				Aluminum	2.2E+01	µg/m^3	1.7E-02	µg/m^3	NA	--	NA	5.3E+00	µg/m^3	5.0E+00	µg/m^3	1E+00
				Antimony	4.0E-03	µg/m^3	3.1E-06	µg/m^3	NA	--	NA	9.7E-04	µg/m^3	NA	--	NA
				Arsenic	2.1E-02	µg/m^3	1.6E-05	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	7E-08	5.0E-03	µg/m^3	1.5E-02	µg/m^3	3E-01
				Cadmium	1.7E-02	µg/m^3	1.3E-05	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	2E-08	4.0E-03	µg/m^3	2.0E-02	µg/m^3	2E-01
				Cobalt	1.8E-02	µg/m^3	1.4E-05	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	1E-07	4.4E-03	µg/m^3	6.0E-03	µg/m^3	7E-01
				Copper	2.3E-01	µg/m^3	1.8E-04	µg/m^3	NA	--	NA	5.7E-02	µg/m^3	NA	--	NA
				Iron	3.9E+01	µg/m^3	3.1E-02	µg/m^3	NA	--	NA	9.5E+00	µg/m^3	NA	--	NA
				Lead	2.7E-01	µg/m^3	2.1E-04	µg/m^3	NA	--	NA	6.5E-02	µg/m^3	NA	--	NA
				Manganese	7.3E-01	µg/m^3	5.7E-04	µg/m^3	NA	--	NA	1.8E-01	µg/m^3	5.0E-02	µg/m^3	4E+00
				Vanadium	6.1E-02	µg/m^3	4.7E-05	µg/m^3	NA	--	NA	1.5E-02	µg/m^3	NA	--	NA
			Exposure Route Total								3E-07					6E+00
		Exposure Point Total									4E-06					7E+00
	Total of Receptor Risks Across Medium										4E-06					7E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Ingestion	cis-1,2-Dichloroethene	2.2E+01	mg/kg	8.1E-08	mg/kg-day	NA	--	NA	5.7E-06	mg/kg-day	2.0E-02	mg/kg-day	3E-04
				Acenaphthylene	2.1E-01	mg/kg	7.7E-10	mg/kg-day	NA	--	NA	5.4E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	6.7E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	4.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	9.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-08	6.9E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	1.0E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	4.7E-09	mg/kg-day	NA	--	NA	3.3E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	3.8E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	2.7E-07	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	1.9E-07	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-09	1.4E-05	mg/kg-day	2.0E-01	mg/kg-day	7E-05
				Carbazole	1.0E-01	mg/kg	3.7E-10	mg/kg-day	NA	--	NA	2.6E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	9.9E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-09	6.9E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	9.3E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	2.9E-08	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	4.3E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	3.0E-07	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	8.0E-09	mg/kg-day	NA	--	NA	5.6E-07	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	2.7E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.9E-06	mg/kg-day	1.0E-04	mg/kg-day	2E-02
				4,4'-DDE	5.6E+01	mg/kg	2.1E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	1.4E-05	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	8.9E-12	mg/kg-day	NA	--	NA	6.2E-10	mg/kg-day	NA	--	NA
				Endrin aldehyde	5.2E+00	mg/kg	1.9E-08	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.3E+00	mg/kg	5.0E-09	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	3.5E-07	mg/kg-day	1.3E-05	mg/kg-day	3E-02
				Total PCB Aroclors	3.3E+01	mg/kg	1.2E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-07	8.6E-06	mg/kg-day	6.0E-05	mg/kg-day	1E-01
				Aluminum	1.6E+04	mg/kg	5.9E-05	mg/kg-day	NA	--	NA	4.1E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Antimony	2.9E+00	mg/kg	1.1E-08	mg/kg-day	NA	--	NA	7.5E-07	mg/kg-day	4.0E-04	mg/kg-day	2E-03
				Arsenic	1.5E+01	mg/kg	5.6E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-08	4.0E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Cadmium	1.2E+01	mg/kg	4.3E-08	mg/kg-day	NA	--	NA	3.0E-06	mg/kg-day	1.0E-03	mg/kg-day	3E-03
				Cobalt	1.3E+01	mg/kg	4.8E-08	mg/kg-day	NA	--	NA	3.4E-06	mg/kg-day	3.0E-03	mg/kg-day	1E-03
				Copper	1.7E+02	mg/kg	6.3E-07	mg/kg-day	NA	--	NA	4.4E-05	mg/kg-day	4.0E-02	mg/kg-day	1E-03
				Iron	2.8E+04	mg/kg	1.0E-04	mg/kg-day	NA	--	NA	7.3E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Lead	1.9E+02	mg/kg	7.2E-07	mg/kg-day	NA	--	NA	5.0E-05	mg/kg-day	NA	--	NA
				Manganese	5.3E+02	mg/kg	2.0E-06	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
				Vanadium	4.4E+01	mg/kg	1.6E-07	mg/kg-day	NA	--	NA	1.1E-05	mg/kg-day	5.0E-03	mg/kg-day	2E-03
			Exposure Route Total								1E-06					2E-01

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Dermal	cis-1,2-Dichloroethene	2.2E+01	mg/kg	N/A	mg/kg-day	NA	--	NA	N/A	mg/kg-day	2.0E-02	mg/kg-day	--
				Acenaphthylene	2.1E-01	mg/kg	1.0E-10	mg/kg-day	NA	--	NA	7.0E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	1.8E+00	mg/kg	8.7E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-10	6.1E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	2.7E+00	mg/kg	1.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-09	9.0E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	4.0E+00	mg/kg	1.9E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	1.3E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	1.3E+00	mg/kg	6.1E-10	mg/kg-day	NA	--	NA	4.3E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	1.0E+00	mg/kg	5.0E-10	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	4E-11	3.5E-08	mg/kg-day	NA	--	NA
				bis(2-Ethylhexyl)phthalate	5.3E+01	mg/kg	1.9E-08	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	1.4E-06	mg/kg-day	2.0E-01	mg/kg-day	7E-06
				Carbazole	1.0E-01	mg/kg	3.7E-11	mg/kg-day	NA	--	NA	2.6E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.7E-01	mg/kg	1.3E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9E-10	9.0E-09	mg/kg-day	NA	--	NA
				Dimethyl phthalate	3.6E+00	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	9.3E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	7.8E+00	mg/kg	2.9E-09	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.6E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-10	3.9E-08	mg/kg-day	NA	--	NA
				Phenanthrene	2.2E+00	mg/kg	1.0E-09	mg/kg-day	NA	--	NA	7.3E-08	mg/kg-day	NA	--	NA
				Dieldrin	7.4E+00	mg/kg	N/A	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.0E-04	mg/kg-day	--
				4,4'-DDE	5.6E+01	mg/kg	6.2E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	4.3E-07	mg/kg-day	NA	--	NA
				Endosulfan sulfate	2.4E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Endrin aldehyde	5.2E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Heptachlor epoxide	1.3E+00	mg/kg	N/A	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	--	N/A	mg/kg-day	1.3E-05	mg/kg-day	--
				Total PCB Aroclors	3.3E+01	mg/kg	1.7E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-08	1.2E-06	mg/kg-day	6.0E-05	mg/kg-day	2E-02
				Aluminum	1.6E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Antimony	2.9E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-05	mg/kg-day	--
				Arsenic	1.5E+01	mg/kg	1.7E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-09	1.2E-07	mg/kg-day	3.0E-04	mg/kg-day	4E-04
				Cadmium	1.2E+01	mg/kg	4.3E-11	mg/kg-day	NA	--	NA	3.0E-09	mg/kg-day	2.5E-05	mg/kg-day	1E-04
				Cobalt	1.3E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Copper	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	4.0E-02	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.9E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.3E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
				Vanadium	4.4E+01	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	5.0E-03	mg/kg-day	--
			Exposure Route Total								5E-08					2E-02

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB5	Inhalation	cis-1,2-Dichloroethene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	2.5E-03	µg/m^3	4.8E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	5E-11	4.8E-04	µg/m^3	NA	--	NA
				Benzo(a)pyrene	3.7E-03	µg/m^3	7.3E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	8E-10	7.1E-04	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	5.5E-03	µg/m^3	1.1E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	1.1E-03	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	1.8E-03	µg/m^3	3.5E-07	µg/m^3	NA	--	NA	3.4E-04	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	1.4E-03	µg/m^3	2.7E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-11	2.6E-04	µg/m^3	NA	--	NA
				bis(2-Ethylhexyl)phthalate	7.3E-02	µg/m^3	1.4E-05	µg/m^3	2.4E-06	(µg/m^3)$^{-1}$	3E-11	1.4E-02	µg/m^3	NA	--	NA
				Carbazole	1.4E-04	µg/m^3	2.7E-08	µg/m^3	NA	--	NA	2.7E-05	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	3.7E-04	µg/m^3	7.3E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	9E-11	7.1E-05	µg/m^3	NA	--	NA
				Dimethyl phthalate	5.0E-03	µg/m^3	9.7E-07	µg/m^3	NA	--	NA	9.5E-04	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	1.1E-02	µg/m^3	2.1E-06	µg/m^3	NA	--	NA	2.1E-03	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-03	µg/m^3	3.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	3.2E-04	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Dieldrin	1.0E-02	µg/m^3	2.0E-06	µg/m^3	4.6E-03	(µg/m^3)$^{-1}$	9E-09	2.0E-03	µg/m^3	NA	--	NA
				4,4'-DDE	7.7E-02	µg/m^3	1.5E-05	µg/m^3	9.7E-05	(µg/m^3)$^{-1}$	1E-09	1.5E-02	µg/m^3	NA	--	NA
				Endosulfan sulfate	3.3E-06	µg/m^3	6.5E-10	µg/m^3	NA	--	NA	6.3E-07	µg/m^3	NA	--	NA
				Endrin aldehyde	7.2E-03	µg/m^3	1.4E-06	µg/m^3	NA	--	NA	1.4E-03	µg/m^3	NA	--	NA
				Heptachlor epoxide	1.8E-03	µg/m^3	3.5E-07	µg/m^3	2.6E-03	(µg/m^3)$^{-1}$	9E-10	3.4E-04	µg/m^3	NA	--	NA
				Total PCB Aroclors	4.5E-02	µg/m^3	8.9E-06	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	9E-10	8.7E-03	µg/m^3	NA	--	NA
				Aluminum	2.2E+01	µg/m^3	4.3E-03	µg/m^3	NA	--	NA	4.2E+00	µg/m^3	5.0E+00	µg/m^3	8E-01
				Antimony	4.0E-03	µg/m^3	7.8E-07	µg/m^3	NA	--	NA	7.7E-04	µg/m^3	NA	--	NA
				Arsenic	2.1E-02	µg/m^3	4.0E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	2E-08	4.0E-03	µg/m^3	1.5E-02	µg/m^3	3E-01
				Cadmium	1.7E-02	µg/m^3	3.2E-06	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	6E-09	3.2E-03	µg/m^3	2.0E-02	µg/m^3	2E-01
				Cobalt	1.8E-02	µg/m^3	3.5E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	3E-08	3.4E-03	µg/m^3	6.0E-03	µg/m^3	6E-01
				Copper	2.3E-01	µg/m^3	4.6E-05	µg/m^3	NA	--	NA	4.5E-02	µg/m^3	NA	--	NA
				Iron	3.9E+01	µg/m^3	7.7E-03	µg/m^3	NA	--	NA	7.5E+00	µg/m^3	NA	--	NA
				Lead	2.7E-01	µg/m^3	5.2E-05	µg/m^3	NA	--	NA	5.1E-02	µg/m^3	NA	--	NA
				Manganese	7.3E-01	µg/m^3	1.4E-04	µg/m^3	NA	--	NA	1.4E-01	µg/m^3	5.0E-02	µg/m^3	3E+00
				Vanadium	6.1E-02	µg/m^3	1.2E-05	µg/m^3	NA	--	NA	1.2E-02	µg/m^3	NA	--	NA
			Exposure Route Total								7E-08					5E+00
		Exposure Point Total									1E-06					5E+00
	Total of Receptor Risks Across Medium										1E-06					5E+00

Notes
NA = Not Available
N/A = Not Applicable

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Ingestion	Acenaphthylene	2.9E-02	mg/kg	3.2E-10	mg/kg-day	NA	--	NA	2.2E-08	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	2.5E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.7E-06	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	1.8E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	1.2E-06	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	2.7E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.9E-06	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	7.3E-09	mg/kg-day	NA	--	NA	5.1E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	2.3E-08	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	1.6E-06	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	1.3E-09	mg/kg-day	NA	--	NA	9.1E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	2.3E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.6E-07	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	9.5E-09	mg/kg-day	NA	--	NA	6.7E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	6.5E-10	mg/kg-day	NA	--	NA	4.5E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	1.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1E-08	9.4E-07	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	3.9E-08	mg/kg-day	NA	--	NA	2.7E-06	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	4.4E-11	mg/kg-day	NA	--	NA	3.1E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	6.9E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-06	4.8E-05	mg/kg-day	6.0E-05	mg/kg-day	8E-01
				Aluminum	1.5E+04	mg/kg	1.6E-04	mg/kg-day	NA	--	NA	1.1E-02	mg/kg-day	1.0E+00	mg/kg-day	1E-02
				Arsenic	2.9E+00	mg/kg	3.3E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	2.3E-06	mg/kg-day	3.0E-04	mg/kg-day	8E-03
				Cadmium	4.0E+00	mg/kg	4.4E-08	mg/kg-day	NA	--	NA	3.1E-06	mg/kg-day	1.0E-03	mg/kg-day	3E-03
				Cobalt	7.3E+00	mg/kg	8.1E-08	mg/kg-day	NA	--	NA	5.7E-06	mg/kg-day	3.0E-03	mg/kg-day	2E-03
				Cyanide	1.7E+00	mg/kg	1.8E-08	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	6.0E-04	mg/kg-day	2E-03
				Iron	2.8E+04	mg/kg	3.1E-04	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	7.0E-01	mg/kg-day	3E-02
				Lead	1.7E+02	mg/kg	1.9E-06	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	NA	--	NA
				Manganese	5.5E+02	mg/kg	6.1E-06	mg/kg-day	NA	--	NA	4.3E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
			Exposure Route Total								2E-06					9E-01
Floodplain Soil	All Soil	EU BB6	Dermal	Acenaphthylene	2.9E-02	mg/kg	1.2E-10	mg/kg-day	NA	--	NA	8.7E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	9.6E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	6.7E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	6.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5E-08	4.8E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	1.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-09	7.4E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	2.8E-09	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	8.8E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	6E-10	6.2E-07	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	3.9E-10	mg/kg-day	NA	--	NA	2.7E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	8.9E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	6.2E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	2.9E-09	mg/kg-day	NA	--	NA	2.0E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	1.9E-10	mg/kg-day	NA	--	NA	1.4E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-09	3.7E-07	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	1.5E-08	mg/kg-day	NA	--	NA	1.1E-06	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.2E+01	mg/kg	2.9E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	2.0E-05	mg/kg-day	6.0E-05	mg/kg-day	3E-01
				Aluminum	1.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.9E+00	mg/kg	2.9E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-09	2.0E-07	mg/kg-day	3.0E-04	mg/kg-day	7E-04
				Cadmium	4.0E+00	mg/kg	1.3E-10	mg/kg-day	NA	--	NA	9.3E-09	mg/kg-day	2.5E-05	mg/kg-day	4E-04
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Cyanide	1.7E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								7E-07					3E-01

TABLE 7.13.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	3.0E-03	µg/m^3	2.4E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-10	7.4E-04	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.2E-03	µg/m^3	1.7E-06	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	2E-09	5.4E-04	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.4E-03	µg/m^3	2.7E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	3E-10	8.4E-04	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	9.1E-04	µg/m^3	7.1E-07	µg/m^3	NA	--	NA	2.2E-04	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	2.8E-03	µg/m^3	2.2E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	2E-10	6.7E-04	µg/m^3	NA	--	NA
				Carbazole	1.7E-04	µg/m^3	1.3E-07	µg/m^3	NA	--	NA	4.0E-05	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	2.9E-04	µg/m^3	2.3E-07	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	3E-10	7.0E-05	µg/m^3	NA	--	NA
				Dimethyl phthalate	1.2E-03	µg/m^3	9.3E-07	µg/m^3	NA	--	NA	2.9E-04	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.1E-05	µg/m^3	6.3E-08	µg/m^3	NA	--	NA	2.0E-05	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-03	µg/m^3	1.3E-06	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	1E-10	4.0E-04	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin ketone	5.5E-06	µg/m^3	4.3E-09	µg/m^3	NA	--	NA	1.3E-06	µg/m^3	NA	--	NA
				Total PCB Aroclors	8.5E-02	µg/m^3	6.7E-05	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	7E-09	2.1E-02	µg/m^3	NA	--	NA
				Aluminum	2.0E+01	µg/m^3	1.6E-02	µg/m^3	NA	--	NA	4.9E+00	µg/m^3	5.0E+00	µg/m^3	1E+00
				Arsenic	4.0E-03	µg/m^3	3.1E-06	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	1E-08	9.7E-04	µg/m^3	1.5E-02	µg/m^3	6E-02
				Cadmium	5.5E-03	µg/m^3	4.3E-06	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	8E-09	1.3E-03	µg/m^3	2.0E-02	µg/m^3	7E-02
				Cobalt	1.0E-02	µg/m^3	7.9E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	7E-08	2.4E-03	µg/m^3	6.0E-03	µg/m^3	4E-01
				Cyanide	2.3E-03	µg/m^3	1.8E-06	µg/m^3	NA	--	NA	5.7E-04	µg/m^3	NA	--	NA
				Iron	3.9E+01	µg/m^3	3.0E-02	µg/m^3	NA	--	NA	9.4E+00	µg/m^3	NA	--	NA
				Lead	2.4E-01	µg/m^3	1.8E-04	µg/m^3	NA	--	NA	5.7E-02	µg/m^3	NA	--	NA
				Manganese	7.6E-01	µg/m^3	6.0E-04	µg/m^3	NA	--	NA	1.9E-01	µg/m^3	5.0E-02	µg/m^3	4E+00
			Exposure Route Total								1E-07					5E+00
		Exposure Point Total									2E-06					6E+00
	Total of Receptor Risks Across Medium										2E-06					6E+00

Notes
NA = Not Available

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Ingestion	Acenaphthylene	2.9E-02	mg/kg	1.1E-10	mg/kg-day	NA	--	NA	7.4E-09	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	8.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	6E-09	5.8E-07	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	5.9E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	4E-08	4.1E-07	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	9.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7E-09	6.3E-07	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	2.4E-09	mg/kg-day	NA	--	NA	1.7E-07	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	7.5E-09	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	5E-10	5.3E-07	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	4.4E-10	mg/kg-day	NA	--	NA	3.0E-08	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	7.6E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	5.3E-08	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	3.2E-09	mg/kg-day	NA	--	NA	2.2E-07	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	2.2E-10	mg/kg-day	NA	--	NA	1.5E-08	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	4.5E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	3.1E-07	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	1.3E-08	mg/kg-day	NA	--	NA	9.1E-07	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	1.5E-11	mg/kg-day	NA	--	NA	1.0E-09	mg/kg-day	NA	--	NA
				Total PCB Aroclors	6.2E+01	mg/kg	2.3E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-07	1.6E-05	mg/kg-day	6.0E-05	mg/kg-day	3E-01
				Aluminum	1.5E+04	mg/kg	5.4E-05	mg/kg-day	NA	--	NA	3.7E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Arsenic	2.9E+00	mg/kg	1.1E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	7.6E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Cadmium	4.0E+00	mg/kg	1.5E-08	mg/kg-day	NA	--	NA	1.0E-06	mg/kg-day	1.0E-03	mg/kg-day	1E-03
				Cobalt	7.3E+00	mg/kg	2.7E-08	mg/kg-day	NA	--	NA	1.9E-06	mg/kg-day	3.0E-03	mg/kg-day	6E-04
				Cyanide	1.7E+00	mg/kg	6.1E-09	mg/kg-day	NA	--	NA	4.3E-07	mg/kg-day	6.0E-04	mg/kg-day	7E-04
				Iron	2.8E+04	mg/kg	1.0E-04	mg/kg-day	NA	--	NA	7.3E-03	mg/kg-day	7.0E-01	mg/kg-day	1E-02
				Lead	1.7E+02	mg/kg	6.3E-07	mg/kg-day	NA	--	NA	4.4E-05	mg/kg-day	NA	--	NA
				Manganese	5.5E+02	mg/kg	2.0E-06	mg/kg-day	NA	--	NA	1.4E-04	mg/kg-day	2.4E-02	mg/kg-day	6E-03
			Exposure Route Total								5E-07					3E-01
Floodplain Soil	All Soil	EU BB6	Dermal	Acenaphthylene	2.9E-02	mg/kg	1.4E-11	mg/kg-day	NA	--	NA	9.6E-10	mg/kg-day	NA	--	NA
				Benzo(a)anthracene	2.2E+00	mg/kg	1.1E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	8E-10	7.5E-08	mg/kg-day	NA	--	NA
				Benzo(a)pyrene	1.6E+00	mg/kg	7.6E-10	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	6E-09	5.3E-08	mg/kg-day	NA	--	NA
				Benzo(b)fluoranthene	2.5E+00	mg/kg	1.2E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	9E-10	8.2E-08	mg/kg-day	NA	--	NA
				Benzo(g,h,i)perylene	6.6E-01	mg/kg	3.1E-10	mg/kg-day	NA	--	NA	2.2E-08	mg/kg-day	NA	--	NA
				Benzo(k)fluoranthene	2.0E+00	mg/kg	9.8E-10	mg/kg-day	7.3E-02	$(mg/kg\text{-}day)^{-1}$	7E-11	6.8E-08	mg/kg-day	NA	--	NA
				Carbazole	1.2E-01	mg/kg	4.4E-11	mg/kg-day	NA	--	NA	3.0E-09	mg/kg-day	NA	--	NA
				Dibenzo(a,h)anthracene	2.1E-01	mg/kg	9.9E-11	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7E-10	6.9E-09	mg/kg-day	NA	--	NA
				Dimethyl phthalate	8.6E-01	mg/kg	3.2E-10	mg/kg-day	NA	--	NA	2.2E-08	mg/kg-day	NA	--	NA
				di-n-Octyl phthalate	5.9E-02	mg/kg	2.2E-11	mg/kg-day	NA	--	NA	1.5E-09	mg/kg-day	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.2E+00	mg/kg	5.8E-10	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4E-10	4.1E-08	mg/kg-day	NA	--	NA
				Phenanthrene	3.5E+00	mg/kg	1.7E-09	mg/kg-day	NA	--	NA	1.2E-07	mg/kg-day	NA	--	NA
				Endrin ketone	4.0E-03	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Total PCB Aroclors	6.2E+01	mg/kg	3.2E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	2.2E-06	mg/kg-day	6.0E-05	mg/kg-day	4E-02
				Aluminum	1.5E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	1.0E+00	mg/kg-day	--
				Arsenic	2.9E+00	mg/kg	3.3E-10	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-10	2.3E-08	mg/kg-day	3.0E-04	mg/kg-day	8E-05
				Cadmium	4.0E+00	mg/kg	1.5E-11	mg/kg-day	NA	--	NA	1.0E-09	mg/kg-day	2.5E-05	mg/kg-day	4E-05
				Cobalt	7.3E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	3.0E-03	mg/kg-day	--
				Cyanide	1.7E+00	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	6.0E-04	mg/kg-day	--
				Iron	2.8E+04	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	7.0E-01	mg/kg-day	--
				Lead	1.7E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	NA	--	--
				Manganese	5.5E+02	mg/kg	N/A	mg/kg-day	NA	--	--	N/A	mg/kg-day	9.6E-04	mg/kg-day	--
			Exposure Route Total								7E-08					4E-02

TABLE 7.13.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Floodplain Soil	All Soil	EU BB6	Inhalation	Acenaphthylene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Benzo(a)anthracene	3.0E-03	µg/m^3	5.9E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-11	5.8E-04	µg/m^3	NA	--	NA
				Benzo(a)pyrene	2.2E-03	µg/m^3	4.3E-07	µg/m^3	1.1E-03	(µg/m^3)$^{-1}$	5E-10	4.2E-04	µg/m^3	NA	--	NA
				Benzo(b)fluoranthene	3.4E-03	µg/m^3	6.7E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	7E-11	6.6E-04	µg/m^3	NA	--	NA
				Benzo(g,h,i)perylene	9.1E-04	µg/m^3	1.8E-07	µg/m^3	NA	--	NA	1.7E-04	µg/m^3	NA	--	NA
				Benzo(k)fluoranthene	2.8E-03	µg/m^3	5.4E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	6E-11	5.3E-04	µg/m^3	NA	--	NA
				Carbazole	1.7E-04	µg/m^3	3.2E-08	µg/m^3	NA	--	NA	3.2E-05	µg/m^3	NA	--	NA
				Dibenzo(a,h)anthracene	2.9E-04	µg/m^3	5.7E-08	µg/m^3	1.2E-03	(µg/m^3)$^{-1}$	7E-11	5.6E-05	µg/m^3	NA	--	NA
				Dimethyl phthalate	1.2E-03	µg/m^3	2.3E-07	µg/m^3	NA	--	NA	2.3E-04	µg/m^3	NA	--	NA
				di-n-Octyl phthalate	8.1E-05	µg/m^3	1.6E-08	µg/m^3	NA	--	NA	1.5E-05	µg/m^3	NA	--	NA
				Indeno(1,2,3-cd)pyrene	1.7E-03	µg/m^3	3.2E-07	µg/m^3	1.1E-04	(µg/m^3)$^{-1}$	4E-11	3.2E-04	µg/m^3	NA	--	NA
				Phenanthrene	N/A	µg/m^3	--	µg/m^3	NA	--	--	--	µg/m^3	NA	--	--
				Endrin ketone	5.5E-06	µg/m^3	1.1E-09	µg/m^3	NA	--	NA	1.1E-06	µg/m^3	NA	--	NA
				Total PCB Aroclors	8.5E-02	µg/m^3	1.7E-05	µg/m^3	1.0E-04	(µg/m^3)$^{-1}$	2E-09	1.6E-02	µg/m^3	NA	--	NA
				Aluminum	2.0E+01	µg/m^3	3.9E-03	µg/m^3	NA	--	NA	3.8E+00	µg/m^3	5.0E+00	µg/m^3	8E-01
				Arsenic	4.0E-03	µg/m^3	7.8E-07	µg/m^3	4.3E-03	(µg/m^3)$^{-1}$	3E-09	7.7E-04	µg/m^3	1.5E-02	µg/m^3	5E-02
				Cadmium	5.5E-03	µg/m^3	1.1E-06	µg/m^3	1.8E-03	(µg/m^3)$^{-1}$	2E-09	1.1E-03	µg/m^3	2.0E-02	µg/m^3	5E-02
				Cobalt	1.0E-02	µg/m^3	2.0E-06	µg/m^3	9.0E-03	(µg/m^3)$^{-1}$	2E-08	1.9E-03	µg/m^3	6.0E-03	µg/m^3	3E-01
				Cyanide	2.3E-03	µg/m^3	4.6E-07	µg/m^3	NA	--	NA	4.5E-04	µg/m^3	NA	--	NA
				Iron	3.9E+01	µg/m^3	7.6E-03	µg/m^3	NA	--	NA	7.4E+00	µg/m^3	NA	--	NA
				Lead	2.4E-01	µg/m^3	4.6E-05	µg/m^3	NA	--	NA	4.5E-02	µg/m^3	NA	--	NA
				Manganese	7.6E-01	µg/m^3	1.5E-04	µg/m^3	NA	--	NA	1.5E-01	µg/m^3	5.0E-02	µg/m^3	3E+00
			Exposure Route Total								3E-08					4E+00
		Exposure Point Total									6E-07					4E+00
	Total of Receptor Risks Across Medium										6E-07					4E+00

Notes
NA = Not Available

TABLE 7.14.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 and Green Brook (BB1 & GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB1 & GB	Ingestion	4,4'-DDD	3.0E-02	mg/kg wet weight	3.3E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	9.5E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	2.3E-02	mg/kg wet weight	2.5E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	7.3E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.0E-02	mg/kg wet weight	1.1E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	3.2E-06	mg/kg-day	1.3E-05	mg/kg-day	2E-01
				Total PCB Aroclors	1.2E+00	mg/kg wet weight	1.3E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-04	3.8E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				Aluminum	8.5E+00	mg/kg wet weight	9.3E-04	mg/kg-day	NA	--	NA	2.7E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Cobalt	4.2E-01	mg/kg wet weight	4.6E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	3.0E-04	mg/kg-day	4E-01
				Lead	1.9E-01	mg/kg wet weight	2.1E-05	mg/kg-day	NA	--	NA	6.0E-05	mg/kg-day	NA	--	NA
				Mercury	1.8E-01	mg/kg wet weight	2.0E-05	mg/kg-day	NA	--	NA	5.7E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	4.0E-01	mg/kg wet weight	4.4E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								4E-04					2E+01
		Exposure Point Total									4E-04					2E+01
	Total of Receptor Risks Across Medium										4E-04					2E+01

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.14.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 and Green Brook (BB1 & GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB1 & GB	Ingestion	4,4'-DDD	3.0E-02	mg/kg wet weight	7.5E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	5.8E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	2.3E-02	mg/kg wet weight	5.8E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	4.5E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.0E-02	mg/kg wet weight	2.5E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.9E-06	mg/kg-day	1.3E-05	mg/kg-day	1E-01
				Total PCB Aroclors	1.2E+00	mg/kg wet weight	3.9E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-05	3.1E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				Aluminum	8.5E+00	mg/kg wet weight	3.5E-04	mg/kg-day	NA	--	NA	2.7E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Cobalt	4.2E-01	mg/kg wet weight	1.7E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	3.0E-04	mg/kg-day	4E-01
				Lead	1.9E-01	mg/kg wet weight	7.8E-06	mg/kg-day	NA	--	NA	6.0E-05	mg/kg-day	NA	--	NA
				Mercury	1.8E-01	mg/kg wet weight	7.4E-06	mg/kg-day	NA	--	NA	5.7E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	4.0E-01	mg/kg wet weight	1.6E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								8E-05					2E+01
		Exposure Point Total									8E-05					2E+01
	Total of Receptor Risks Across Medium										8E-05					2E+01

Notes

NA = Not Available

TABLE 7.14.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB2	Ingestion	4,4'-DDD	1.0E-02	mg/kg wet weight	1.1E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	3.2E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	1.6E-02	mg/kg wet weight	1.7E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8E-07	5.1E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.5E-03	mg/kg wet weight	7.1E-07	mg/kg-day	NA	--	NA	2.1E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.4E-02	mg/kg wet weight	1.5E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	4.4E-06	mg/kg-day	1.3E-05	mg/kg-day	3E-01
				Total PCB Aroclors	1.3E+00	mg/kg wet weight	1.4E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-04	4.1E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				TCDD TEQ (PCBs)	8.5E-06	mg/kg wet weight	9.3E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	2E-04	2.7E-09	mg/kg-day	7.0E-10	mg/kg-day	4E+00
				Aluminum	8.6E+01	mg/kg wet weight	9.4E-03	mg/kg-day	NA	--	NA	2.7E-02	mg/kg-day	1.0E+00	mg/kg-day	3E-02
				Arsenic	1.4E-01	mg/kg wet weight	1.5E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	4.4E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Lead	1.3E-01	mg/kg wet weight	1.4E-05	mg/kg-day	NA	--	NA	4.1E-05	mg/kg-day	NA	--	NA
				Mercury	1.5E-01	mg/kg wet weight	1.6E-05	mg/kg-day	NA	--	NA	4.8E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	5.0E-01	mg/kg wet weight	5.4E-05	mg/kg-day	NA	--	NA	1.6E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								6E-04					3E+01
		Exposure Point Total									6E-04					3E+01
	Total of Receptor Risks Across Medium										6E-04					3E+01

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.14.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB2	Ingestion	4,4'-DDD	1.0E-02	mg/kg wet weight	2.5E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.9E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	1.6E-02	mg/kg wet weight	4.0E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.1E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.5E-03	mg/kg wet weight	1.6E-07	mg/kg-day	NA	--	NA	1.3E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.4E-02	mg/kg wet weight	3.5E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	2.7E-06	mg/kg-day	1.3E-05	mg/kg-day	2E-01
				Total PCB Aroclors	1.3E+00	mg/kg wet weight	4.2E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-05	3.3E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				TCDD TEQ (PCBs)	8.5E-06	mg/kg wet weight	2.8E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	4E-05	2.2E-09	mg/kg-day	7.0E-10	mg/kg-day	3E+00
				Aluminum	8.6E+01	mg/kg wet weight	3.5E-03	mg/kg-day	NA	--	NA	2.7E-02	mg/kg-day	1.0E+00	mg/kg-day	3E-02
				Arsenic	1.4E-01	mg/kg wet weight	5.7E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	4.4E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Lead	1.3E-01	mg/kg wet weight	5.3E-06	mg/kg-day	NA	--	NA	4.1E-05	mg/kg-day	NA	--	NA
				Mercury	1.5E-01	mg/kg wet weight	6.1E-06	mg/kg-day	NA	--	NA	4.8E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	5.0E-01	mg/kg wet weight	2.0E-05	mg/kg-day	NA	--	NA	1.6E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								1E-04					2E+01
		Exposure Point Total									1E-04					2E+01
	Total of Receptor Risks Across Medium										1E-04					2E+01

Notes
NA = Not Available

TABLE 7.14.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 and 4 (BB3 & BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB3 & BB4	Ingestion	4,4'-DDE	4.0E-02	mg/kg wet weight	4.4E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.3E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.6E-02	mg/kg wet weight	2.8E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	8.3E-06	mg/kg-day	1.3E-05	mg/kg-day	6E-01
				Total PCB Aroclors	2.4E+00	mg/kg wet weight	2.6E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-04	7.6E-04	mg/kg-day	2.0E-05	mg/kg-day	4E+01
				TCDD TEQ (PCBs)	2.5E-05	mg/kg wet weight	2.7E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	5E-04	7.9E-09	mg/kg-day	7.0E-10	mg/kg-day	1E+01
				Aluminum	4.2E+00	mg/kg wet weight	4.6E-04	mg/kg-day	NA	--	NA	1.3E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Mercury	9.5E-02	mg/kg wet weight	1.0E-05	mg/kg-day	NA	--	NA	3.0E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	5.7E-01	mg/kg wet weight	6.2E-05	mg/kg-day	NA	--	NA	1.8E-04	mg/kg-day	5.0E-03	mg/kg-day	4E-02
			Exposure Route Total								1E-03					5E+01
		Exposure Point Total									1E-03					5E+01
	Total of Receptor Risks Across Medium										1E-03					5E+01

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.14.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 and 4 (BB3 & BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB3 & BB4	Ingestion	4,4'-DDE	4.0E-02	mg/kg wet weight	1.0E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	7.8E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.6E-02	mg/kg wet weight	6.5E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	5.1E-06	mg/kg-day	1.3E-05	mg/kg-day	4E-01
				Total PCB Aroclors	2.4E+00	mg/kg wet weight	7.8E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-04	6.1E-04	mg/kg-day	2.0E-05	mg/kg-day	3E+01
				TCDD TEQ (PCBs)	2.5E-05	mg/kg wet weight	8.2E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-04	6.4E-09	mg/kg-day	7.0E-10	mg/kg-day	9E+00
				Aluminum	4.2E+00	mg/kg wet weight	1.7E-04	mg/kg-day	NA	--	NA	1.3E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Mercury	9.5E-02	mg/kg wet weight	3.9E-06	mg/kg-day	NA	--	NA	3.0E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	5.7E-01	mg/kg wet weight	2.3E-05	mg/kg-day	NA	--	NA	1.8E-04	mg/kg-day	5.0E-03	mg/kg-day	4E-02
			Exposure Route Total								3E-04					4E+01
		Exposure Point Total									3E-04					4E+01
	Total of Receptor Risks Across Medium										3E-04					4E+01

Notes

NA = Not Available

TABLE 7.14.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB5	Ingestion	4,4'-DDD	3.6E-03	mg/kg wet weight	3.9E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	1.1E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	5.5E-02	mg/kg wet weight	6.0E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.7E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	4.0E-02	mg/kg wet weight	4.4E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	6E-05	1.3E-05	mg/kg-day	1.3E-05	mg/kg-day	1E+00
				Total PCB Aroclors	3.4E+00	mg/kg wet weight	3.7E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-03	1.1E-03	mg/kg-day	2.0E-05	mg/kg-day	5E+01
				TCDD TEQ (PCBs)	1.3E-04	mg/kg wet weight	1.4E-08	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	3E-03	4.1E-08	mg/kg-day	7.0E-10	mg/kg-day	6E+01
				Aluminum	1.2E+01	mg/kg wet weight	1.3E-03	mg/kg-day	NA	--	NA	3.8E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Arsenic	1.3E-01	mg/kg wet weight	1.4E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	4.1E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Mercury	9.0E-02	mg/kg wet weight	9.8E-06	mg/kg-day	NA	--	NA	2.9E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	1.1E+00	mg/kg wet weight	1.2E-04	mg/kg-day	NA	--	NA	3.5E-04	mg/kg-day	5.0E-03	mg/kg-day	7E-02
			Exposure Route Total								4E-03					1E+02
		Exposure Point Total									4E-03					1E+02
	Total of Receptor Risks Across Medium										4E-03					1E+02

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.14.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB5	Ingestion	4,4'-DDD	3.6E-03	mg/kg wet weight	9.0E-08	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	7.0E-07	mg/kg-day	NA	--	NA
				4,4'-DDE	5.5E-02	mg/kg wet weight	1.4E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	1.1E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	4.0E-02	mg/kg wet weight	1.0E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	7.8E-06	mg/kg-day	1.3E-05	mg/kg-day	6E-01
				Total PCB Aroclors	3.4E+00	mg/kg wet weight	1.1E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-04	8.6E-04	mg/kg-day	2.0E-05	mg/kg-day	4E+01
				TCDD TEQ (PCBs)	1.3E-04	mg/kg wet weight	4.2E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	6E-04	3.3E-08	mg/kg-day	7.0E-10	mg/kg-day	5E+01
				Aluminum	1.2E+01	mg/kg wet weight	4.9E-04	mg/kg-day	NA	--	NA	3.8E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Arsenic	1.3E-01	mg/kg wet weight	5.3E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	4.1E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Mercury	9.0E-02	mg/kg wet weight	3.7E-06	mg/kg-day	NA	--	NA	2.9E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	1.1E+00	mg/kg wet weight	4.5E-05	mg/kg-day	NA	--	NA	3.5E-04	mg/kg-day	5.0E-03	mg/kg-day	7E-02
			Exposure Route Total								8E-04					9E+01
		Exposure Point Total									8E-04					9E+01
	Total of Receptor Risks Across Medium										8E-04					9E+01

Notes

NA = Not Available

TABLE 7.14.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB6	Ingestion	Total PCB Aroclors	2.3E-01	mg/kg wet weight	2.5E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-05	7.3E-05	mg/kg-day	2.0E-05	mg/kg-day	4E+00
				TCDD TEQ (PCBs)	2.9E-06	mg/kg wet weight	3.2E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	6E-05	9.2E-10	mg/kg-day	7.0E-10	mg/kg-day	1E+00
			Exposure Route Total								1E-04					5E+00
		Exposure Point Total									1E-04					5E+00
	Total of Receptor Risks Across Medium										1E-04					5E+00

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.14.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB6	Ingestion	Total PCB Aroclors	2.3E-01	mg/kg wet weight	7.5E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	5.8E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				TCDD TEQ (PCBs)	2.9E-06	mg/kg wet weight	9.5E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-05	7.4E-10	mg/kg-day	7.0E-10	mg/kg-day	1E+00
			Exposure Route Total								3E-05					4E+00
		Exposure Point Total									3E-05					4E+00
	Total of Receptor Risks Across Medium										3E-05					4E+00

Notes
NA = Not Available

TABLE 7.14.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish	EU SL	Ingestion	4,4'-DDE	1.6E-02	mg/kg wet weight	1.7E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8E-07	5.1E-06	mg/kg-day	NA	--	NA
				Dieldrin	1.0E-02	mg/kg wet weight	1.1E-06	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	2E-05	3.2E-06	mg/kg-day	5.0E-04	mg/kg-day	6E-03
				Heptachlor epoxide	1.0E-02	mg/kg wet weight	1.1E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	3.2E-06	mg/kg-day	1.3E-05	mg/kg-day	2E-01
				Total PCB Aroclors	8.1E-01	mg/kg wet weight	8.8E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-04	2.6E-04	mg/kg-day	2.0E-05	mg/kg-day	1E+01
				TCDD TEQ (PCBs)	1.7E-06	mg/kg wet weight	1.9E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	3E-05	5.4E-10	mg/kg-day	7.0E-10	mg/kg-day	8E-01
				Lead	2.0E-01	mg/kg wet weight	2.2E-05	mg/kg-day	NA	--	NA	6.4E-05	mg/kg-day	NA	--	NA
				Mercury	2.4E-01	mg/kg wet weight	2.6E-05	mg/kg-day	NA	--	NA	7.6E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
			Exposure Route Total								3E-04					1E+01
		Exposure Point Total									3E-04					1E+01
	Total of Receptor Risks Across Medium										3E-04					1E+01

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.14.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish	EU SL	Ingestion	4,4'-DDE	1.6E-02	mg/kg wet weight	4.0E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.1E-06	mg/kg-day	NA	--	NA
				Dieldrin	1.0E-02	mg/kg wet weight	2.5E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	4E-06	1.9E-06	mg/kg-day	5.0E-04	mg/kg-day	4E-03
				Heptachlor epoxide	1.0E-02	mg/kg wet weight	2.5E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.9E-06	mg/kg-day	1.3E-05	mg/kg-day	1E-01
				Total PCB Aroclors	8.1E-01	mg/kg wet weight	2.6E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-05	2.1E-04	mg/kg-day	2.0E-05	mg/kg-day	1E+01
				TCDD TEQ (PCBs)	1.7E-06	mg/kg wet weight	5.6E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	7E-06	4.3E-10	mg/kg-day	7.0E-10	mg/kg-day	6E-01
				Lead	2.0E-01	mg/kg wet weight	8.2E-06	mg/kg-day	NA	--	NA	6.4E-05	mg/kg-day	NA	--	NA
				Mercury	2.4E-01	mg/kg wet weight	9.8E-06	mg/kg-day	NA	--	NA	7.6E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
			Exposure Route Total								7E-05					1E+01
		Exposure Point Total									7E-05					1E+01
	Total of Receptor Risks Across Medium										7E-05					1E+01

Notes

NA = Not Available

TABLE 7.15.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 and Green Brook (BB1 & GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB1 & GB	Ingestion	4,4'-DDD	3.0E-02	mg/kg wet weight	1.6E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	9.1E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	2.3E-02	mg/kg wet weight	1.2E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	7.0E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.0E-02	mg/kg wet weight	5.2E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	3.0E-06	mg/kg-day	1.3E-05	mg/kg-day	2E-01
				Total PCB Aroclors	1.2E+00	mg/kg wet weight	6.2E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-04	3.6E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				Aluminum	8.5E+00	mg/kg wet weight	4.4E-04	mg/kg-day	NA	--	NA	2.6E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Cobalt	4.2E-01	mg/kg wet weight	2.2E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	3.0E-04	mg/kg-day	4E-01
				Lead	1.9E-01	mg/kg wet weight	9.9E-06	mg/kg-day	NA	--	NA	5.8E-05	mg/kg-day	NA	--	NA
				Mercury	1.8E-01	mg/kg wet weight	9.4E-06	mg/kg-day	NA	--	NA	5.5E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	4.0E-01	mg/kg wet weight	2.1E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	5.0E-03	mg/kg-day	2E-02
			Exposure Route Total								1E-04					2E+01
		Exposure Point Total									1E-04					2E+01
	Total of Receptor Risks Across Medium										1E-04					2E+01

Notes
NA = Not Available

TABLE 7.15.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 and Green Brook (BB1 & GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB1 & GB	Ingestion	4,4'-DDD	3.0E-02	mg/kg wet weight	7.2E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	5.6E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	2.3E-02	mg/kg wet weight	5.5E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	4.3E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.0E-02	mg/kg wet weight	2.4E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.9E-06	mg/kg-day	1.3E-05	mg/kg-day	1E-01
				Total PCB Aroclors	1.2E+00	mg/kg wet weight	3.7E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-05	2.9E-04	mg/kg-day	2.0E-05	mg/kg-day	1E+01
				Aluminum	8.5E+00	mg/kg wet weight	3.3E-04	mg/kg-day	NA	--	NA	2.6E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Cobalt	4.2E-01	mg/kg wet weight	1.6E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	3.0E-04	mg/kg-day	4E-01
				Lead	1.9E-01	mg/kg wet weight	7.4E-06	mg/kg-day	NA	--	NA	5.8E-05	mg/kg-day	NA	--	NA
				Mercury	1.8E-01	mg/kg wet weight	7.0E-06	mg/kg-day	NA	--	NA	5.5E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	4.0E-01	mg/kg wet weight	1.6E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	5.0E-03	mg/kg-day	2E-02
			Exposure Route Total								8E-05					2E+01
		Exposure Point Total									8E-05					2E+01
	Total of Receptor Risks Across Medium										8E-05					2E+01

Notes

NA = Not Available

TABLE 7.15.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB2	Ingestion	4,4'-DDD	1.0E-02	mg/kg wet weight	5.2E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.0E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	1.6E-02	mg/kg wet weight	8.3E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	4.9E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.5E-03	mg/kg wet weight	3.4E-07	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.4E-02	mg/kg wet weight	7.3E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	7E-06	4.2E-06	mg/kg-day	1.3E-05	mg/kg-day	3E-01
				Total PCB Aroclors	1.3E+00	mg/kg wet weight	6.8E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-04	3.9E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				TCDD TEQ (PCBs)	8.5E-06	mg/kg wet weight	4.4E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	6E-05	2.6E-09	mg/kg-day	7.0E-10	mg/kg-day	4E+00
				Aluminum	8.6E+01	mg/kg wet weight	4.5E-03	mg/kg-day	NA	--	NA	2.6E-02	mg/kg-day	1.0E+00	mg/kg-day	3E-02
				Arsenic	1.4E-01	mg/kg wet weight	7.3E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	4.2E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Lead	1.3E-01	mg/kg wet weight	6.8E-06	mg/kg-day	NA	--	NA	3.9E-05	mg/kg-day	NA	--	NA
				Mercury	1.5E-01	mg/kg wet weight	7.8E-06	mg/kg-day	NA	--	NA	4.5E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	5.0E-01	mg/kg wet weight	2.6E-05	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								2E-04					2E+01
		Exposure Point Total									2E-04					2E+01
	Total of Receptor Risks Across Medium										2E-04					2E+01

Notes
NA = Not Available

TABLE 7.15.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB2	Ingestion	4,4'-DDD	1.0E-02	mg/kg wet weight	2.4E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.9E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	1.6E-02	mg/kg wet weight	3.8E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.0E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.5E-03	mg/kg wet weight	1.6E-07	mg/kg-day	NA	--	NA	1.2E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.4E-02	mg/kg wet weight	3.3E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	2.6E-06	mg/kg-day	1.3E-05	mg/kg-day	2E-01
				Total PCB Aroclors	1.3E+00	mg/kg wet weight	4.1E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-05	3.2E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				TCDD TEQ (PCBs)	8.5E-06	mg/kg wet weight	2.7E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	3E-05	2.1E-09	mg/kg-day	7.0E-10	mg/kg-day	3E+00
				Aluminum	8.6E+01	mg/kg wet weight	3.4E-03	mg/kg-day	NA	--	NA	2.6E-02	mg/kg-day	1.0E+00	mg/kg-day	3E-02
				Arsenic	1.4E-01	mg/kg wet weight	5.5E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	4.2E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Lead	1.3E-01	mg/kg wet weight	5.1E-06	mg/kg-day	NA	--	NA	3.9E-05	mg/kg-day	NA	--	NA
				Mercury	1.5E-01	mg/kg wet weight	5.8E-06	mg/kg-day	NA	--	NA	4.5E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	5.0E-01	mg/kg wet weight	1.9E-05	mg/kg-day	NA	--	NA	1.5E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								1E-04					2E+01
		Exposure Point Total									1E-04					2E+01
	Total of Receptor Risks Across Medium										1E-04					2E+01

Notes
NA = Not Available

TABLE 7.15.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 and 4 (BB3 & BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB3 & BB4	Ingestion	4,4'-DDE	4.0E-02	mg/kg wet weight	2.1E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	1.2E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.6E-02	mg/kg wet weight	1.4E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	7.9E-06	mg/kg-day	1.3E-05	mg/kg-day	6E-01
				Total PCB Aroclors	2.4E+00	mg/kg wet weight	1.2E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-04	7.3E-04	mg/kg-day	2.0E-05	mg/kg-day	4E+01
				TCDD TEQ (PCBs)	2.5E-05	mg/kg wet weight	1.3E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	2E-04	7.6E-09	mg/kg-day	7.0E-10	mg/kg-day	1E+01
				Aluminum	4.2E+00	mg/kg wet weight	2.2E-04	mg/kg-day	NA	--	NA	1.3E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Mercury	9.5E-02	mg/kg wet weight	4.9E-06	mg/kg-day	NA	--	NA	2.9E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	5.7E-01	mg/kg wet weight	3.0E-05	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								4E-04					5E+01
		Exposure Point Total									4E-04					5E+01
	Total of Receptor Risks Across Medium										4E-04					5E+01

Notes
NA = Not Available

TABLE 7.15.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 and 4 (BB3 & BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB3 & BB4	Ingestion	4,4'-DDE	4.0E-02	mg/kg wet weight	9.6E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	7.4E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.6E-02	mg/kg wet weight	6.2E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	4.8E-06	mg/kg-day	1.3E-05	mg/kg-day	4E-01
				Total PCB Aroclors	2.4E+00	mg/kg wet weight	7.5E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-04	5.8E-04	mg/kg-day	2.0E-05	mg/kg-day	3E+01
				TCDD TEQ (PCBs)	2.5E-05	mg/kg wet weight	7.8E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-04	6.1E-09	mg/kg-day	7.0E-10	mg/kg-day	9E+00
				Aluminum	4.2E+00	mg/kg wet weight	1.6E-04	mg/kg-day	NA	--	NA	1.3E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Mercury	9.5E-02	mg/kg wet weight	3.7E-06	mg/kg-day	NA	--	NA	2.9E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	5.7E-01	mg/kg wet weight	2.2E-05	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								3E-04					4E+01
		Exposure Point Total									3E-04					4E+01
	Total of Receptor Risks Across Medium										3E-04					4E+01

Notes
NA = Not Available

TABLE 7.15.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB5	Ingestion	4,4'-DDD	3.6E-03	mg/kg wet weight	1.9E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.1E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	5.5E-02	mg/kg wet weight	2.9E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	1.7E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	4.0E-02	mg/kg wet weight	2.1E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.2E-05	mg/kg-day	1.3E-05	mg/kg-day	9E-01
				Total PCB Aroclors	3.4E+00	mg/kg wet weight	1.8E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-04	1.0E-03	mg/kg-day	2.0E-05	mg/kg-day	5E+01
				TCDD TEQ (PCBs)	1.3E-04	mg/kg wet weight	6.8E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	9E-04	3.9E-08	mg/kg-day	7.0E-10	mg/kg-day	6E+01
				Aluminum	1.2E+01	mg/kg wet weight	6.2E-04	mg/kg-day	NA	--	NA	3.6E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Arsenic	1.3E-01	mg/kg wet weight	6.8E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	3.9E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Mercury	9.0E-02	mg/kg wet weight	4.7E-06	mg/kg-day	NA	--	NA	2.7E-05	mg/kg-day	3.0E-04	mg/kg-day	9E-02
				Selenium	1.1E+00	mg/kg wet weight	5.7E-05	mg/kg-day	NA	--	NA	3.3E-04	mg/kg-day	5.0E-03	mg/kg-day	7E-02
			Exposure Route Total								1E-03					1E+02
		Exposure Point Total									1E-03					1E+02
	Total of Receptor Risks Across Medium										1E-03					1E+02

Notes
NA = Not Available

TABLE 7.15.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB5	Ingestion	4,4'-DDD	3.6E-03	mg/kg wet weight	8.6E-08	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	6.7E-07	mg/kg-day	NA	--	NA
				4,4'-DDE	5.5E-02	mg/kg wet weight	1.3E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.0E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	4.0E-02	mg/kg wet weight	9.6E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	7.4E-06	mg/kg-day	1.3E-05	mg/kg-day	6E-01
				Total PCB Aroclors	3.4E+00	mg/kg wet weight	1.1E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-04	8.3E-04	mg/kg-day	2.0E-05	mg/kg-day	4E+01
				TCDD TEQ (PCBs)	1.3E-04	mg/kg wet weight	4.1E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	5E-04	3.2E-08	mg/kg-day	7.0E-10	mg/kg-day	5E+01
				Aluminum	1.2E+01	mg/kg wet weight	4.7E-04	mg/kg-day	NA	--	NA	3.6E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Arsenic	1.3E-01	mg/kg wet weight	5.1E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	3.9E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Mercury	9.0E-02	mg/kg wet weight	3.5E-06	mg/kg-day	NA	--	NA	2.7E-05	mg/kg-day	3.0E-04	mg/kg-day	9E-02
				Selenium	1.1E+00	mg/kg wet weight	4.3E-05	mg/kg-day	NA	--	NA	3.3E-04	mg/kg-day	5.0E-03	mg/kg-day	7E-02
			Exposure Route Total								8E-04					9E+01
		Exposure Point Total									8E-04					9E+01
	Total of Receptor Risks Across Medium										8E-04					9E+01

Notes

NA = Not Available

TABLE 7.15.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB6	Ingestion	Total PCB Aroclors	2.3E-01	mg/kg wet weight	1.2E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	7.0E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				TCDD TEQ (PCBs)	2.9E-06	mg/kg wet weight	1.5E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	2E-05	8.8E-10	mg/kg-day	7.0E-10	mg/kg-day	1E+00
			Exposure Route Total								4E-05					5E+00
		Exposure Point Total									4E-05					5E+00
	Total of Receptor Risks Across Medium										4E-05					5E+00

Notes
NA = Not Available

TABLE 7.15.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB6	Ingestion	Total PCB Aroclors	2.3E-01	mg/kg wet weight	7.2E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	5.6E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				TCDD TEQ (PCBs)	2.9E-06	mg/kg wet weight	9.0E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-05	7.0E-10	mg/kg-day	7.0E-10	mg/kg-day	1E+00
			Exposure Route Total								3E-05					4E+00
		Exposure Point Total									3E-05					4E+00
	Total of Receptor Risks Across Medium										3E-05					4E+00

Notes
NA = Not Available

TABLE 7.15.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish	EU SL	Ingestion	4,4'-DDE	1.6E-02	mg/kg wet weight	8.3E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	4.9E-06	mg/kg-day	NA	--	NA
				Dieldrin	1.0E-02	mg/kg wet weight	5.2E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	8E-06	3.0E-06	mg/kg-day	5.0E-04	mg/kg-day	6E-03
				Heptachlor epoxide	1.0E-02	mg/kg wet weight	5.2E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	3.0E-06	mg/kg-day	1.3E-05	mg/kg-day	2E-01
				Total PCB Aroclors	8.1E-01	mg/kg wet weight	4.2E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-05	2.5E-04	mg/kg-day	2.0E-05	mg/kg-day	1E+01
				TCDD TEQ (PCBs)	1.7E-06	mg/kg wet weight	8.8E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-05	5.2E-10	mg/kg-day	7.0E-10	mg/kg-day	7E-01
				Lead	2.0E-01	mg/kg wet weight	1.0E-05	mg/kg-day	NA	--	NA	6.1E-05	mg/kg-day	NA	--	NA
				Mercury	2.4E-01	mg/kg wet weight	1.2E-05	mg/kg-day	NA	--	NA	7.3E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
			Exposure Route Total								1E-04					1E+01
		Exposure Point Total									1E-04					1E+01
	Total of Receptor Risks Across Medium										1E-04					1E+01

Notes
NA = Not Available

TABLE 7.15.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish	EU SL	Ingestion	4,4'-DDE	1.6E-02	mg/kg wet weight	3.8E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	3.0E-06	mg/kg-day	NA	--	NA
				Dieldrin	1.0E-02	mg/kg wet weight	2.4E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	4E-06	1.9E-06	mg/kg-day	5.0E-04	mg/kg-day	4E-03
				Heptachlor epoxide	1.0E-02	mg/kg wet weight	2.4E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	1.9E-06	mg/kg-day	1.3E-05	mg/kg-day	1E-01
				Total PCB Aroclors	8.1E-01	mg/kg wet weight	2.5E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-05	2.0E-04	mg/kg-day	2.0E-05	mg/kg-day	1E+01
				TCDD TEQ (PCBs)	1.7E-06	mg/kg wet weight	5.3E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	7E-06	4.1E-10	mg/kg-day	7.0E-10	mg/kg-day	6E-01
				Lead	2.0E-01	mg/kg wet weight	7.8E-06	mg/kg-day	NA	--	NA	6.1E-05	mg/kg-day	NA	--	NA
				Mercury	2.4E-01	mg/kg wet weight	9.4E-06	mg/kg-day	NA	--	NA	7.3E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
			Exposure Route Total								6E-05					1E+01
		Exposure Point Total									6E-05					1E+01
	Total of Receptor Risks Across Medium										6E-05					1E+01

Notes
NA = Not Available

TABLE 7.16.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 and Green Brook (BB1 & GB)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB1 & GB	Ingestion	4,4'-DDD	3.0E-02	mg/kg wet weight	1.3E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.5E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	2.3E-02	mg/kg wet weight	9.8E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.1E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.0E-02	mg/kg wet weight	4.2E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	5.0E-06	mg/kg-day	1.3E-05	mg/kg-day	4E-01
				Total PCB Aroclors	1.2E+00	mg/kg wet weight	5.1E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-04	5.9E-04	mg/kg-day	2.0E-05	mg/kg-day	3E+01
				Aluminum	8.5E+00	mg/kg wet weight	3.6E-04	mg/kg-day	NA	--	NA	4.2E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Cobalt	4.2E-01	mg/kg wet weight	1.8E-05	mg/kg-day	NA	--	NA	2.1E-04	mg/kg-day	3.0E-04	mg/kg-day	7E-01
				Lead	1.9E-01	mg/kg wet weight	8.1E-06	mg/kg-day	NA	--	NA	9.4E-05	mg/kg-day	NA	--	NA
				Mercury	1.8E-01	mg/kg wet weight	7.6E-06	mg/kg-day	NA	--	NA	8.9E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
				Selenium	4.0E-01	mg/kg wet weight	1.7E-05	mg/kg-day	NA	--	NA	2.0E-04	mg/kg-day	5.0E-03	mg/kg-day	4E-02
			Exposure Route Total								1E-04					3E+01
		Exposure Point Total									1E-04					3E+01
	Total of Receptor Risks Across Medium										1E-04					3E+01

Notes

NA = Not Available

TABLE 7.16.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 and Green Brook (BB1 & GB)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB1 & GB	Ingestion	4,4'-DDD	3.0E-02	mg/kg wet weight	7.8E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	9.1E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	2.3E-02	mg/kg wet weight	6.0E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	7.0E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.0E-02	mg/kg wet weight	2.6E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	3.0E-06	mg/kg-day	1.3E-05	mg/kg-day	2E-01
				Total PCB Aroclors	1.2E+00	mg/kg wet weight	4.1E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-05	4.8E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				Aluminum	8.5E+00	mg/kg wet weight	3.6E-04	mg/kg-day	NA	--	NA	4.2E-03	mg/kg-day	1.0E+00	mg/kg-day	4E-03
				Cobalt	4.2E-01	mg/kg wet weight	1.8E-05	mg/kg-day	NA	--	NA	2.1E-04	mg/kg-day	3.0E-04	mg/kg-day	7E-01
				Lead	1.9E-01	mg/kg wet weight	8.1E-06	mg/kg-day	NA	--	NA	9.4E-05	mg/kg-day	NA	--	NA
				Mercury	1.8E-01	mg/kg wet weight	7.6E-06	mg/kg-day	NA	--	NA	8.9E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
				Selenium	4.0E-01	mg/kg wet weight	1.7E-05	mg/kg-day	NA	--	NA	2.0E-04	mg/kg-day	5.0E-03	mg/kg-day	4E-02
			Exposure Route Total								8E-05					3E+01
		Exposure Point Total									8E-05					3E+01
	Total of Receptor Risks Across Medium										8E-05					3E+01

Notes

NA = Not Available

TABLE 7.16.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB2	Ingestion	4,4'-DDD	1.0E-02	mg/kg wet weight	4.2E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	5.0E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	1.6E-02	mg/kg wet weight	6.8E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	7.9E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.5E-03	mg/kg wet weight	2.8E-07	mg/kg-day	NA	--	NA	3.2E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.4E-02	mg/kg wet weight	5.9E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	6.9E-06	mg/kg-day	1.3E-05	mg/kg-day	5E-01
				Total PCB Aroclors	1.3E+00	mg/kg wet weight	5.5E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-04	6.4E-04	mg/kg-day	2.0E-05	mg/kg-day	3E+01
				TCDD TEQ (PCBs)	8.5E-06	mg/kg wet weight	3.6E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	5E-05	4.2E-09	mg/kg-day	7.0E-10	mg/kg-day	6E+00
				Aluminum	8.6E+01	mg/kg wet weight	3.7E-03	mg/kg-day	NA	--	NA	4.3E-02	mg/kg-day	1.0E+00	mg/kg-day	4E-02
				Arsenic	1.4E-01	mg/kg wet weight	5.9E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	6.9E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Lead	1.3E-01	mg/kg wet weight	5.5E-06	mg/kg-day	NA	--	NA	6.4E-05	mg/kg-day	NA	--	NA
				Mercury	1.5E-01	mg/kg wet weight	6.4E-06	mg/kg-day	NA	--	NA	7.4E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	5.0E-01	mg/kg wet weight	2.1E-05	mg/kg-day	NA	--	NA	2.5E-04	mg/kg-day	5.0E-03	mg/kg-day	5E-02
			Exposure Route Total								2E-04					4E+01
		Exposure Point Total									2E-04					4E+01
	Total of Receptor Risks Across Medium										2E-04					4E+01

Notes
NA = Not Available

TABLE 7.16.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB2	Ingestion	4,4'-DDD	1.0E-02	mg/kg wet weight	2.6E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	3.0E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	1.6E-02	mg/kg wet weight	4.2E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.9E-06	mg/kg-day	NA	--	NA
				Endrin aldehyde	6.5E-03	mg/kg wet weight	1.7E-07	mg/kg-day	NA	--	NA	2.0E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	1.4E-02	mg/kg wet weight	3.6E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	4.3E-06	mg/kg-day	1.3E-05	mg/kg-day	3E-01
				Total PCB Aroclors	1.3E+00	mg/kg wet weight	4.4E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-05	5.2E-04	mg/kg-day	2.0E-05	mg/kg-day	3E+01
				TCDD TEQ (PCBs)	8.5E-06	mg/kg wet weight	2.9E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	4E-05	3.4E-09	mg/kg-day	7.0E-10	mg/kg-day	5E+00
				Aluminum	8.6E+01	mg/kg wet weight	3.7E-03	mg/kg-day	NA	--	NA	4.3E-02	mg/kg-day	1.0E+00	mg/kg-day	4E-02
				Arsenic	1.4E-01	mg/kg wet weight	5.9E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	6.9E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Lead	1.3E-01	mg/kg wet weight	5.5E-06	mg/kg-day	NA	--	NA	6.4E-05	mg/kg-day	NA	--	NA
				Mercury	1.5E-01	mg/kg wet weight	6.4E-06	mg/kg-day	NA	--	NA	7.4E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	5.0E-01	mg/kg wet weight	2.1E-05	mg/kg-day	NA	--	NA	2.5E-04	mg/kg-day	5.0E-03	mg/kg-day	5E-02
			Exposure Route Total								1E-04					3E+01
		Exposure Point Total									1E-04					3E+01
	Total of Receptor Risks Across Medium										1E-04					3E+01

Notes
NA = Not Available

TABLE 7.16.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 and 4 (BB3 & BB4)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB3 & BB4	Ingestion	4,4'-DDE	4.0E-02	mg/kg wet weight	1.7E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	6E-07	2.0E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.6E-02	mg/kg wet weight	1.1E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	1.3E-05	mg/kg-day	1.3E-05	mg/kg-day	1E+00
				Total PCB Aroclors	2.4E+00	mg/kg wet weight	1.0E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-04	1.2E-03	mg/kg-day	2.0E-05	mg/kg-day	6E+01
				TCDD TEQ (PCBs)	2.5E-05	mg/kg wet weight	1.1E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-04	1.2E-08	mg/kg-day	7.0E-10	mg/kg-day	2E+01
				Aluminum	4.2E+00	mg/kg wet weight	1.8E-04	mg/kg-day	NA	--	NA	2.1E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Mercury	9.5E-02	mg/kg wet weight	4.0E-06	mg/kg-day	NA	--	NA	4.7E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	5.7E-01	mg/kg wet weight	2.4E-05	mg/kg-day	NA	--	NA	2.8E-04	mg/kg-day	5.0E-03	mg/kg-day	6E-02
			Exposure Route Total								4E-04					8E+01
		Exposure Point Total									4E-04					8E+01
	Total of Receptor Risks Across Medium										4E-04					8E+01

Notes
NA = Not Available

TABLE 7.16.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 and 4 (BB3 & BB4)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB3 & BB4	Ingestion	4,4'-DDE	4.0E-02	mg/kg wet weight	1.0E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.2E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.6E-02	mg/kg wet weight	6.8E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	7.9E-06	mg/kg-day	1.3E-05	mg/kg-day	6E-01
				Total PCB Aroclors	2.4E+00	mg/kg wet weight	8.2E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-04	9.5E-04	mg/kg-day	2.0E-05	mg/kg-day	5E+01
				TCDD TEQ (PCBs)	2.5E-05	mg/kg wet weight	8.5E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-04	9.9E-09	mg/kg-day	7.0E-10	mg/kg-day	1E+01
				Aluminum	4.2E+00	mg/kg wet weight	1.8E-04	mg/kg-day	NA	--	NA	2.1E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Mercury	9.5E-02	mg/kg wet weight	4.0E-06	mg/kg-day	NA	--	NA	4.7E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	5.7E-01	mg/kg wet weight	2.4E-05	mg/kg-day	NA	--	NA	2.8E-04	mg/kg-day	5.0E-03	mg/kg-day	6E-02
			Exposure Route Total								3E-04					6E+01
		Exposure Point Total									3E-04					6E+01
	Total of Receptor Risks Across Medium										3E-04					6E+01

Notes
NA = Not Available

TABLE 7.16.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB5	Ingestion	4,4'-DDD	3.6E-03	mg/kg wet weight	1.5E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.8E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	5.5E-02	mg/kg wet weight	2.3E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8E-07	2.7E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	4.0E-02	mg/kg wet weight	1.7E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	2.0E-05	mg/kg-day	1.3E-05	mg/kg-day	2E+00
				Total PCB Aroclors	3.4E+00	mg/kg wet weight	1.4E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-04	1.7E-03	mg/kg-day	2.0E-05	mg/kg-day	8E+01
				TCDD TEQ (PCBs)	1.3E-04	mg/kg wet weight	5.5E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	7E-04	6.4E-08	mg/kg-day	7.0E-10	mg/kg-day	9E+01
				Aluminum	1.2E+01	mg/kg wet weight	5.1E-04	mg/kg-day	NA	--	NA	5.9E-03	mg/kg-day	1.0E+00	mg/kg-day	6E-03
				Arsenic	1.3E-01	mg/kg wet weight	5.5E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	6.4E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Mercury	9.0E-02	mg/kg wet weight	3.8E-06	mg/kg-day	NA	--	NA	4.5E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	1.1E+00	mg/kg wet weight	4.7E-05	mg/kg-day	NA	--	NA	5.4E-04	mg/kg-day	5.0E-03	mg/kg-day	1E-01
			Exposure Route Total								1E-03					2E+02
		Exposure Point Total									1E-03					2E+02
	Total of Receptor Risks Across Medium										1E-03					2E+02

Notes
NA = Not Available

TABLE 7.16.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB5	Ingestion	4,4'-DDD	3.6E-03	mg/kg wet weight	9.4E-08	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.1E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	5.5E-02	mg/kg wet weight	1.4E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	1.7E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	4.0E-02	mg/kg wet weight	1.0E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	1.2E-05	mg/kg-day	1.3E-05	mg/kg-day	9E-01
				Total PCB Aroclors	3.4E+00	mg/kg wet weight	1.2E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-04	1.3E-03	mg/kg-day	2.0E-05	mg/kg-day	7E+01
				TCDD TEQ (PCBs)	1.3E-04	mg/kg wet weight	4.4E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	6E-04	5.2E-08	mg/kg-day	7.0E-10	mg/kg-day	7E+01
				Aluminum	1.2E+01	mg/kg wet weight	5.1E-04	mg/kg-day	NA	--	NA	5.9E-03	mg/kg-day	1.0E+00	mg/kg-day	6E-03
				Arsenic	1.3E-01	mg/kg wet weight	5.5E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	6.4E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Mercury	9.0E-02	mg/kg wet weight	3.8E-06	mg/kg-day	NA	--	NA	4.5E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	1.1E+00	mg/kg wet weight	4.7E-05	mg/kg-day	NA	--	NA	5.4E-04	mg/kg-day	5.0E-03	mg/kg-day	1E-01
			Exposure Route Total								8E-04					1E+02
		Exposure Point Total									8E-04					1E+02
	Total of Receptor Risks Across Medium										8E-04					1E+02

Notes

NA = Not Available

TABLE 7.16.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB6	Ingestion	Total PCB Aroclors	2.3E-01	mg/kg wet weight	9.7E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.1E-04	mg/kg-day	2.0E-05	mg/kg-day	6E+00
				TCDD TEQ (PCBs)	2.9E-06	mg/kg wet weight	1.2E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	2E-05	1.4E-09	mg/kg-day	7.0E-10	mg/kg-day	2E+00
			Exposure Route Total								4E-05					8E+00
		Exposure Point Total									4E-05					8E+00
	Total of Receptor Risks Across Medium										4E-05					8E+00

Notes
NA = Not Available

TABLE 7.16.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish Fillet	EU BB6	Ingestion	Total PCB Aroclors	2.3E-01	mg/kg wet weight	7.8E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	9.1E-05	mg/kg-day	2.0E-05	mg/kg-day	5E+00
				TCDD TEQ (PCBs)	2.9E-06	mg/kg wet weight	9.9E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-05	1.1E-09	mg/kg-day	7.0E-10	mg/kg-day	2E+00
			Exposure Route Total								3E-05					6E+00
		Exposure Point Total									3E-05					6E+00
	Total of Receptor Risks Across Medium										3E-05					6E+00

Notes
NA = Not Available

TABLE 7.16.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish	EU SL	Ingestion	4,4'-DDE	1.6E-02	mg/kg wet weight	6.8E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	7.9E-06	mg/kg-day	NA	--	NA
				Dieldrin	1.0E-02	mg/kg wet weight	4.2E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	7E-06	5.0E-06	mg/kg-day	5.0E-04	mg/kg-day	1E-02
				Heptachlor epoxide	1.0E-02	mg/kg wet weight	4.2E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	5.0E-06	mg/kg-day	1.3E-05	mg/kg-day	4E-01
				Total PCB Aroclors	8.1E-01	mg/kg wet weight	3.4E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-05	4.0E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				TCDD TEQ (PCBs)	1.7E-06	mg/kg wet weight	7.2E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	9E-06	8.4E-10	mg/kg-day	7.0E-10	mg/kg-day	1E+00
				Lead	2.0E-01	mg/kg wet weight	8.5E-06	mg/kg-day	NA	--	NA	9.9E-05	mg/kg-day	NA	--	NA
				Mercury	2.4E-01	mg/kg wet weight	1.0E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	3.0E-04	mg/kg-day	4E-01
			Exposure Route Total								9E-05					2E+01
		Exposure Point Total									9E-05					2E+01
	Total of Receptor Risks Across Medium										9E-05					2E+01

Notes
NA = Not Available

TABLE 7.16.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Predatory Fish	EU SL	Ingestion	4,4'-DDE	1.6E-02	mg/kg wet weight	4.2E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	4.9E-06	mg/kg-day	NA	--	NA
				Dieldrin	1.0E-02	mg/kg wet weight	2.6E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	4E-06	3.0E-06	mg/kg-day	5.0E-04	mg/kg-day	6E-03
				Heptachlor epoxide	1.0E-02	mg/kg wet weight	2.6E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-06	3.0E-06	mg/kg-day	1.3E-05	mg/kg-day	2E-01
				Total PCB Aroclors	8.1E-01	mg/kg wet weight	2.8E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-05	3.2E-04	mg/kg-day	2.0E-05	mg/kg-day	2E+01
				TCDD TEQ (PCBs)	1.7E-06	mg/kg wet weight	5.8E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	8E-06	6.7E-10	mg/kg-day	7.0E-10	mg/kg-day	1E+00
				Lead	2.0E-01	mg/kg wet weight	8.5E-06	mg/kg-day	NA	--	NA	9.9E-05	mg/kg-day	NA	--	NA
				Mercury	2.4E-01	mg/kg wet weight	1.0E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	3.0E-04	mg/kg-day	4E-01
			Exposure Route Total								7E-05					2E+01
		Exposure Point Total									7E-05					2E+01
	Total of Receptor Risks Across Medium										7E-05					2E+01

Notes
NA = Not Available

TABLE 7.17.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 and Green Brook (BB1 & GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB1 & GB	Ingestion	alpha-Chlordane	4.7E-02	mg/kg wet weight	5.1E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.5E-05	mg/kg-day	5.0E-04	mg/kg-day	3E-02
				gamma-Chlordane	2.0E-02	mg/kg wet weight	2.2E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	6.4E-06	mg/kg-day	5.0E-04	mg/kg-day	1E-02
				4,4'-DDD	4.0E-03	mg/kg wet weight	4.4E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	1.3E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	4.9E-02	mg/kg wet weight	5.3E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.6E-05	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.8E+01	mg/kg wet weight	2.0E-03	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-03	5.7E-03	mg/kg-day	2.0E-05	mg/kg-day	3E+02
				Aluminum	7.4E+01	mg/kg wet weight	8.1E-03	mg/kg-day	NA	--	NA	2.4E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Copper	3.0E+00	mg/kg wet weight	3.3E-04	mg/kg-day	NA	--	NA	9.5E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Mercury	6.4E-02	mg/kg wet weight	7.0E-06	mg/kg-day	NA	--	NA	2.0E-05	mg/kg-day	3.0E-04	mg/kg-day	7E-02
				Selenium	4.2E-01	mg/kg wet weight	4.6E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								5E-03					3E+02
		Exposure Point Total									5E-03					3E+02
	Total of Receptor Risks Across Medium										5E-03					3E+02

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.17.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 and Green Brook (BB1 & GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB1 & GB	Ingestion	alpha-Chlordane	4.7E-02	mg/kg wet weight	1.2E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	9.2E-06	mg/kg-day	5.0E-04	mg/kg-day	2E-02
				gamma-Chlordane	2.0E-02	mg/kg wet weight	5.0E-07	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	3.9E-06	mg/kg-day	5.0E-04	mg/kg-day	8E-03
				4,4'-DDD	4.0E-03	mg/kg wet weight	1.0E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	7.8E-07	mg/kg-day	NA	--	NA
				4,4'-DDE	4.9E-02	mg/kg wet weight	1.2E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	9.5E-06	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.8E+01	mg/kg wet weight	5.9E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-03	4.6E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				Aluminum	7.4E+01	mg/kg wet weight	3.0E-03	mg/kg-day	NA	--	NA	2.4E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Copper	3.0E+00	mg/kg wet weight	1.2E-04	mg/kg-day	NA	--	NA	9.5E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Mercury	6.4E-02	mg/kg wet weight	2.6E-06	mg/kg-day	NA	--	NA	2.0E-05	mg/kg-day	3.0E-04	mg/kg-day	7E-02
				Selenium	4.2E-01	mg/kg wet weight	1.7E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								1E-03					2E+02
		Exposure Point Total									1E-03					2E+02
	Total of Receptor Risks Across Medium										1E-03					2E+02

Notes

NA = Not Available

TABLE 7.17.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB2	Ingestion	4,4'-DDE	1.5E-01	mg/kg wet weight	1.6E-05	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8E-06	4.8E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	7.0E-02	mg/kg wet weight	7.6E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-04	2.2E-05	mg/kg-day	1.3E-05	mg/kg-day	2E+00
				Total PCB Aroclors	1.2E+01	mg/kg wet weight	1.3E-03	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-03	3.8E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				TCDD TEQ (PCBs)	2.1E-04	mg/kg wet weight	2.3E-08	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	4E-03	6.7E-08	mg/kg-day	7.0E-10	mg/kg-day	1E+02
				Aluminum	1.0E+01	mg/kg wet weight	1.1E-03	mg/kg-day	NA	--	NA	3.2E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Copper	1.5E+00	mg/kg wet weight	1.6E-04	mg/kg-day	NA	--	NA	4.8E-04	mg/kg-day	4.0E-02	mg/kg-day	1E-02
				Mercury	7.7E-02	mg/kg wet weight	8.4E-06	mg/kg-day	NA	--	NA	2.4E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
				Selenium	5.7E-01	mg/kg wet weight	6.2E-05	mg/kg-day	NA	--	NA	1.8E-04	mg/kg-day	5.0E-03	mg/kg-day	4E-02
			Exposure Route Total								8E-03					3E+02
		Exposure Point Total									8E-03					3E+02
	Total of Receptor Risks Across Medium										8E-03					3E+02

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.17.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB2	Ingestion	4,4'-DDE	1.5E-01	mg/kg wet weight	3.8E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	2.9E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	7.0E-02	mg/kg wet weight	1.8E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.4E-05	mg/kg-day	1.3E-05	mg/kg-day	1E+00
				Total PCB Aroclors	1.2E+01	mg/kg wet weight	3.9E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-04	3.1E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				TCDD TEQ (PCBs)	2.1E-04	mg/kg wet weight	6.9E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	9E-04	5.3E-08	mg/kg-day	7.0E-10	mg/kg-day	8E+01
				Aluminum	1.0E+01	mg/kg wet weight	4.1E-04	mg/kg-day	NA	--	NA	3.2E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Copper	1.5E+00	mg/kg wet weight	6.1E-05	mg/kg-day	NA	--	NA	4.8E-04	mg/kg-day	4.0E-02	mg/kg-day	1E-02
				Mercury	7.7E-02	mg/kg wet weight	3.1E-06	mg/kg-day	NA	--	NA	2.4E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
				Selenium	5.7E-01	mg/kg wet weight	2.3E-05	mg/kg-day	NA	--	NA	1.8E-04	mg/kg-day	5.0E-03	mg/kg-day	4E-02
			Exposure Route Total								2E-03					2E+02
		Exposure Point Total									2E-03					2E+02
	Total of Receptor Risks Across Medium										2E-03					2E+02

Notes
NA = Not Available

TABLE 7.17.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 and 4 (BB3 & BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB3 & BB4	Ingestion	4,4'-DDE	8.3E-02	mg/kg wet weight	9.0E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-06	2.6E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	4.8E-02	mg/kg wet weight	5.2E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	7E-05	1.5E-05	mg/kg-day	1.3E-05	mg/kg-day	1E+00
				Total PCB Aroclors	4.3E+00	mg/kg wet weight	4.7E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-03	1.4E-03	mg/kg-day	2.0E-05	mg/kg-day	7E+01
				TCDD TEQ (PCBs)	7.6E-05	mg/kg wet weight	8.3E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-03	2.4E-08	mg/kg-day	7.0E-10	mg/kg-day	3E+01
				Aluminum	3.3E+00	mg/kg wet weight	3.6E-04	mg/kg-day	NA	--	NA	1.0E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Copper	3.6E+00	mg/kg wet weight	3.9E-04	mg/kg-day	NA	--	NA	1.1E-03	mg/kg-day	4.0E-02	mg/kg-day	3E-02
				Mercury	1.7E-01	mg/kg wet weight	1.9E-05	mg/kg-day	NA	--	NA	5.4E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	4.2E-01	mg/kg wet weight	4.6E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								3E-03					1E+02
		Exposure Point Total									3E-03					1E+02
	Total of Receptor Risks Across Medium										3E-03					1E+02

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.17.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 and 4 (BB4 & BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
	Bottom-Feeding Fish Fillet	EU BB4 & BB3	Ingestion	4,4'-DDE	8.3E-02	mg/kg wet weight	2.1E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	1.6E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	4.8E-02	mg/kg wet weight	1.2E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	9.4E-06	mg/kg-day	1.3E-05	mg/kg-day	7E-01
				Total PCB Aroclors	4.3E+00	mg/kg wet weight	1.4E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-04	1.1E-03	mg/kg-day	2.0E-05	mg/kg-day	5E+01
				TCDD TEQ (PCBs)	7.6E-05	mg/kg wet weight	2.5E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	3E-04	1.9E-08	mg/kg-day	7.0E-10	mg/kg-day	3E+01
				Aluminum	3.3E+00	mg/kg wet weight	1.3E-04	mg/kg-day	NA	--	NA	1.0E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Copper	3.6E+00	mg/kg wet weight	1.5E-04	mg/kg-day	NA	--	NA	1.1E-03	mg/kg-day	4.0E-02	mg/kg-day	3E-02
				Mercury	1.7E-01	mg/kg wet weight	6.9E-06	mg/kg-day	NA	--	NA	5.4E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	4.2E-01	mg/kg wet weight	1.7E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								6E-04					8E+01
		Exposure Point Total									6E-04					8E+01
	Total of Receptor Risks Across Medium										6E-04					8E+01

Notes
NA = Not Available

TABLE 7.17.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB5	Ingestion	alpha-Chlordane	3.1E-01	mg/kg wet weight	3.4E-05	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-05	9.9E-05	mg/kg-day	5.0E-04	mg/kg-day	2E-01
				gamma-Chlordane	1.8E-01	mg/kg wet weight	2.0E-05	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	1E-05	5.7E-05	mg/kg-day	5.0E-04	mg/kg-day	1E-01
				4,4'-DDD	1.8E-01	mg/kg wet weight	2.0E-05	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-06	5.7E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	1.4E-01	mg/kg wet weight	1.5E-05	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-06	4.4E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	3.7E-02	mg/kg wet weight	4.0E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	5E-05	1.2E-05	mg/kg-day	1.3E-05	mg/kg-day	9E-01
				Total PCB Aroclors	1.3E+01	mg/kg wet weight	1.4E-03	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-03	4.1E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				TCDD TEQ (PCBs)	8.2E-04	mg/kg wet weight	8.9E-08	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	2E-02	2.6E-07	mg/kg-day	7.0E-10	mg/kg-day	4E+02
				Aluminum	1.1E+02	mg/kg wet weight	1.2E-02	mg/kg-day	NA	--	NA	3.6E-02	mg/kg-day	1.0E+00	mg/kg-day	4E-02
				Copper	1.8E+00	mg/kg wet weight	2.0E-04	mg/kg-day	NA	--	NA	5.7E-04	mg/kg-day	4.0E-02	mg/kg-day	1E-02
				Mercury	5.0E-02	mg/kg wet weight	5.4E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	3.0E-04	mg/kg-day	5E-02
				Selenium	7.5E-01	mg/kg wet weight	8.2E-05	mg/kg-day	NA	--	NA	2.4E-04	mg/kg-day	5.0E-03	mg/kg-day	5E-02
			Exposure Route Total								2E-02					6E+02
		Exposure Point Total									2E-02					6E+02
	Total of Receptor Risks Across Medium										2E-02					6E+02

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.17.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB5	Ingestion	alpha-Chlordane	3.1E-01	mg/kg wet weight	7.8E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	6.0E-05	mg/kg-day	5.0E-04	mg/kg-day	1E-01
				gamma-Chlordane	1.8E-01	mg/kg wet weight	4.5E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	3.5E-05	mg/kg-day	5.0E-04	mg/kg-day	7E-02
				4,4'-DDD	1.8E-01	mg/kg wet weight	4.5E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	3.5E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	1.4E-01	mg/kg wet weight	3.5E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	2.7E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	3.7E-02	mg/kg wet weight	9.3E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	7.2E-06	mg/kg-day	1.3E-05	mg/kg-day	6E-01
				Total PCB Aroclors	1.3E+01	mg/kg wet weight	4.2E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-04	3.3E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				TCDD TEQ (PCBs)	8.2E-04	mg/kg wet weight	2.7E-08	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	3E-03	2.1E-07	mg/kg-day	7.0E-10	mg/kg-day	3E+02
				Aluminum	1.1E+02	mg/kg wet weight	4.6E-03	mg/kg-day	NA	--	NA	3.6E-02	mg/kg-day	1.0E+00	mg/kg-day	4E-02
				Copper	1.8E+00	mg/kg wet weight	7.4E-05	mg/kg-day	NA	--	NA	5.7E-04	mg/kg-day	4.0E-02	mg/kg-day	1E-02
				Mercury	5.0E-02	mg/kg wet weight	2.0E-06	mg/kg-day	NA	--	NA	1.6E-05	mg/kg-day	3.0E-04	mg/kg-day	5E-02
				Selenium	7.5E-01	mg/kg wet weight	3.1E-05	mg/kg-day	NA	--	NA	2.4E-04	mg/kg-day	5.0E-03	mg/kg-day	5E-02
			Exposure Route Total								4E-03					5E+02
		Exposure Point Total									4E-03					5E+02
	Total of Receptor Risks Across Medium										4E-03					5E+02

Notes
NA = Not Available

TABLE 7.17.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB6	Ingestion	alpha-Chlordane	5.0E-02	mg/kg wet weight	5.4E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.6E-05	mg/kg-day	5.0E-04	mg/kg-day	3E-02
				gamma-Chlordane	2.0E-02	mg/kg wet weight	2.2E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	6.4E-06	mg/kg-day	5.0E-04	mg/kg-day	1E-02
				4,4'-DDD	5.8E-03	mg/kg wet weight	6.3E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	1.8E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	3.6E-02	mg/kg wet weight	3.9E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	1.1E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.3E-02	mg/kg wet weight	2.5E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	7.3E-06	mg/kg-day	1.3E-05	mg/kg-day	6E-01
				Total PCB Aroclors	6.2E+00	mg/kg wet weight	6.8E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-03	2.0E-03	mg/kg-day	2.0E-05	mg/kg-day	1E+02
				TCDD TEQ (PCBs)	8.1E-06	mg/kg wet weight	8.8E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	2E-04	2.6E-09	mg/kg-day	7.0E-10	mg/kg-day	4E+00
				Aluminum	7.0E+00	mg/kg wet weight	7.6E-04	mg/kg-day	NA	--	NA	2.2E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Copper	2.1E+00	mg/kg wet weight	2.3E-04	mg/kg-day	NA	--	NA	6.7E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Mercury	7.3E-02	mg/kg wet weight	8.0E-06	mg/kg-day	NA	--	NA	2.3E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
				Selenium	3.5E-01	mg/kg wet weight	3.8E-05	mg/kg-day	NA	--	NA	1.1E-04	mg/kg-day	5.0E-03	mg/kg-day	2E-02
			Exposure Route Total								2E-03					1E+02
		Exposure Point Total									2E-03					1E+02
	Total of Receptor Risks Across Medium										2E-03					1E+02

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.17.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB6	Ingestion	alpha-Chlordane	5.0E-02	mg/kg wet weight	1.3E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	9.7E-06	mg/kg-day	5.0E-04	mg/kg-day	2E-02
				gamma-Chlordane	2.0E-02	mg/kg wet weight	5.0E-07	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	3.9E-06	mg/kg-day	5.0E-04	mg/kg-day	8E-03
				4,4'-DDD	5.8E-03	mg/kg wet weight	1.5E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	1.1E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	3.6E-02	mg/kg wet weight	9.0E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	7.0E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.3E-02	mg/kg wet weight	5.8E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	4.5E-06	mg/kg-day	1.3E-05	mg/kg-day	3E-01
				Total PCB Aroclors	6.2E+00	mg/kg wet weight	2.0E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-04	1.6E-03	mg/kg-day	2.0E-05	mg/kg-day	8E+01
				TCDD TEQ (PCBs)	8.1E-06	mg/kg wet weight	2.6E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	3E-05	2.1E-09	mg/kg-day	7.0E-10	mg/kg-day	3E+00
				Aluminum	7.0E+00	mg/kg wet weight	2.9E-04	mg/kg-day	NA	--	NA	2.2E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Copper	2.1E+00	mg/kg wet weight	8.6E-05	mg/kg-day	NA	--	NA	6.7E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Mercury	7.3E-02	mg/kg wet weight	3.0E-06	mg/kg-day	NA	--	NA	2.3E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
				Selenium	3.5E-01	mg/kg wet weight	1.4E-05	mg/kg-day	NA	--	NA	1.1E-04	mg/kg-day	5.0E-03	mg/kg-day	2E-02
			Exposure Route Total								4E-04					8E+01
		Exposure Point Total									4E-04					8E+01
	Total of Receptor Risks Across Medium										4E-04					8E+01

Notes
NA = Not Available

TABLE 7.17.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU SL	Ingestion	alpha-Chlordane	2.3E-01	mg/kg wet weight	2.5E-05	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	1E-05	7.3E-05	mg/kg-day	5.0E-04	mg/kg-day	1E-01
				gamma-Chlordane	1.5E-01	mg/kg wet weight	1.6E-05	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	8E-06	4.8E-05	mg/kg-day	5.0E-04	mg/kg-day	1E-01
				4,4'-DDD	7.3E-02	mg/kg wet weight	8.0E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	2.3E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	8.2E-02	mg/kg wet weight	8.9E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-06	2.6E-05	mg/kg-day	NA	--	NA
				Dieldrin	2.7E-02	mg/kg wet weight	2.9E-06	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	7E-05	8.6E-06	mg/kg-day	5.0E-05	mg/kg-day	2E-01
				Heptachlor epoxide	3.2E-02	mg/kg wet weight	3.5E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	1.0E-05	mg/kg-day	1.3E-05	mg/kg-day	8E-01
				Total PCB Aroclors	6.4E+00	mg/kg wet weight	7.0E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-03	2.0E-03	mg/kg-day	2.0E-05	mg/kg-day	1E+02
				TCDD TEQ (PCBs)	4.4E-05	mg/kg wet weight	4.8E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	9E-04	1.4E-08	mg/kg-day	7.0E-10	mg/kg-day	2E+01
				Arsenic	1.6E-01	mg/kg wet weight	1.7E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	5.1E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Cobalt	3.8E-01	mg/kg wet weight	4.1E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	3.0E-04	mg/kg-day	4E-01
				Lead	1.8E-01	mg/kg wet weight	2.0E-05	mg/kg-day	NA	--	NA	5.7E-05	mg/kg-day	NA	--	NA
				Mercury	1.4E-01	mg/kg wet weight	1.5E-05	mg/kg-day	NA	--	NA	4.4E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
			Exposure Route Total								3E-03					1E+02
		Exposure Point Total									3E-03					1E+02
	Total of Receptor Risks Across Medium										3E-03					1E+02

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.17.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU SL	Ingestion	alpha-Chlordane	2.3E-01	mg/kg wet weight	5.8E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	4.5E-05	mg/kg-day	5.0E-04	mg/kg-day	9E-02
				gamma-Chlordane	1.5E-01	mg/kg wet weight	3.8E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	2.9E-05	mg/kg-day	5.0E-04	mg/kg-day	6E-02
				4,4'-DDD	7.3E-02	mg/kg wet weight	1.8E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.4E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	8.2E-02	mg/kg wet weight	2.1E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	1.6E-05	mg/kg-day	NA	--	NA
				Dieldrin	2.7E-02	mg/kg wet weight	6.8E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-05	5.3E-06	mg/kg-day	5.0E-05	mg/kg-day	1E-01
				Heptachlor epoxide	3.2E-02	mg/kg wet weight	8.0E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	7E-06	6.2E-06	mg/kg-day	1.3E-05	mg/kg-day	5E-01
				Total PCB Aroclors	6.4E+00	mg/kg wet weight	2.1E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-04	1.6E-03	mg/kg-day	2.0E-05	mg/kg-day	8E+01
				TCDD TEQ (PCBs)	4.4E-05	mg/kg wet weight	1.4E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	2E-04	1.1E-08	mg/kg-day	7.0E-10	mg/kg-day	2E+01
				Arsenic	1.6E-01	mg/kg wet weight	6.5E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	5.1E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Cobalt	3.8E-01	mg/kg wet weight	1.6E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	3.0E-04	mg/kg-day	4E-01
				Lead	1.8E-01	mg/kg wet weight	7.4E-06	mg/kg-day	NA	--	NA	5.7E-05	mg/kg-day	NA	--	NA
				Mercury	1.4E-01	mg/kg wet weight	5.7E-06	mg/kg-day	NA	--	NA	4.4E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
			Exposure Route Total								6E-04					1E+02
		Exposure Point Total									6E-04					1E+02
	Total of Receptor Risks Across Medium										6E-04					1E+02

Notes
NA = Not Available

TABLE 7.18.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 and Green Brook (BB1 & GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB1 & GB	Ingestion	alpha-Chlordane	4.7E-02	mg/kg wet weight	2.4E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	9E-07	1.4E-05	mg/kg-day	5.0E-04	mg/kg-day	3E-02
				gamma-Chlordane	2.0E-02	mg/kg wet weight	1.0E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	6.1E-06	mg/kg-day	5.0E-04	mg/kg-day	1E-02
				4,4'-DDD	4.0E-03	mg/kg wet weight	2.1E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.2E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	4.9E-02	mg/kg wet weight	2.5E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	9E-07	1.5E-05	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.8E+01	mg/kg wet weight	9.4E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-03	5.5E-03	mg/kg-day	2.0E-05	mg/kg-day	3E+02
				Aluminum	7.4E+01	mg/kg wet weight	3.8E-03	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Copper	3.0E+00	mg/kg wet weight	1.6E-04	mg/kg-day	NA	--	NA	9.1E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Mercury	6.4E-02	mg/kg wet weight	3.3E-06	mg/kg-day	NA	--	NA	1.9E-05	mg/kg-day	3.0E-04	mg/kg-day	6E-02
				Selenium	4.2E-01	mg/kg wet weight	2.2E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								2E-03					3E+02
		Exposure Point Total									2E-03					3E+02
	Total of Receptor Risks Across Medium										2E-03					3E+02

Notes
NA = Not Available

TABLE 7.18.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 and Green Brook (BB1 & GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB1 & GB	Ingestion	alpha-Chlordane	4.7E-02	mg/kg wet weight	1.1E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	8.7E-06	mg/kg-day	5.0E-04	mg/kg-day	2E-02
				gamma-Chlordane	2.0E-02	mg/kg wet weight	4.8E-07	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	3.7E-06	mg/kg-day	5.0E-04	mg/kg-day	7E-03
				4,4'-DDD	4.0E-03	mg/kg wet weight	9.6E-08	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	7.4E-07	mg/kg-day	NA	--	NA
				4,4'-DDE	4.9E-02	mg/kg wet weight	1.2E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	9.1E-06	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.8E+01	mg/kg wet weight	5.6E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-03	4.4E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				Aluminum	7.4E+01	mg/kg wet weight	2.9E-03	mg/kg-day	NA	--	NA	2.2E-02	mg/kg-day	1.0E+00	mg/kg-day	2E-02
				Copper	3.0E+00	mg/kg wet weight	1.2E-04	mg/kg-day	NA	--	NA	9.1E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Mercury	6.4E-02	mg/kg wet weight	2.5E-06	mg/kg-day	NA	--	NA	1.9E-05	mg/kg-day	3.0E-04	mg/kg-day	6E-02
				Selenium	4.2E-01	mg/kg wet weight	1.6E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								1E-03					2E+02
		Exposure Point Total									1E-03					2E+02
	Total of Receptor Risks Across Medium										1E-03					2E+02

Notes

NA = Not Available

TABLE 7.18.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB2	Ingestion	4,4'-DDE	1.5E-01	mg/kg wet weight	7.8E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	4.5E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	7.0E-02	mg/kg wet weight	3.6E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	2.1E-05	mg/kg-day	1.3E-05	mg/kg-day	2E+00
				Total PCB Aroclors	1.2E+01	mg/kg wet weight	6.2E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-03	3.6E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				TCDD TEQ (PCBs)	2.1E-04	mg/kg wet weight	1.1E-08	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-03	6.4E-08	mg/kg-day	7.0E-10	mg/kg-day	9E+01
				Aluminum	1.0E+01	mg/kg wet weight	5.2E-04	mg/kg-day	NA	--	NA	3.0E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Copper	1.5E+00	mg/kg wet weight	7.8E-05	mg/kg-day	NA	--	NA	4.5E-04	mg/kg-day	4.0E-02	mg/kg-day	1E-02
				Mercury	7.7E-02	mg/kg wet weight	4.0E-06	mg/kg-day	NA	--	NA	2.3E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
				Selenium	5.7E-01	mg/kg wet weight	3.0E-05	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								3E-03					3E+02
		Exposure Point Total									3E-03					3E+02
	Total of Receptor Risks Across Medium										3E-03					3E+02

Notes
NA = Not Available

TABLE 7.18.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB2	Ingestion	4,4'-DDE	1.5E-01	mg/kg wet weight	3.6E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	2.8E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	7.0E-02	mg/kg wet weight	1.7E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.7E-05	mg/kg-day	1.3E-05	mg/kg-day	1E+00
				Total PCB Aroclors	1.2E+01	mg/kg wet weight	3.7E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-04	3.6E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				TCDD TEQ (PCBs)	2.1E-04	mg/kg wet weight	6.6E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	9E-04	5.1E-08	mg/kg-day	7.0E-10	mg/kg-day	7E+01
				Aluminum	1.0E+01	mg/kg wet weight	3.9E-04	mg/kg-day	NA	--	NA	3.0E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Copper	1.5E+00	mg/kg wet weight	5.8E-05	mg/kg-day	NA	--	NA	4.5E-04	mg/kg-day	4.0E-02	mg/kg-day	1E-02
				Mercury	7.7E-02	mg/kg wet weight	3.0E-06	mg/kg-day	NA	--	NA	2.3E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
				Selenium	5.7E-01	mg/kg wet weight	2.2E-05	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								2E-03					3E+02
		Exposure Point Total									2E-03					3E+02
	Total of Receptor Risks Across Medium										2E-03					3E+02

Notes

NA = Not Available

TABLE 7.18.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 and 4 (BB4 & BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB4 & BB3	Ingestion	4,4'-DDE	8.3E-02	mg/kg wet weight	4.3E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	2.5E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	4.8E-02	mg/kg wet weight	2.5E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.5E-05	mg/kg-day	1.3E-05	mg/kg-day	1E+00
				Total PCB Aroclors	4.3E+00	mg/kg wet weight	2.2E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-04	1.3E-03	mg/kg-day	2.0E-05	mg/kg-day	7E+01
				TCDD TEQ (PCBs)	7.6E-05	mg/kg wet weight	4.0E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	5E-04	2.3E-08	mg/kg-day	7.0E-10	mg/kg-day	3E+01
				Aluminum	3.3E+00	mg/kg wet weight	1.7E-04	mg/kg-day	NA	--	NA	1.0E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Copper	3.6E+00	mg/kg wet weight	1.9E-04	mg/kg-day	NA	--	NA	1.1E-03	mg/kg-day	4.0E-02	mg/kg-day	3E-02
				Mercury	1.7E-01	mg/kg wet weight	8.8E-06	mg/kg-day	NA	--	NA	5.2E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	4.2E-01	mg/kg wet weight	2.2E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								1E-03					1E+02
		Exposure Point Total									1E-03					1E+02
	Total of Receptor Risks Across Medium										1E-03					1E+02

Notes
NA = Not Available

TABLE 7.18.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 and 4 (BB4 & BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB4 & BB3	Ingestion	4,4'-DDE	8.3E-02	mg/kg wet weight	2.0E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	1.5E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	4.8E-02	mg/kg wet weight	1.1E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	8.9E-06	mg/kg-day	1.3E-05	mg/kg-day	7E-01
				Total PCB Aroclors	4.3E+00	mg/kg wet weight	1.3E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-04	1.0E-03	mg/kg-day	2.0E-05	mg/kg-day	5E+01
				TCDD TEQ (PCBs)	7.6E-05	mg/kg wet weight	2.4E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	3E-04	1.8E-08	mg/kg-day	7.0E-10	mg/kg-day	3E+01
				Aluminum	3.3E+00	mg/kg wet weight	1.3E-04	mg/kg-day	NA	--	NA	1.0E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Copper	3.6E+00	mg/kg wet weight	1.4E-04	mg/kg-day	NA	--	NA	1.1E-03	mg/kg-day	4.0E-02	mg/kg-day	3E-02
				Mercury	1.7E-01	mg/kg wet weight	6.6E-06	mg/kg-day	NA	--	NA	5.2E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Selenium	4.2E-01	mg/kg wet weight	1.6E-05	mg/kg-day	NA	--	NA	1.3E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								6E-04					8E+01
		Exposure Point Total									6E-04					8E+01
	Total of Receptor Risks Across Medium										6E-04					8E+01

Notes
NA = Not Available

TABLE 7.18.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB5	Ingestion	alpha-Chlordane	3.1E-01	mg/kg wet weight	1.6E-05	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	6E-06	9.4E-05	mg/kg-day	5.0E-04	mg/kg-day	2E-01
				gamma-Chlordane	1.8E-01	mg/kg wet weight	9.4E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	5.5E-05	mg/kg-day	5.0E-04	mg/kg-day	1E-01
				4,4'-DDD	1.8E-01	mg/kg wet weight	9.4E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	5.5E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	1.4E-01	mg/kg wet weight	7.3E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	4.2E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	3.7E-02	mg/kg wet weight	1.9E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	1.1E-05	mg/kg-day	1.3E-05	mg/kg-day	9E-01
				Total PCB Aroclors	1.3E+01	mg/kg wet weight	6.8E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-03	3.9E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				TCDD TEQ (PCBs)	8.2E-04	mg/kg wet weight	4.3E-08	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	6E-03	2.5E-07	mg/kg-day	7.0E-10	mg/kg-day	4E+02
				Aluminum	1.1E+02	mg/kg wet weight	5.8E-03	mg/kg-day	NA	--	NA	3.4E-02	mg/kg-day	1.0E+00	mg/kg-day	3E-02
				Copper	1.8E+00	mg/kg wet weight	9.4E-05	mg/kg-day	NA	--	NA	5.5E-04	mg/kg-day	4.0E-02	mg/kg-day	1E-02
				Mercury	5.0E-02	mg/kg wet weight	2.6E-06	mg/kg-day	NA	--	NA	1.5E-05	mg/kg-day	3.0E-04	mg/kg-day	5E-02
				Selenium	7.5E-01	mg/kg wet weight	3.9E-05	mg/kg-day	NA	--	NA	2.3E-04	mg/kg-day	5.0E-03	mg/kg-day	5E-02
			Exposure Route Total								7E-03					6E+02
		Exposure Point Total									7E-03					6E+02
	Total of Receptor Risks Across Medium										7E-03					6E+02

Notes
NA = Not Available

TABLE 7.18.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB5	Ingestion	alpha-Chlordane	3.1E-01	mg/kg wet weight	7.4E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	5.8E-05	mg/kg-day	5.0E-04	mg/kg-day	1E-01
				gamma-Chlordane	1.8E-01	mg/kg wet weight	4.3E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	3.3E-05	mg/kg-day	5.0E-04	mg/kg-day	7E-02
				4,4'-DDD	1.8E-01	mg/kg wet weight	4.3E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	3.3E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	1.4E-01	mg/kg wet weight	3.3E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	2.6E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	3.7E-02	mg/kg wet weight	8.8E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	6.9E-06	mg/kg-day	1.3E-05	mg/kg-day	5E-01
				Total PCB Aroclors	1.3E+01	mg/kg wet weight	4.1E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-04	3.2E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				TCDD TEQ (PCBs)	8.2E-04	mg/kg wet weight	2.6E-08	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	3E-03	2.0E-07	mg/kg-day	7.0E-10	mg/kg-day	3E+02
				Aluminum	1.1E+02	mg/kg wet weight	4.4E-03	mg/kg-day	NA	--	NA	3.4E-02	mg/kg-day	1.0E+00	mg/kg-day	3E-02
				Copper	1.8E+00	mg/kg wet weight	7.0E-05	mg/kg-day	NA	--	NA	5.5E-04	mg/kg-day	4.0E-02	mg/kg-day	1E-02
				Mercury	5.0E-02	mg/kg wet weight	1.9E-06	mg/kg-day	NA	--	NA	1.5E-05	mg/kg-day	3.0E-04	mg/kg-day	5E-02
				Selenium	7.5E-01	mg/kg wet weight	2.9E-05	mg/kg-day	NA	--	NA	2.3E-04	mg/kg-day	5.0E-03	mg/kg-day	5E-02
			Exposure Route Total								4E-03					4E+02
		Exposure Point Total									4E-03					4E+02
	Total of Receptor Risks Across Medium										4E-03					4E+02

Notes
NA = Not Available

TABLE 7.18.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB6	Ingestion	alpha-Chlordane	5.0E-02	mg/kg wet weight	2.6E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	9E-07	1.5E-05	mg/kg-day	5.0E-04	mg/kg-day	3E-02
				gamma-Chlordane	2.0E-02	mg/kg wet weight	1.0E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	6.1E-06	mg/kg-day	5.0E-04	mg/kg-day	1E-02
				4,4'-DDD	5.8E-03	mg/kg wet weight	3.0E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	1.8E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	3.6E-02	mg/kg wet weight	1.9E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	6E-07	1.1E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.3E-02	mg/kg wet weight	1.2E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	7.0E-06	mg/kg-day	1.3E-05	mg/kg-day	5E-01
				Total PCB Aroclors	6.2E+00	mg/kg wet weight	3.2E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-04	1.9E-03	mg/kg-day	2.0E-05	mg/kg-day	9E+01
				TCDD TEQ (PCBs)	8.1E-06	mg/kg wet weight	4.2E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	5E-05	2.5E-09	mg/kg-day	7.0E-10	mg/kg-day	4E+00
				Aluminum	7.0E+00	mg/kg wet weight	3.6E-04	mg/kg-day	NA	--	NA	2.1E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Copper	2.1E+00	mg/kg wet weight	1.1E-04	mg/kg-day	NA	--	NA	6.4E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Mercury	7.3E-02	mg/kg wet weight	3.8E-06	mg/kg-day	NA	--	NA	2.2E-05	mg/kg-day	3.0E-04	mg/kg-day	7E-02
				Selenium	3.5E-01	mg/kg wet weight	1.8E-05	mg/kg-day	NA	--	NA	1.1E-04	mg/kg-day	5.0E-03	mg/kg-day	2E-02
			Exposure Route Total								7E-04					1E+02
		Exposure Point Total									7E-04					1E+02
	Total of Receptor Risks Across Medium										7E-04					1E+02

Notes
NA = Not Available

TABLE 7.18.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB6	Ingestion	alpha-Chlordane	5.0E-02	mg/kg wet weight	1.2E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	9.3E-06	mg/kg-day	5.0E-04	mg/kg-day	2E-02
				gamma-Chlordane	2.0E-02	mg/kg wet weight	4.8E-07	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	3.7E-06	mg/kg-day	5.0E-04	mg/kg-day	7E-03
				4,4'-DDD	5.8E-03	mg/kg wet weight	1.4E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	1.1E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	3.6E-02	mg/kg wet weight	8.6E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	6.7E-06	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.3E-02	mg/kg wet weight	5.5E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	4.3E-06	mg/kg-day	1.3E-05	mg/kg-day	3E-01
				Total PCB Aroclors	6.2E+00	mg/kg wet weight	1.9E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-04	1.5E-03	mg/kg-day	2.0E-05	mg/kg-day	8E+01
				TCDD TEQ (PCBs)	8.1E-06	mg/kg wet weight	2.5E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	3E-05	2.0E-09	mg/kg-day	7.0E-10	mg/kg-day	3E+00
				Aluminum	7.0E+00	mg/kg wet weight	2.7E-04	mg/kg-day	NA	--	NA	2.1E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Copper	2.1E+00	mg/kg wet weight	8.2E-05	mg/kg-day	NA	--	NA	6.4E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Mercury	7.3E-02	mg/kg wet weight	2.8E-06	mg/kg-day	NA	--	NA	2.2E-05	mg/kg-day	3.0E-04	mg/kg-day	7E-02
				Selenium	3.5E-01	mg/kg wet weight	1.4E-05	mg/kg-day	NA	--	NA	1.1E-04	mg/kg-day	5.0E-03	mg/kg-day	2E-02
			Exposure Route Total								4E-04					8E+01
		Exposure Point Total									4E-04					8E+01
	Total of Receptor Risks Across Medium										4E-04					8E+01

Notes
NA = Not Available

TABLE 7.18.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU SL	Ingestion	alpha-Chlordane	2.3E-01	mg/kg wet weight	1.2E-05	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	4E-06	7.0E-05	mg/kg-day	5.0E-04	mg/kg-day	1E-01
				gamma-Chlordane	1.5E-01	mg/kg wet weight	7.8E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	4.5E-05	mg/kg-day	5.0E-04	mg/kg-day	9E-02
				4,4'-DDD	7.3E-02	mg/kg wet weight	3.8E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	9E-07	2.2E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	8.2E-02	mg/kg wet weight	4.3E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	2.5E-05	mg/kg-day	NA	--	NA
				Dieldrin	2.7E-02	mg/kg wet weight	1.4E-06	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	2E-05	8.2E-06	mg/kg-day	5.0E-05	mg/kg-day	2E-01
				Heptachlor epoxide	3.2E-02	mg/kg wet weight	1.7E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	9.7E-06	mg/kg-day	1.3E-05	mg/kg-day	7E-01
				Total PCB Aroclors	6.4E+00	mg/kg wet weight	3.3E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-04	1.9E-03	mg/kg-day	2.0E-05	mg/kg-day	1E+02
				TCDD TEQ (PCBs)	4.4E-05	mg/kg wet weight	2.3E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	3E-04	1.3E-08	mg/kg-day	7.0E-10	mg/kg-day	2E+01
				Arsenic	1.6E-01	mg/kg wet weight	8.3E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	4.9E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Cobalt	3.8E-01	mg/kg wet weight	2.0E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	3.0E-04	mg/kg-day	4E-01
				Lead	1.8E-01	mg/kg wet weight	9.4E-06	mg/kg-day	NA	--	NA	5.5E-05	mg/kg-day	NA	--	NA
				Mercury	1.4E-01	mg/kg wet weight	7.3E-06	mg/kg-day	NA	--	NA	4.2E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
			Exposure Route Total								1E-03					1E+02
		Exposure Point Total									1E-03					1E+02
	Total of Receptor Risks Across Medium										1E-03					1E+02

Notes
NA = Not Available

TABLE 7.18.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU SL	Ingestion	alpha-Chlordane	2.3E-01	mg/kg wet weight	5.5E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	4.3E-05	mg/kg-day	5.0E-04	mg/kg-day	9E-02
				gamma-Chlordane	1.5E-01	mg/kg wet weight	3.6E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	2.8E-05	mg/kg-day	5.0E-04	mg/kg-day	6E-02
				4,4'-DDD	7.3E-02	mg/kg wet weight	1.7E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.4E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	8.2E-02	mg/kg wet weight	2.0E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	1.5E-05	mg/kg-day	NA	--	NA
				Dieldrin	2.7E-02	mg/kg wet weight	6.5E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-05	5.0E-06	mg/kg-day	5.0E-05	mg/kg-day	1E-01
				Heptachlor epoxide	3.2E-02	mg/kg wet weight	7.7E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	7E-06	6.0E-06	mg/kg-day	1.3E-05	mg/kg-day	5E-01
				Total PCB Aroclors	6.4E+00	mg/kg wet weight	2.0E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-04	1.6E-03	mg/kg-day	2.0E-05	mg/kg-day	8E+01
				TCDD TEQ (PCBs)	4.4E-05	mg/kg wet weight	1.4E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	2E-04	1.1E-08	mg/kg-day	7.0E-10	mg/kg-day	2E+01
				Arsenic	1.6E-01	mg/kg wet weight	6.2E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	4.9E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
				Cobalt	3.8E-01	mg/kg wet weight	1.5E-05	mg/kg-day	NA	--	NA	1.2E-04	mg/kg-day	3.0E-04	mg/kg-day	4E-01
				Lead	1.8E-01	mg/kg wet weight	7.0E-06	mg/kg-day	NA	--	NA	5.5E-05	mg/kg-day	NA	--	NA
				Mercury	1.4E-01	mg/kg wet weight	5.5E-06	mg/kg-day	NA	--	NA	4.2E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
			Exposure Route Total								6E-04					9E+01
		Exposure Point Total									6E-04					9E+01
	Total of Receptor Risks Across Medium										6E-04					9E+01

Notes
NA = Not Available

TABLE 7.19.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 and Green Brook (BB1 & GB)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB1 & GB	Ingestion	alpha-Chlordane	4.7E-02	mg/kg wet weight	2.0E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	2.3E-05	mg/kg-day	5.0E-04	mg/kg-day	5E-02
				gamma-Chlordane	2.0E-02	mg/kg wet weight	8.5E-07	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	9.9E-06	mg/kg-day	5.0E-04	mg/kg-day	2E-02
				4,4'-DDD	4.0E-03	mg/kg wet weight	1.7E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	2.0E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	4.9E-02	mg/kg wet weight	2.1E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	2.4E-05	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.8E+01	mg/kg wet weight	7.6E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-03	8.9E-03	mg/kg-day	2.0E-05	mg/kg-day	4E+02
				Aluminum	7.4E+01	mg/kg wet weight	3.1E-03	mg/kg-day	NA	--	NA	3.7E-02	mg/kg-day	1.0E+00	mg/kg-day	4E-02
				Copper	3.0E+00	mg/kg wet weight	1.3E-04	mg/kg-day	NA	--	NA	1.5E-03	mg/kg-day	4.0E-02	mg/kg-day	4E-02
				Mercury	6.4E-02	mg/kg wet weight	2.7E-06	mg/kg-day	NA	--	NA	3.2E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	4.2E-01	mg/kg wet weight	1.8E-05	mg/kg-day	NA	--	NA	2.1E-04	mg/kg-day	5.0E-03	mg/kg-day	4E-02
			Exposure Route Total								2E-03					4E+02
		Exposure Point Total									2E-03					4E+02
	Total of Receptor Risks Across Medium										2E-03					4E+02

Notes

NA = Not Available

TABLE 7.19.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 and Green Brook (BB1 & GB)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB1 & GB	Ingestion	alpha-Chlordane	4.7E-02	mg/kg wet weight	1.2E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.4E-05	mg/kg-day	5.0E-04	mg/kg-day	3E-02
				gamma-Chlordane	2.0E-02	mg/kg wet weight	5.2E-07	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	6.1E-06	mg/kg-day	5.0E-04	mg/kg-day	1E-02
				4,4'-DDD	4.0E-03	mg/kg wet weight	1.0E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-08	1.2E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	4.9E-02	mg/kg wet weight	1.3E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-07	1.5E-05	mg/kg-day	NA	--	NA
				Total PCB Aroclors	1.8E+01	mg/kg wet weight	6.1E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-03	7.1E-03	mg/kg-day	2.0E-05	mg/kg-day	4E+02
				Aluminum	7.4E+01	mg/kg wet weight	3.1E-03	mg/kg-day	NA	--	NA	3.7E-02	mg/kg-day	1.0E+00	mg/kg-day	4E-02
				Copper	3.0E+00	mg/kg wet weight	1.3E-04	mg/kg-day	NA	--	NA	1.5E-03	mg/kg-day	4.0E-02	mg/kg-day	4E-02
				Mercury	6.4E-02	mg/kg wet weight	2.7E-06	mg/kg-day	NA	--	NA	3.2E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	4.2E-01	mg/kg wet weight	1.8E-05	mg/kg-day	NA	--	NA	2.1E-04	mg/kg-day	5.0E-03	mg/kg-day	4E-02
			Exposure Route Total								1E-03					4E+02
		Exposure Point Total									1E-03					4E+02
	Total of Receptor Risks Across Medium										1E-03					4E+02

Notes

NA = Not Available

TABLE 7.19.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB2	Ingestion	4,4'-DDE	1.5E-01	mg/kg wet weight	6.4E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	7.4E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	7.0E-02	mg/kg wet weight	3.0E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	3E-05	3.5E-05	mg/kg-day	1.3E-05	mg/kg-day	3E+00
				Total PCB Aroclors	1.2E+01	mg/kg wet weight	5.1E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-03	5.9E-03	mg/kg-day	2.0E-05	mg/kg-day	3E+02
				TCDD TEQ (PCBs)	2.1E-04	mg/kg wet weight	8.9E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-03	1.0E-07	mg/kg-day	7.0E-10	mg/kg-day	1E+02
				Aluminum	1.0E+01	mg/kg wet weight	4.2E-04	mg/kg-day	NA	--	NA	5.0E-03	mg/kg-day	1.0E+00	mg/kg-day	5E-03
				Copper	1.5E+00	mg/kg wet weight	6.4E-05	mg/kg-day	NA	--	NA	7.4E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Mercury	7.7E-02	mg/kg wet weight	3.3E-06	mg/kg-day	NA	--	NA	3.8E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	5.7E-01	mg/kg wet weight	2.4E-05	mg/kg-day	NA	--	NA	2.8E-04	mg/kg-day	5.0E-03	mg/kg-day	6E-02
			Exposure Route Total								2E-03					4E+02
		Exposure Point Total									2E-03					4E+02
	Total of Receptor Risks Across Medium										2E-03					4E+02

Notes
NA = Not Available

TABLE 7.19.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB2	Ingestion	4,4'-DDE	1.5E-01	mg/kg wet weight	3.9E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	4.6E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	7.0E-02	mg/kg wet weight	1.8E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	2.1E-05	mg/kg-day	1.3E-05	mg/kg-day	2E+00
				Total PCB Aroclors	1.2E+01	mg/kg wet weight	4.1E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-04	4.8E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				TCDD TEQ (PCBs)	2.1E-04	mg/kg wet weight	7.1E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	9E-04	8.3E-08	mg/kg-day	7.0E-10	mg/kg-day	1E+02
				Aluminum	1.0E+01	mg/kg wet weight	4.2E-04	mg/kg-day	NA	--	NA	5.0E-03	mg/kg-day	1.0E+00	mg/kg-day	5E-03
				Copper	1.5E+00	mg/kg wet weight	6.4E-05	mg/kg-day	NA	--	NA	7.4E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Mercury	7.7E-02	mg/kg wet weight	3.3E-06	mg/kg-day	NA	--	NA	3.8E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	5.7E-01	mg/kg wet weight	2.4E-05	mg/kg-day	NA	--	NA	2.8E-04	mg/kg-day	5.0E-03	mg/kg-day	6E-02
			Exposure Route Total								2E-03					4E+02
		Exposure Point Total									2E-03					4E+02
	Total of Receptor Risks Across Medium										2E-03					4E+02

Notes
NA = Not Available

TABLE 7.19.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 and 4 (BB4 & BB3)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB4 & BB3	Ingestion	4,4'-DDE	8.3E-02	mg/kg wet weight	3.5E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	4.1E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	4.8E-02	mg/kg wet weight	2.0E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	2.4E-05	mg/kg-day	1.3E-05	mg/kg-day	2E+00
				Total PCB Aroclors	4.3E+00	mg/kg wet weight	1.8E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-04	2.1E-03	mg/kg-day	2.0E-05	mg/kg-day	1E+02
				TCDD TEQ (PCBs)	7.6E-05	mg/kg wet weight	3.2E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	4E-04	3.8E-08	mg/kg-day	7.0E-10	mg/kg-day	5E+01
				Aluminum	3.3E+00	mg/kg wet weight	1.4E-04	mg/kg-day	NA	--	NA	1.6E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Copper	3.6E+00	mg/kg wet weight	1.5E-04	mg/kg-day	NA	--	NA	1.8E-03	mg/kg-day	4.0E-02	mg/kg-day	4E-02
				Mercury	1.7E-01	mg/kg wet weight	7.2E-06	mg/kg-day	NA	--	NA	8.4E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
				Selenium	4.2E-01	mg/kg wet weight	1.8E-05	mg/kg-day	NA	--	NA	2.1E-04	mg/kg-day	5.0E-03	mg/kg-day	4E-02
			Exposure Route Total								8E-04					2E+02
		Exposure Point Total									8E-04					2E+02
	Total of Receptor Risks Across Medium										8E-04					2E+02

Notes
NA = Not Available

TABLE 7.19.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 and 4 (BB4 & BB3)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB4 & BB3	Ingestion	4,4'-DDE	8.3E-02	mg/kg wet weight	2.2E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	2.5E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	4.8E-02	mg/kg wet weight	1.2E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	1.5E-05	mg/kg-day	1.3E-05	mg/kg-day	1E+00
				Total PCB Aroclors	4.3E+00	mg/kg wet weight	1.5E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-04	1.7E-03	mg/kg-day	2.0E-05	mg/kg-day	9E+01
				TCDD TEQ (PCBs)	7.6E-05	mg/kg wet weight	2.6E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	3E-04	3.0E-08	mg/kg-day	7.0E-10	mg/kg-day	4E+01
				Aluminum	3.3E+00	mg/kg wet weight	1.4E-04	mg/kg-day	NA	--	NA	1.6E-03	mg/kg-day	1.0E+00	mg/kg-day	2E-03
				Copper	3.6E+00	mg/kg wet weight	1.5E-04	mg/kg-day	NA	--	NA	1.8E-03	mg/kg-day	4.0E-02	mg/kg-day	4E-02
				Mercury	1.7E-01	mg/kg wet weight	7.2E-06	mg/kg-day	NA	--	NA	8.4E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
				Selenium	4.2E-01	mg/kg wet weight	1.8E-05	mg/kg-day	NA	--	NA	2.1E-04	mg/kg-day	5.0E-03	mg/kg-day	4E-02
			Exposure Route Total								6E-04					1E+02
		Exposure Point Total									6E-04					1E+02
	Total of Receptor Risks Across Medium										6E-04					1E+02

Notes
NA = Not Available

TABLE 7.19.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB5	Ingestion	alpha-Chlordane	3.1E-01	mg/kg wet weight	1.3E-05	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	5E-06	1.5E-04	mg/kg-day	5.0E-04	mg/kg-day	3E-01
				gamma-Chlordane	1.8E-01	mg/kg wet weight	7.6E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	8.9E-05	mg/kg-day	5.0E-04	mg/kg-day	2E-01
				4,4'-DDD	1.8E-01	mg/kg wet weight	7.6E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	8.9E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	1.4E-01	mg/kg wet weight	5.9E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	6.9E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	3.7E-02	mg/kg wet weight	1.6E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	1.8E-05	mg/kg-day	1.3E-05	mg/kg-day	1E+00
				Total PCB Aroclors	1.3E+01	mg/kg wet weight	5.5E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-03	6.4E-03	mg/kg-day	2.0E-05	mg/kg-day	3E+02
				TCDD TEQ (PCBs)	8.2E-04	mg/kg wet weight	3.5E-08	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	5E-03	4.1E-07	mg/kg-day	7.0E-10	mg/kg-day	6E+02
				Aluminum	1.1E+02	mg/kg wet weight	4.8E-03	mg/kg-day	NA	--	NA	5.5E-02	mg/kg-day	1.0E+00	mg/kg-day	6E-02
				Copper	1.8E+00	mg/kg wet weight	7.6E-05	mg/kg-day	NA	--	NA	8.9E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Mercury	5.0E-02	mg/kg wet weight	2.1E-06	mg/kg-day	NA	--	NA	2.5E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
				Selenium	7.5E-01	mg/kg wet weight	3.2E-05	mg/kg-day	NA	--	NA	3.7E-04	mg/kg-day	5.0E-03	mg/kg-day	7E-02
			Exposure Route Total								6E-03					9E+02
		Exposure Point Total									6E-03					9E+02
	Total of Receptor Risks Across Medium										6E-03					9E+02

Notes
NA = Not Available

TABLE 7.19.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB5	Ingestion	alpha-Chlordane	3.1E-01	mg/kg wet weight	8.1E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	9.4E-05	mg/kg-day	5.0E-04	mg/kg-day	2E-01
				gamma-Chlordane	1.8E-01	mg/kg wet weight	4.7E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	5.5E-05	mg/kg-day	5.0E-04	mg/kg-day	1E-01
				4,4'-DDD	1.8E-01	mg/kg wet weight	4.7E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	5.5E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	1.4E-01	mg/kg wet weight	3.6E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	4.3E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	3.7E-02	mg/kg wet weight	9.6E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	1.1E-05	mg/kg-day	1.3E-05	mg/kg-day	9E-01
				Total PCB Aroclors	1.3E+01	mg/kg wet weight	4.4E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-04	5.2E-03	mg/kg-day	2.0E-05	mg/kg-day	3E+02
				TCDD TEQ (PCBs)	8.2E-04	mg/kg wet weight	2.8E-08	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	4E-03	3.3E-07	mg/kg-day	7.0E-10	mg/kg-day	5E+02
				Aluminum	1.1E+02	mg/kg wet weight	4.8E-03	mg/kg-day	NA	--	NA	5.5E-02	mg/kg-day	1.0E+00	mg/kg-day	6E-02
				Copper	1.8E+00	mg/kg wet weight	7.6E-05	mg/kg-day	NA	--	NA	8.9E-04	mg/kg-day	4.0E-02	mg/kg-day	2E-02
				Mercury	5.0E-02	mg/kg wet weight	2.1E-06	mg/kg-day	NA	--	NA	2.5E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
				Selenium	7.5E-01	mg/kg wet weight	3.2E-05	mg/kg-day	NA	--	NA	3.7E-04	mg/kg-day	5.0E-03	mg/kg-day	7E-02
			Exposure Route Total								5E-03					7E+02
		Exposure Point Total									5E-03					7E+02
	Total of Receptor Risks Across Medium										5E-03					7E+02

Notes
NA = Not Available

TABLE 7.19.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB6	Ingestion	alpha-Chlordane	5.0E-02	mg/kg wet weight	2.1E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	2.5E-05	mg/kg-day	5.0E-04	mg/kg-day	5E-02
				gamma-Chlordane	2.0E-02	mg/kg wet weight	8.5E-07	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	9.9E-06	mg/kg-day	5.0E-04	mg/kg-day	2E-02
				4,4'-DDD	5.8E-03	mg/kg wet weight	2.5E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	2.9E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	3.6E-02	mg/kg wet weight	1.5E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	1.8E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.3E-02	mg/kg wet weight	9.8E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	9E-06	1.1E-05	mg/kg-day	1.3E-05	mg/kg-day	9E-01
				Total PCB Aroclors	6.2E+00	mg/kg wet weight	2.6E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-04	3.1E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				TCDD TEQ (PCBs)	8.1E-06	mg/kg wet weight	3.4E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	4E-05	4.0E-09	mg/kg-day	7.0E-10	mg/kg-day	6E+00
				Aluminum	7.0E+00	mg/kg wet weight	3.0E-04	mg/kg-day	NA	--	NA	3.5E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Copper	2.1E+00	mg/kg wet weight	8.9E-05	mg/kg-day	NA	--	NA	1.0E-03	mg/kg-day	4.0E-02	mg/kg-day	3E-02
				Mercury	7.3E-02	mg/kg wet weight	3.1E-06	mg/kg-day	NA	--	NA	3.6E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	3.5E-01	mg/kg wet weight	1.5E-05	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								6E-04					2E+02
		Exposure Point Total									6E-04					2E+02
	Total of Receptor Risks Across Medium										6E-04					2E+02

Notes
NA = Not Available

TABLE 7.19.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU BB6	Ingestion	alpha-Chlordane	5.0E-02	mg/kg wet weight	1.3E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	1.5E-05	mg/kg-day	5.0E-04	mg/kg-day	3E-02
				gamma-Chlordane	2.0E-02	mg/kg wet weight	5.2E-07	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-07	6.1E-06	mg/kg-day	5.0E-04	mg/kg-day	1E-02
				4,4'-DDD	5.8E-03	mg/kg wet weight	1.5E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.8E-06	mg/kg-day	NA	--	NA
				4,4'-DDE	3.6E-02	mg/kg wet weight	9.4E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3E-07	1.1E-05	mg/kg-day	NA	--	NA
				Heptachlor epoxide	2.3E-02	mg/kg wet weight	6.0E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	7.0E-06	mg/kg-day	1.3E-05	mg/kg-day	5E-01
				Total PCB Aroclors	6.2E+00	mg/kg wet weight	2.1E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-04	2.5E-03	mg/kg-day	2.0E-05	mg/kg-day	1E+02
				TCDD TEQ (PCBs)	8.1E-06	mg/kg wet weight	2.8E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	4E-05	3.2E-09	mg/kg-day	7.0E-10	mg/kg-day	5E+00
				Aluminum	7.0E+00	mg/kg wet weight	3.0E-04	mg/kg-day	NA	--	NA	3.5E-03	mg/kg-day	1.0E+00	mg/kg-day	3E-03
				Copper	2.1E+00	mg/kg wet weight	8.9E-05	mg/kg-day	NA	--	NA	1.0E-03	mg/kg-day	4.0E-02	mg/kg-day	3E-02
				Mercury	7.3E-02	mg/kg wet weight	3.1E-06	mg/kg-day	NA	--	NA	3.6E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
				Selenium	3.5E-01	mg/kg wet weight	1.5E-05	mg/kg-day	NA	--	NA	1.7E-04	mg/kg-day	5.0E-03	mg/kg-day	3E-02
			Exposure Route Total								5E-04					1E+02
		Exposure Point Total									5E-04					1E+02
	Total of Receptor Risks Across Medium										5E-04					1E+02

Notes
NA = Not Available

TABLE 7.19.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU SL	Ingestion	alpha-Chlordane	2.3E-01	mg/kg wet weight	9.8E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	3E-06	1.1E-04	mg/kg-day	5.0E-04	mg/kg-day	2E-01
				gamma-Chlordane	1.5E-01	mg/kg wet weight	6.4E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	7.4E-05	mg/kg-day	5.0E-04	mg/kg-day	1E-01
				4,4'-DDD	7.3E-02	mg/kg wet weight	3.1E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	3.6E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	8.2E-02	mg/kg wet weight	3.5E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	4.1E-05	mg/kg-day	NA	--	NA
				Dieldrin	2.7E-02	mg/kg wet weight	1.1E-06	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	2E-05	1.3E-05	mg/kg-day	5.0E-05	mg/kg-day	3E-01
				Heptachlor epoxide	3.2E-02	mg/kg wet weight	1.4E-06	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	1.6E-05	mg/kg-day	1.3E-05	mg/kg-day	1E+00
				Total PCB Aroclors	6.4E+00	mg/kg wet weight	2.7E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-04	3.2E-03	mg/kg-day	2.0E-05	mg/kg-day	2E+02
				TCDD TEQ (PCBs)	4.4E-05	mg/kg wet weight	1.9E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	2E-04	2.2E-08	mg/kg-day	7.0E-10	mg/kg-day	3E+01
				Arsenic	1.6E-01	mg/kg wet weight	6.8E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	7.9E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
				Cobalt	3.8E-01	mg/kg wet weight	1.6E-05	mg/kg-day	NA	--	NA	1.9E-04	mg/kg-day	3.0E-04	mg/kg-day	6E-01
				Lead	1.8E-01	mg/kg wet weight	7.6E-06	mg/kg-day	NA	--	NA	8.9E-05	mg/kg-day	NA	--	NA
				Mercury	1.4E-01	mg/kg wet weight	5.9E-06	mg/kg-day	NA	--	NA	6.9E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
			Exposure Route Total								8E-04					2E+02
		Exposure Point Total									8E-04					2E+02
	Total of Receptor Risks Across Medium										8E-04					2E+02

Notes
NA = Not Available

TABLE 7.19.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Fish Fillet	Bottom-Feeding Fish Fillet	EU SL	Ingestion	alpha-Chlordane	2.3E-01	mg/kg wet weight	6.0E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2E-06	7.0E-05	mg/kg-day	5.0E-04	mg/kg-day	1E-01
				gamma-Chlordane	1.5E-01	mg/kg wet weight	3.9E-06	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	1E-06	4.6E-05	mg/kg-day	5.0E-04	mg/kg-day	9E-02
				4,4'-DDD	7.3E-02	mg/kg wet weight	1.9E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	5E-07	2.2E-05	mg/kg-day	NA	--	NA
				4,4'-DDE	8.2E-02	mg/kg wet weight	2.1E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7E-07	2.5E-05	mg/kg-day	NA	--	NA
				Dieldrin	2.7E-02	mg/kg wet weight	7.0E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1E-05	8.2E-06	mg/kg-day	5.0E-05	mg/kg-day	2E-01
				Heptachlor epoxide	3.2E-02	mg/kg wet weight	8.3E-07	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	9.7E-06	mg/kg-day	1.3E-05	mg/kg-day	7E-01
				Total PCB Aroclors	6.4E+00	mg/kg wet weight	2.2E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-04	2.5E-03	mg/kg-day	2.0E-05	mg/kg-day	1E+02
				TCDD TEQ (PCBs)	4.4E-05	mg/kg wet weight	1.5E-09	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	2E-04	1.7E-08	mg/kg-day	7.0E-10	mg/kg-day	2E+01
				Arsenic	1.6E-01	mg/kg wet weight	6.8E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	7.9E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
				Cobalt	3.8E-01	mg/kg wet weight	1.6E-05	mg/kg-day	NA	--	NA	1.9E-04	mg/kg-day	3.0E-04	mg/kg-day	6E-01
				Lead	1.8E-01	mg/kg wet weight	7.6E-06	mg/kg-day	NA	--	NA	8.9E-05	mg/kg-day	NA	--	NA
				Mercury	1.4E-01	mg/kg wet weight	5.9E-06	mg/kg-day	NA	--	NA	6.9E-05	mg/kg-day	3.0E-04	mg/kg-day	2E-01
			Exposure Route Total								7E-04					2E+02
		Exposure Point Total									7E-04					2E+02
	Total of Receptor Risks Across Medium										7E-04					2E+02

Notes
NA = Not Available

TABLE 7.20.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5, 4, 3, 2, 1, Green Brook, and Spring Lake (BB5, BB4, BB3, BB2, BB1, GB, and SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Asiatic Clams	EU BB5, BB4, BB3, BB2, BB1, GB, and SL	Ingestion	Total PCB Aroclors	2.0E+00	mg/kg wet weight	1.8E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-05	5.3E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				TCDD TEQ (PCBs)	3.3E-05	mg/kg wet weight	2.9E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	5E-05	8.6E-10	mg/kg-day	7.0E-10	mg/kg-day	1E+00
			Exposure Route Total								1E-04					4E+00
		Exposure Point Total									1E-04					4E+00
	Total of Receptor Risks Across Medium										1E-04					4E+00

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA - Not Available

TABLE 7.20.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5, 4, 3, 2, 1, Green Brook, and Spring Lake (BB5, BB4, BB3, BB2, BB1, GB, and SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Asiatic Clams	EU BB5, BB4, BB3, BB2, BB1, GB, and SL	Ingestion	Total PCB Aroclors	2.0E+00	mg/kg wet weight	5.5E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	4.3E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				TCDD TEQ (PCBs)	3.3E-05	mg/kg wet weight	8.8E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-05	6.9E-10	mg/kg-day	7.0E-10	mg/kg-day	1E+00
			Exposure Route Total								2E-05					3E+00
		Exposure Point Total									2E-05					3E+00
	Total of Receptor Risks Across Medium										2E-05					3E+00

Notes
NA - Not Available

TABLE 7.20.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Asiatic Clams	EU BB6	Ingestion	Total PCB Aroclors	1.1E-01	mg/kg wet weight	1.0E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-06	2.9E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				TCDD TEQ (PCBs)	3.1E-06	mg/kg wet weight	2.8E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	5E-06	8.1E-11	mg/kg-day	7.0E-10	mg/kg-day	1E-01
			Exposure Route Total								8E-06					3E-01
		Exposure Point Total									8E-06					3E-01
	Total of Receptor Risks Across Medium										8E-06					3E-01

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA - Not Available

TABLE 7.20.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Asiatic Clams	EU BB6	Ingestion	Total PCB Aroclors	1.1E-01	mg/kg wet weight	3.0E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	2.3E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				TCDD TEQ (PCBs)	3.1E-06	mg/kg wet weight	8.3E-12	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-06	6.5E-11	mg/kg-day	7.0E-10	mg/kg-day	9E-02
			Exposure Route Total								2E-06					2E-01
		Exposure Point Total									2E-06					2E-01
	Total of Receptor Risks Across Medium										2E-06					2E-01

Notes
NA - Not Available

TABLE 7.21.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5, 4, 3, 2, 1, Green Brook, and Spring Lake (BB5, BB4, BB3, BB2, BB1, GB, and SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Asiatic Clams	EU BB5, BB4, BB3, BB2, BB1, GB, and SL	Ingestion	Total PCB Aroclors	2.0E+00	mg/kg wet weight	8.6E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	5.0E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				TCDD TEQ (PCBs)	3.3E-05	mg/kg wet weight	1.4E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	2E-05	8.1E-10	mg/kg-day	7.0E-10	mg/kg-day	1E+00
			Exposure Route Total								4E-05					4E+00
		Exposure Point Total									4E-05					4E+00
	Total of Receptor Risks Across Medium										4E-05					4E+00

Notes
NA - Not Available

TABLE 7.21.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 5, 4, 3, 2, 1, Green Brook, and Spring Lake (BB5, BB4, BB3, BB2, BB1, GB, and SL)
Receptor Population: Angler
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Asiatic Clams	EU BB5, BB4, BB3, BB2, BB1, GB, and SL	Ingestion	Total PCB Aroclors	2.0E+00	mg/kg wet weight	5.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	4.0E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				TCDD TEQ (PCBs)	3.3E-05	mg/kg wet weight	8.3E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-05	6.5E-10	mg/kg-day	7.0E-10	mg/kg-day	9E-01
			Exposure Route Total								2E-05					3E+00
		Exposure Point Total									2E-05					3E+00
	Total of Receptor Risks Across Medium										2E-05					3E+00

Notes
NA - Not Available

TABLE 7.21.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Asiatic Clams	EU BB6	Ingestion	Total PCB Aroclors	1.1E-01	mg/kg wet weight	4.7E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9E-07	2.7E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				TCDD TEQ (PCBs)	3.1E-06	mg/kg wet weight	1.3E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	2E-06	7.6E-11	mg/kg-day	7.0E-10	mg/kg-day	1E-01
			Exposure Route Total								3E-06					2E-01
		Exposure Point Total									3E-06					2E-01
	Total of Receptor Risks Across Medium										3E-06					2E-01

Notes
NA - Not Available

TABLE 7.21.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Asiatic Clams	EU BB6	Ingestion	Total PCB Aroclors	1.1E-01	mg/kg wet weight	2.8E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	2.2E-06	mg/kg-day	2.0E-05	mg/kg-day	1E-01
				TCDD TEQ (PCBs)	3.1E-06	mg/kg wet weight	7.8E-12	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-06	6.1E-11	mg/kg-day	7.0E-10	mg/kg-day	9E-02
			Exposure Route Total								2E-06					2E-01
		Exposure Point Total									2E-06					2E-01
	Total of Receptor Risks Across Medium										2E-06					2E-01

Notes
NA - Not Available

TABLE 7.22.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5, 4, 3, 2, 1, Green Brook, and Spring Lake (BB5, BB4, BB3, BB2, BB1, GB, and SL)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Asiatic Clams	EU BB5, BB4, BB3, BB2, BB1, GB, and SL	Ingestion	Total PCB Aroclors	2.0E+00	mg/kg wet weight	7.0E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	8.2E-05	mg/kg-day	2.0E-05	mg/kg-day	4E+00
				TCDD TEQ (PCBs)	3.3E-05	mg/kg wet weight	1.1E-10	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-05	1.3E-09	mg/kg-day	7.0E-10	mg/kg-day	2E+00
			Exposure Route Total								3E-05					6E+00
		Exposure Point Total									3E-05					6E+00
	Total of Receptor Risks Across Medium										3E-05					6E+00

Notes
NA - Not Available

TABLE 7.22.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5, 4, 3, 2, 1, Green Brook, and Spring Lake (BB5, BB4, BB3, BB2, BB1, GB, and SL)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Asiatic Clams	EU BB5, BB4, BB3, BB2, BB1, GB, and SL	Ingestion	Total PCB Aroclors	2.0E+00	mg/kg wet weight	5.6E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	6.5E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				TCDD TEQ (PCBs)	3.3E-05	mg/kg wet weight	9.0E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-05	1.1E-09	mg/kg-day	7.0E-10	mg/kg-day	2E+00
			Exposure Route Total								2E-05					5E+00
		Exposure Point Total									2E-05					5E+00
	Total of Receptor Risks Across Medium										2E-05					5E+00

Notes
NA - Not Available

TABLE 7.22.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Asiatic Clams	EU BB6	Ingestion	Total PCB Aroclors	1.1E-01	mg/kg wet weight	3.8E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-07	4.5E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				TCDD TEQ (PCBs)	3.1E-06	mg/kg wet weight	1.1E-11	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-06	1.2E-10	mg/kg-day	7.0E-10	mg/kg-day	2E-01
			Exposure Route Total								2E-06					4E-01
		Exposure Point Total									2E-06					4E-01
	Total of Receptor Risks Across Medium										2E-06					4E-01

Notes
NA - Not Available

TABLE 7.22.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Asiatic Clams	EU BB6	Ingestion	Total PCB Aroclors	1.1E-01	mg/kg wet weight	3.1E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-07	3.6E-06	mg/kg-day	2.0E-05	mg/kg-day	2E-01
				TCDD TEQ (PCBs)	3.1E-06	mg/kg wet weight	8.5E-12	mg/kg-day	1.3E+05	$(mg/kg\text{-}day)^{-1}$	1E-06	9.9E-11	mg/kg-day	7.0E-10	mg/kg-day	1E-01
			Exposure Route Total								2E-06					3E-01
		Exposure Point Total									2E-06					3E-01
	Total of Receptor Risks Across Medium										2E-06					3E-01

Notes
NA - Not Available

TABLE 7.23.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5, 4, 3, 2, 1, Green Brook, and Spring Lake (BB5, BB4, BB3, BB2, BB1, GB, and SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Crayfish	EU BB5, BB4, BB3, BB2, BB1, GB and SL	Ingestion	Total PCB Aroclors	1.5E+00	mg/kg wet weight	1.3E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-05	3.9E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				Arsenic	9.3E-01	mg/kg wet weight	8.3E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	2.4E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
				Lead	7.9E-01	mg/kg wet weight	7.0E-06	mg/kg-day	NA	--	NA	2.1E-05	mg/kg-day	NA	--	NA
			Exposure Route Total								5E-05					2E+00
		Exposure Point Total									5E-05					2E+00
	Total of Receptor Risks Across Medium										5E-05					2E+00

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.23.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5, 4, 3, 2, 1, Green Brook, and Spring Lake (BB5, BB4, BB3, BB2, BB1, GB, and SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Crayfish	EU BB5, BB4,	Ingestion	Total PCB Aroclors	1.5E+00	mg/kg wet weight	4.0E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	3.1E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
		BB3, BB2, BB1,		Arsenic	9.3E-01	mg/kg wet weight	3.1E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	2.4E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
		GB and SL		Lead	7.9E-01	mg/kg wet weight	2.6E-06	mg/kg-day	NA	--	NA	2.1E-05	mg/kg-day	NA	--	NA
			Exposure Route Total								1E-05					2E+00
		Exposure Point Total									1E-05					2E+00
	Total of Receptor Risks Across Medium										1E-05					2E+00

Notes
NA = Not Available

TABLE 7.23.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Crayfish	EU BB6	Ingestion	Total PCB Aroclors	2.2E+00	mg/kg wet weight	2.0E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5E-05	5.7E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				Lead	1.5E+00	mg/kg wet weight	1.3E-05	mg/kg-day	NA	--	NA	3.9E-05	mg/kg-day	NA	--	NA
			Exposure Route Total								5E-05					3E+00
		Exposure Point Total									5E-05					3E+00
	Total of Receptor Risks Across Medium										5E-05					3E+00

Notes

Cancer risks for the angler adult were calculated as 6 years at the child's rate of exposure and 24 years at the adult's rate of exposure.

NA = Not Available

TABLE 7.23.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Crayfish	EU BB6	Ingestion	Total PCB Aroclors	2.2E+00	mg/kg wet weight	5.9E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	4.6E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				Lead	1.5E+00	mg/kg wet weight	5.0E-06	mg/kg-day	NA	--	NA	3.9E-05	mg/kg-day	NA	--	NA
			Exposure Route Total								1E-05					2E+00
		Exposure Point Total									1E-05					2E+00
	Total of Receptor Risks Across Medium										1E-05					2E+00

Notes
NA = Not Available

TABLE 7.24.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5, 4, 3, 2, 1, Green Brook, and Spring Lake (BB5, BB4, BB3, BB2, BB1, GB, and SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Crayfish	EU BB5, BB4, BB3, BB2, BB1, GB and SL	Ingestion	Total PCB Aroclors	1.5E+00	mg/kg wet weight	6.3E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	3.7E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				Arsenic	9.3E-01	mg/kg wet weight	3.9E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	6E-06	2.3E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
				Lead	7.9E-01	mg/kg wet weight	3.3E-06	mg/kg-day	NA	--	NA	1.9E-05	mg/kg-day	NA	--	NA
			Exposure Route Total								2E-05					2E+00
		Exposure Point Total									2E-05					2E+00
	Total of Receptor Risks Across Medium										2E-05					2E+00

Notes
NA = Not Available

TABLE 7.24.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5, 4, 3, 2, 1, Green Brook, and Spring Lake (BB5, BB4, BB3, BB2, BB1, GB, and SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Crayfish	EU BB5, BB4,	Ingestion	Total PCB Aroclors	1.5E+00	mg/kg wet weight	3.8E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	2.9E-05	mg/kg-day	2.0E-05	mg/kg-day	1E+00
		BB3, BB2, BB1,		Arsenic	9.3E-01	mg/kg wet weight	2.9E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4E-06	2.3E-05	mg/kg-day	3.0E-04	mg/kg-day	8E-02
		GB and SL		Lead	7.9E-01	mg/kg wet weight	2.5E-06	mg/kg-day	NA	--	NA	1.9E-05	mg/kg-day	NA	--	NA
			Exposure Route Total								1E-05					2E+00
		Exposure Point Total									1E-05					2E+00
	Total of Receptor Risks Across Medium										1E-05					2E+00

Notes
NA = Not Available

TABLE 7.24.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Crayfish	EU BB6	Ingestion	Total PCB Aroclors	2.2E+00	mg/kg wet weight	9.2E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	5.4E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
				Lead	1.5E+00	mg/kg wet weight	6.3E-06	mg/kg-day	NA	--	NA	3.7E-05	mg/kg-day	NA	--	NA
			Exposure Route Total								2E-05					3E+00
		Exposure Point Total									2E-05					3E+00
	Total of Receptor Risks Across Medium										2E-05					3E+00

Notes
NA = Not Available

TABLE 7.24.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Crayfish	EU BB6	Ingestion	Total PCB Aroclors	2.2E+00	mg/kg wet weight	5.5E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	4.3E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
				Lead	1.5E+00	mg/kg wet weight	4.7E-06	mg/kg-day	NA	--	NA	3.7E-05	mg/kg-day	NA	--	NA
			Exposure Route Total								1E-05					2E+00
		Exposure Point Total									1E-05					2E+00
	Total of Receptor Risks Across Medium										1E-05					2E+00

Notes
NA = Not Available

TABLE 7.25.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5, 4, 3, 2, 1, Green Brook, and Spring Lake (BB5, BB4, BB3, BB2, BB1, GB, and SL)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Crayfish	EU BB5, BB4,	Ingestion	Total PCB Aroclors	1.5E+00	mg/kg wet weight	5.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	6.0E-05	mg/kg-day	2.0E-05	mg/kg-day	3E+00
		BB3, BB2, BB1,		Arsenic	9.3E-01	mg/kg wet weight	3.2E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	3.7E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
		GB and SL		Lead	7.9E-01	mg/kg wet weight	2.7E-06	mg/kg-day	NA	--	NA	3.2E-05	mg/kg-day	NA	--	NA
			Exposure Route Total								2E-05					3E+00
		Exposure Point Total									2E-05					3E+00
	Total of Receptor Risks Across Medium										2E-05					3E+00

Notes
NA = Not Available

TABLE 7.25.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5, 4, 3, 2, 1, Green Brook, and Spring Lake (BB5, BB4, BB3, BB2, BB1, GB, and SL)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Crayfish	EU BB5, BB4,	Ingestion	Total PCB Aroclors	1.5E+00	mg/kg wet weight	4.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8E-06	4.8E-05	mg/kg-day	2.0E-05	mg/kg-day	2E+00
		BB3, BB2, BB1,		Arsenic	9.3E-01	mg/kg wet weight	3.2E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5E-06	3.7E-05	mg/kg-day	3.0E-04	mg/kg-day	1E-01
		GB and SL		Lead	7.9E-01	mg/kg wet weight	2.7E-06	mg/kg-day	NA	--	NA	3.2E-05	mg/kg-day	NA	--	NA
			Exposure Route Total								1E-05					3E+00
		Exposure Point Total									1E-05					3E+00
	Total of Receptor Risks Across Medium										1E-05					3E+00

Notes
NA = Not Available

TABLE 7.25.RME: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Crayfish	EU BB6	Ingestion	Total PCB Aroclors	2.2E+00	mg/kg wet weight	7.5E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-05	8.8E-05	mg/kg-day	2.0E-05	mg/kg-day	4E+00
				Lead	1.5E+00	mg/kg wet weight	5.1E-06	mg/kg-day	NA	--	NA	6.0E-05	mg/kg-day	NA	--	NA
			Exposure Route Total								2E-05					4E+00
		Exposure Point Total									2E-05					4E+00
	Total of Receptor Risks Across Medium										2E-05					4E+00

Notes
NA = Not Available

TABLE 7.25.CTE: CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Shellfish	Crayfish	EU BB6	Ingestion	Total PCB Aroclors	2.2E+00	mg/kg wet weight	6.0E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-05	7.0E-05	mg/kg-day	2.0E-05	mg/kg-day	4E+00
				Lead	1.5E+00	mg/kg wet weight	5.1E-06	mg/kg-day	NA	--	NA	6.0E-05	mg/kg-day	NA	--	NA
			Exposure Route Total								1E-05					4E+00
		Exposure Point Total									1E-05					4E+00
	Total of Receptor Risks Across Medium										1E-05					4E+00

Notes
NA = Not Available

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU GB	Benzo(a)anthracene	3E-08	N/A	1E-07	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	3E-07	N/A	1E-06	1E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	4E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	8E-08	N/A	3E-07	4E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	N/A	7E-08	8E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	3E-07	N/A	2E-07	5E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-03	N/A	1E-03	3E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	5E-03	N/A	--	5E-03
			Iron	NA	N/A	--	--	GI tract	5E-03	N/A	--	5E-03
			Manganese	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Vanadium	NA	N/A	--	--	Hair	2E-03	N/A	--	2E-03
			Chemical Total	7E-07	--	2E-06	3E-06		2E-02	--	1E-03	2E-02
		Exposure Point Total					3E-06					2E-02
	Exposure Medium Total						3E-06					2E-02
Medium Total							3E-06					2E-02

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU GB	Benzo(a)anthracene	5E-08	3E-13	3E-08	8E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	6E-07	4E-12	3E-07	9E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	9E-08	5E-13	5E-08	1E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	8E-13	6E-08	2E-07	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	2E-13	2E-08	5E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Total PCB Aroclors	1E-08	3E-14	8E-09	2E-08	Eye; Nails; Immunological	7E-04	NA	4E-04	1E-03
			Aluminum	NA	NA	NA	--	Neurological	5E-03	4E-05	--	5E-03
			Arsenic	9E-07	1E-10	1E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	4E-06	6E-04	5E-03
			Cobalt	NA	4E-10	--	4E-10	Endocrine; Lung	8E-03	2E-05	--	8E-03
			Iron	NA	NA	--	--	GI tract	9E-03	NA	--	9E-03
			Manganese	NA	NA	--	--	Neurological	6E-03	1E-04	--	6E-03
			Mercury	NA	NA	--	--	Immunological; Neurological	9E-04	4E-07	--	9E-04
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	2E-06	5E-10	6E-07	2E-06		4E-02	2E-04	1E-03	4E-02
		Exposure Point Total					2E-06					4E-02
	Exposure Medium Total						2E-06					4E-02
Medium Total							2E-06					4E-02
Receptor Total							1E-05				Receptor HI Total	3E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU BB1	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	3E-04	N/A	9E-04	1E-03	Neurological; Liver	1E-03	N/A	3E-03	4E-03
			Benzo(a)anthracene	2E-07	N/A	8E-07	1E-06	--	NA	N/A	NA	--
			Benzo(a)pyrene	3E-06	N/A	1E-05	1E-05	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-07	N/A	1E-06	1E-06	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	2E-08	N/A	7E-08	9E-08	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	5E-07	N/A	2E-06	2E-06	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-07	N/A	6E-07	8E-07	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			delta-BHC	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	1E-06	N/A	5E-06	6E-06	Eye; Nails; Immunological	6E-02	N/A	3E-01	3E-01
			Aluminum	NA	N/A	--	--	Neurological	4E-03	N/A	--	4E-03
			Arsenic	1E-06	N/A	1E-06	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	N/A	5E-03	1E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Copper	NA	N/A	--	--	GI tract	5E-04	N/A	--	5E-04
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	3E-04	--	9E-04	1E-03		1E-01	--	3E-01	4E-01
		Exposure Point Total					1E-03					4E-01
	Exposure Medium Total						1E-03					4E-01
Medium Total							1E-03					4E-01

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB1	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	5E-08	3E-13	3E-08	7E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	5E-07	3E-12	3E-07	8E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	6E-08	4E-13	3E-08	1E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-09	3E-13	3E-09	9E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	8E-13	6E-08	2E-07	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	2E-13	2E-08	4E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-07	3E-13	9E-08	2E-07	Eye; Nails; Immunological	8E-03	NA	5E-03	1E-02
			Aluminum	NA	NA	NA	--	Neurological	3E-03	2E-05	--	3E-03
			Arsenic	1E-06	1E-10	1E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	5E-06	7E-04	6E-03
			Cadmium	NA	1E-11	NA	1E-11	Kidney; Respiratory; Musculoskeletal	4E-04	7E-07	6E-05	4E-04
			Cobalt	NA	4E-10	--	4E-10	Endocrine; Lung	8E-03	2E-05	--	8E-03
			Iron	NA	NA	--	--	GI tract	7E-03	NA	--	7E-03
			Manganese	NA	NA	--	--	Neurological	6E-03	1E-04	--	6E-03
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	2E-06	6E-10	7E-07	3E-06		4E-02	2E-04	6E-03	5E-02
		Exposure Point Total					3E-06					5E-02
	Exposure Medium Total						3E-06					5E-02
Medium Total							3E-06					5E-02
Receptor Total							1E-03	Receptor HI Total				7E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.1.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU BB1	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-05	N/A	1E-04	2E-04	Neurological; Liver	5E-04	N/A	2E-03	2E-03
			Benzo(a)anthracene	3E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	4E-07	N/A	2E-06	2E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	4E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-09	N/A	1E-08	1E-08	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	7E-08	N/A	3E-07	3E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			delta-BHC	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	2E-07	N/A	7E-07	9E-07	Eye; Nails; Immunological	3E-02	N/A	1E-01	2E-01
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	2E-07	N/A	1E-07	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-03	N/A	2E-03	5E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	7E-03	N/A	--	7E-03
			Copper	NA	N/A	--	--	GI tract	3E-04	N/A	--	3E-04
			Iron	NA	N/A	--	--	GI tract	1E-02	N/A	--	1E-02
			Manganese	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Vanadium	NA	N/A	--	--	Hair	6E-04	N/A	--	6E-04
			Chemical Total	4E-05	--	1E-04	2E-04		6E-02	--	1E-01	2E-01
		Exposure Point Total					2E-04					2E-01
	Exposure Medium Total						2E-04					2E-01
Medium Total							2E-04					2E-01

TABLE 9.1.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB1	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	7E-09	5E-14	6E-10	8E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	8E-08	5E-13	7E-09	9E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	9E-09	6E-14	7E-10	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	8E-10	5E-14	7E-11	9E-10	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	1E-13	1E-09	2E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	4E-09	3E-14	3E-10	5E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-08	5E-14	2E-09	2E-08	Eye; Nails; Immunological	4E-03	NA	4E-04	5E-03
			Aluminum	NA	NA	NA	--	Neurological	1E-03	1E-05	--	1E-03
			Arsenic	2E-07	2E-11	3E-09	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-03	2E-06	5E-05	3E-03
			Cadmium	NA	2E-12	NA	2E-12	Kidney; Respiratory; Musculoskeletal	2E-04	4E-07	4E-06	2E-04
			Cobalt	NA	6E-11	--	6E-11	Endocrine; Lung	4E-03	9E-06	--	4E-03
			Iron	NA	NA	--	--	GI tract	4E-03	NA	--	4E-03
			Manganese	NA	NA	--	--	Neurological	3E-03	6E-05	--	3E-03
			Vanadium	NA	NA	--	--	Hair	9E-04	NA	--	9E-04
			Chemical Total	3E-07	8E-11	1E-08	3E-07		2E-02	8E-05	4E-04	2E-02
		Exposure Point Total					3E-07					2E-02
	Exposure Medium Total						3E-07					2E-02
Medium Total							3E-07					2E-02
Receptor Total							2E-04				Receptor HI Total	4E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU BB2	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-04	N/A	1E-03	2E-03	Neurological; Liver	1E-03	N/A	4E-03	5E-03
			Benzo(a)anthracene	1E-07	N/A	5E-07	6E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-06	N/A	6E-06	7E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-07	N/A	9E-07	1E-06	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	1E-08	N/A	6E-08	7E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	3E-08	N/A	9E-08	1E-07	Liver	3E-04	N/A	8E-04	1E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	4E-07	N/A	2E-06	2E-06	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-07	N/A	5E-07	6E-07	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	6E-07	N/A	3E-06	3E-06	Eye; Nails; Immunological	3E-02	N/A	1E-01	2E-01
			Aluminum	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Arsenic	9E-07	N/A	9E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	N/A	4E-03	9E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	6E-03	N/A	7E-03	1E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	8E-03	N/A	--	8E-03
			Iron	NA	N/A	--	--	GI tract	8E-03	N/A	--	8E-03
			Manganese	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	4E-04	--	1E-03	2E-03		7E-02	--	2E-01	2E-01
		Exposure Point Total					2E-03					2E-01
	Exposure Medium Total						2E-03					2E-01
Medium Total							2E-03					2E-01

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB2	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-08	1E-13	1E-08	3E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	1E-12	1E-07	3E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	2E-13	1E-08	4E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	3E-13	3E-08	7E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	9E-14	8E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-07	3E-13	8E-08	2E-07	Eye; Nails; Immunological	7E-03	NA	4E-03	1E-02
			Aluminum	NA	NA	NA	--	Neurological	3E-03	2E-05	--	3E-03
			Arsenic	2E-06	2E-10	2E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-03	7E-06	1E-03	9E-03
			Cobalt	NA	2E-10	--	2E-10	Endocrine; Lung	4E-03	8E-06	--	4E-03
			Iron	NA	NA	--	--	GI tract	4E-03	NA	--	4E-03
			Manganese	NA	NA	--	--	Neurological	4E-03	8E-05	--	4E-03
			Chemical Total	2E-06	4E-10	4E-07	2E-06		3E-02	1E-04	5E-03	4E-02
		Exposure Point Total					2E-06					4E-02
	Exposure Medium Total						2E-06					4E-02
Medium Total							2E-06					4E-02
Receptor Total							2E-03				Receptor HI Total	6E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.1.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU BB2	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	5E-05	N/A	2E-04	2E-04	Neurological; Liver	6E-04	N/A	2E-03	3E-03
			Benzo(a)anthracene	2E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-07	N/A	9E-07	1E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	2E-09	N/A	9E-09	1E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	5E-09	N/A	1E-08	2E-08	Liver	1E-04	N/A	4E-04	5E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	6E-08	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	9E-08	N/A	4E-07	5E-07	Eye; Nails; Immunological	2E-02	N/A	7E-02	9E-02
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	1E-07	N/A	1E-07	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	N/A	2E-03	5E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	3E-03	N/A	4E-03	7E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	4E-03	N/A	--	4E-03
			Iron	NA	N/A	--	--	GI tract	4E-03	N/A	--	4E-03
			Manganese	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Vanadium	NA	N/A	--	--	Hair	6E-04	N/A	--	6E-04
			Chemical Total	6E-05	--	2E-04	2E-04		4E-02	--	8E-02	1E-01
		Exposure Point Total					2E-04					1E-01
	Exposure Medium Total						2E-04					1E-01
Medium Total							2E-04					1E-01

TABLE 9.1.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB2	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	3E-09	2E-14	2E-10	3E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-08	2E-13	2E-09	3E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	4E-09	2E-14	3E-10	4E-09	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	7E-09	5E-14	6E-10	8E-09	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-09	1E-14	2E-10	2E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-08	4E-14	2E-09	2E-08	Eye; Nails; Immunological	4E-03	NA	3E-04	4E-03
			Aluminum	NA	NA	NA	--	Neurological	1E-03	1E-05	--	1E-03
			Arsenic	2E-07	3E-11	4E-09	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-03	3E-06	7E-05	4E-03
			Cobalt	NA	3E-11	--	3E-11	Endocrine; Lung	2E-03	4E-06	--	2E-03
			Iron	NA	NA	--	--	GI tract	2E-03	NA	--	2E-03
			Manganese	NA	NA	--	--	Neurological	2E-03	4E-05	--	2E-03
			Chemical Total	3E-07	5E-11	1E-08	3E-07		1E-02	6E-05	4E-04	2E-02
		Exposure Point Total					3E-07					2E-02
	Exposure Medium Total						3E-07					2E-02
Medium Total							3E-07					2E-02
Receptor Total							2E-04				Receptor HI Total	3E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU BB3	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	1E-03	N/A	3E-03	4E-03	Neurological; Liver	3E-03	N/A	1E-02	1E-02
			Benzo(a)anthracene	3E-07	N/A	1E-06	1E-06	--	NA	N/A	NA	--
			Benzo(a)pyrene	4E-06	N/A	2E-05	2E-05	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-07	N/A	1E-06	1E-06	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	2E-08	N/A	7E-08	9E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	2E-08	N/A	7E-08	9E-08	Liver	2E-04	N/A	6E-04	8E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	3E-07	N/A	1E-06	2E-06	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	4E-07	N/A	--	4E-07	Liver; Neurological	1E-03	N/A	--	1E-03
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	1E-06	N/A	5E-06	6E-06	Eye; Nails; Immunological	6E-02	N/A	3E-01	3E-01
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	8E-07	N/A	7E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-03	N/A	4E-03	8E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	3E-03	N/A	3E-03	6E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Iron	NA	N/A	--	--	GI tract	5E-03	N/A	--	5E-03
			Manganese	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	1E-03	--	3E-03	4E-03		1E-01	--	3E-01	4E-01
		Exposure Point Total					4E-03					4E-01
	Exposure Medium Total						4E-03					4E-01
Medium Total							4E-03					4E-01

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	1E-07	8E-13	7E-08	2E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-06	8E-12	7E-07	2E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-07	1E-12	9E-08	3E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-08	8E-13	7E-09	2E-08	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	6E-08	5E-13	3E-08	9E-08	Liver	5E-04	NA	2E-04	8E-04
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	3E-07	2E-12	2E-07	4E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	9E-08	5E-13	5E-08	1E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	6E-07	1E-12	4E-07	1E-06	Eye; Nails; Immunological	4E-02	NA	2E-02	6E-02
			Aluminum	NA	NA	NA	--	Neurological	2E-03	2E-05	--	2E-03
			Antimony	NA	NA	NA	--	Blood	7E-03	NA	--	7E-03
			Arsenic	3E-06	3E-10	3E-07	3E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	1E-05	2E-03	2E-02
			Cadmium	NA	4E-11	NA	4E-11	Kidney; Respiratory; Musculoskeletal	1E-03	2E-06	2E-04	1E-03
			Cobalt	NA	4E-10	--	4E-10	Endocrine; Lung	8E-03	2E-05	--	8E-03
			Copper	NA	NA	--	--	GI tract	1E-02	NA	--	1E-02
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	6E-03	1E-04	--	6E-03
			Mercury	NA	NA	--	--	Immunological; Neurological	1E-03	6E-07	--	1E-03
			Nickel	NA	8E-11	--	8E-11	Whole body; Respiratory	9E-04	8E-06	--	9E-04
			Thallium	NA	NA	--	--	NOAEL	8E-02	NA	--	8E-02
			Vanadium	NA	NA	--	--	Hair	1E-03	NA	--	1E-03
			Zinc	NA	NA	--	--	Blood	1E-03	NA	--	1E-03
			Chemical Total	5E-06	8E-10	2E-06	7E-06		2E-01	2E-04	2E-02	2E-01
		Exposure Point Total					7E-06					2E-01
	Exposure Medium Total						7E-06					2E-01
Medium Total							7E-06					2E-01
Receptor Total							4E-03				Receptor HI Total	9E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.1.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU BB3	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	1E-04	N/A	4E-04	6E-04	Neurological; Liver	2E-03	N/A	5E-03	7E-03
			Benzo(a)anthracene	4E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	6E-07	N/A	2E-06	3E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	4E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-09	N/A	1E-08	1E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	3E-09	N/A	1E-08	1E-08	Liver	9E-05	N/A	3E-04	4E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	5E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	6E-08	N/A	--	6E-08	Liver; Neurological	6E-04	N/A	--	6E-04
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	2E-07	N/A	7E-07	9E-07	Eye; Nails; Immunological	3E-02	N/A	1E-01	2E-01
			Aluminum	NA	N/A	--	--	Neurological	1E-03	N/A	--	1E-03
			Arsenic	1E-07	N/A	1E-07	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	N/A	2E-03	4E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	1E-03	N/A	2E-03	3E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	7E-03	N/A	--	7E-03
			Iron	NA	N/A	--	--	GI tract	3E-03	N/A	--	3E-03
			Manganese	NA	N/A	--	--	Neurological	1E-03	N/A	--	1E-03
			Vanadium	NA	N/A	--	--	Hair	6E-04	N/A	--	6E-04
			Chemical Total	1E-04	--	5E-04	6E-04		5E-02	--	1E-01	2E-01
		Exposure Point Total					6E-04					2E-01
	Exposure Medium Total						6E-04					2E-01
Medium Total							6E-04					2E-01

TABLE 9.1.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-08	1E-13	1E-09	2E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	1E-12	2E-08	2E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-08	2E-13	2E-09	3E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-09	1E-13	1E-10	2E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	1E-08	7E-14	6E-10	1E-08	Liver	3E-04	NA	2E-05	3E-04
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	4E-08	3E-13	3E-09	4E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	8E-14	1E-09	1E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	9E-08	2E-13	8E-09	1E-07	Eye; Nails; Immunological	2E-02	NA	2E-03	2E-02
			Aluminum	NA	NA	NA	--	Neurological	1E-03	9E-06	--	1E-03
			Antimony	NA	NA	NA	--	Blood	4E-03	NA	--	4E-03
			Arsenic	4E-07	5E-11	7E-09	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-03	6E-06	1E-04	7E-03
			Cadmium	NA	5E-12	NA	5E-12	Kidney; Respiratory; Musculoskeletal	5E-04	1E-06	1E-05	6E-04
			Cobalt	NA	6E-11	--	6E-11	Endocrine; Lung	4E-03	8E-06	--	4E-03
			Copper	NA	NA	--	--	GI tract	7E-03	NA	--	7E-03
			Iron	NA	NA	--	--	GI tract	2E-02	NA	--	2E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-03	6E-05	--	3E-03
			Mercury	NA	NA	--	--	Immunological; Neurological	7E-04	3E-07	--	7E-04
			Nickel	NA	1E-11	--	1E-11	Whole body; Respiratory	5E-04	4E-06	--	5E-04
			Thallium	NA	NA	--	--	NOAEL	4E-02	NA	--	4E-02
			Vanadium	NA	NA	--	--	Hair	5E-04	NA	--	5E-04
			Zinc	NA	NA	--	--	Blood	5E-04	NA	--	5E-04
			Chemical Total	8E-07	1E-10	4E-08	8E-07		1E-01	9E-05	2E-03	1E-01
		Exposure Point Total					8E-07					1E-01
	Exposure Medium Total						8E-07					1E-01
Medium Total							8E-07					1E-01
Receptor Total							6E-04	Receptor HI Total				4E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU BB4	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-04	N/A	1E-03	2E-03	Neurological; Liver	1E-03	N/A	4E-03	5E-03
			Benzo(a)anthracene	1E-07	N/A	4E-07	5E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-06	N/A	4E-06	5E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	1E-07	N/A	6E-07	7E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	1E-07	N/A	5E-07	7E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	7E-08	N/A	3E-07	4E-07	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endosulfan sulfate	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	1E-06	N/A	6E-06	8E-06	Eye; Nails; Immunological	8E-02	N/A	4E-01	4E-01
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	7E-07	N/A	7E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-03	N/A	4E-03	7E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	1E-03	N/A	2E-03	3E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	4E-03	N/A	--	4E-03
			Iron	NA	N/A	--	--	GI tract	6E-03	N/A	--	6E-03
			Manganese	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Vanadium	NA	N/A	--	--	Hair	7E-04	N/A	--	7E-04
			Chemical Total	4E-04	--	1E-03	2E-03		1E-01	--	4E-01	5E-01
		Exposure Point Total					2E-03					5E-01
	Exposure Medium Total						2E-03					5E-01
Medium Total							2E-03					5E-01

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB4	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	8E-08	5E-13	4E-08	1E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	9E-07	5E-12	5E-07	1E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-07	9E-13	8E-08	2E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-09	2E-13	2E-09	5E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-06	7E-12	6E-07	2E-06	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	5E-08	3E-13	3E-08	8E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Aldrin	6E-08	7E-13	--	6E-08	Liver	3E-04	NA	--	3E-04
			delta-BHC	NA	NA	--	--	--	NA	NA	--	--
			Dieldrin	5E-07	6E-12	--	5E-07	Liver; Neurological	1E-03	NA	--	1E-03
			4,4'-DDT	1E-08	2E-13	2E-09	2E-08	Liver	2E-04	NA	3E-05	2E-04
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-06	5E-12	1E-06	4E-06	Eye; Nails; Immunological	1E-01	NA	8E-02	2E-01
			Aluminum	NA	NA	NA	--	Neurological	2E-03	2E-05	--	2E-03
			Antimony	NA	NA	NA	--	Blood	2E-03	NA	--	2E-03
			Arsenic	1E-06	2E-10	2E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-03	6E-06	9E-04	8E-03
			Cadmium	NA	6E-11	NA	6E-11	Kidney; Respiratory; Musculoskeletal	2E-03	4E-06	3E-04	2E-03
			Cobalt	NA	3E-10	--	3E-10	Endocrine; Lung	6E-03	1E-05	--	6E-03
			Copper	NA	NA	--	--	GI tract	7E-04	NA	--	7E-04
			Iron	NA	NA	--	--	GI tract	5E-03	NA	--	5E-03
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	5E-03	1E-04	--	5E-03
			Silver	NA	NA	--	--	Skin	3E-04	NA	--	3E-04
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	6E-06	5E-10	3E-06	9E-06		2E-01	1E-04	8E-02	2E-01
		Exposure Point Total					9E-06					2E-01
	Exposure Medium Total						9E-06					2E-01
Medium Total							9E-06					2E-01
Receptor Total							2E-03				Receptor HI Total	1E+00

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.1.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU BB4	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	6E-05	N/A	2E-04	2E-04	Neurological; Liver	7E-04	N/A	2E-03	3E-03
			Benzo(a)anthracene	2E-08	N/A	6E-08	8E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-07	N/A	6E-07	7E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	N/A	4E-08	6E-08	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endosulfan sulfate	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	2E-07	N/A	9E-07	1E-06	Eye; Nails; Immunological	4E-02	N/A	2E-01	2E-01
			Aluminum	NA	N/A	--	--	Neurological	8E-04	N/A	--	8E-04
			Arsenic	1E-07	N/A	1E-07	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	N/A	2E-03	4E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	6E-04	N/A	8E-04	1E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-03	N/A	--	2E-03
			Iron	NA	N/A	--	--	GI tract	3E-03	N/A	--	3E-03
			Manganese	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Vanadium	NA	N/A	--	--	Hair	4E-04	N/A	--	4E-04
			Chemical Total	6E-05	--	2E-04	2E-04		6E-02	--	2E-01	2E-01
		Exposure Point Total					2E-04					2E-01
	Exposure Medium Total						2E-04					2E-01
Medium Total							2E-04					2E-01

TABLE 9.1.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB4	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	1E-08	8E-14	1E-09	1E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-07	8E-13	1E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-08	1E-13	2E-09	2E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-10	3E-14	4E-11	5E-10	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	1E-12	1E-08	2E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	7E-09	5E-14	6E-10	8E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Aldrin	9E-09	1E-13	--	9E-09	Liver	1E-04	NA	--	1E-04
			delta-BHC	NA	NA	--	--	--	NA	NA	--	--
			Dieldrin	7E-08	9E-13	--	7E-08	Liver; Neurological	7E-04	NA	--	7E-04
			4,4'-DDT	2E-09	3E-14	4E-11	2E-09	Liver	1E-04	NA	2E-06	1E-04
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	3E-07	7E-13	3E-08	4E-07	Eye; Nails; Immunological	6E-02	NA	6E-03	7E-02
			Aluminum	NA	NA	NA	--	Neurological	1E-03	9E-06	--	1E-03
			Antimony	NA	NA	NA	--	Blood	1E-03	NA	--	1E-03
			Arsenic	2E-07	2E-11	4E-09	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-03	3E-06	6E-05	3E-03
			Cadmium	NA	9E-12	NA	9E-12	Kidney; Respiratory; Musculoskeletal	9E-04	2E-06	2E-05	9E-04
			Cobalt	NA	4E-11	--	4E-11	Endocrine; Lung	3E-03	6E-06	--	3E-03
			Copper	NA	NA	--	--	GI tract	3E-04	NA	--	3E-04
			Iron	NA	NA	--	--	GI tract	2E-03	NA	--	2E-03
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-03	5E-05	--	2E-03
			Silver	NA	NA	--	--	Skin	2E-04	NA	--	2E-04
			Vanadium	NA	NA	--	--	Hair	8E-04	NA	--	8E-04
			Chemical Total	9E-07	8E-11	6E-08	1E-06		8E-02	7E-05	6E-03	9E-02
		Exposure Point Total					1E-06					9E-02
	Exposure Medium Total						1E-06					9E-02
Medium Total							1E-06					9E-02
Receptor Total							2E-04	Receptor HI Total				5E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU BB5	cis-1,2-Dichloroethene	NA	N/A	--	--	Kidney	3E-03	N/A	--	3E-03
			Vinyl chloride	4E-08	N/A	--	4E-08	Liver	2E-05	N/A	--	2E-05
			Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	3E-04	N/A	8E-04	1E-03	Neurological; Liver	8E-04	N/A	3E-03	3E-03
			Benzo(a)anthracene	9E-08	N/A	4E-07	5E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-06	N/A	5E-06	6E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-07	N/A	6E-07	8E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	6E-09	N/A	2E-08	3E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	2E-07	N/A	5E-07	7E-07	Liver	1E-03	N/A	4E-03	5E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-07	N/A	6E-07	8E-07	--	NA	N/A	NA	--
			1,3-Dichlorobenzene	NA	N/A	NA	--	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	7E-08	N/A	3E-07	3E-07	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	7E-07	N/A	--	7E-07	Liver; Neurological	2E-03	N/A	--	2E-03
			4,4'-DDT	2E-08	N/A	2E-08	4E-08	Liver	3E-04	N/A	2E-04	5E-04
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	2E-07	N/A	--	2E-07	Liver	4E-03	N/A	--	4E-03
			Total PCB Aroclors	5E-06	N/A	2E-05	3E-05	Eye; Nails; Immunological	3E-01	N/A	1E+00	2E+00
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Antimony	NA	N/A	--	--	Blood	1E-03	N/A	--	1E-03
			Arsenic	1E-06	N/A	1E-06	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	N/A	5E-03	1E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	5E-03	N/A	6E-03	1E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	6E-03	N/A	--	6E-03
			Iron	NA	N/A	--	--	GI tract	9E-03	N/A	--	9E-03
			Manganese	NA	N/A	--	--	Neurological	4E-03	N/A	--	4E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	3E-04	--	8E-04	1E-03		3E-01	--	1E+00	2E+00
		Exposure Point Total					1E-03					2E+00
	Exposure Medium Total						1E-03					2E+00
Medium Total							1E-03					2E+00

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	--	Kidney	2E-03	--	--	2E-03
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-07	1E-12	1E-07	4E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-06	1E-11	1E-06	4E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-07	2E-12	2E-07	5E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-08	8E-13	7E-09	2E-08	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	8E-08	6E-13	3E-08	1E-07	Liver	7E-04	NA	3E-04	1E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	3E-07	2E-12	2E-07	4E-07	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-07	9E-13	8E-08	2E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	1E-05	2E-10	--	1E-05	Liver; Neurological	4E-02	NA	--	4E-02
			4,4'-DDE	2E-06	2E-11	2E-07	2E-06	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Heptachlor epoxide	1E-06	2E-11	--	1E-06	Liver	3E-02	NA	--	3E-02
			Total PCB Aroclors	7E-06	1E-11	4E-06	1E-05	Eye; Nails; Immunological	4E-01	NA	2E-01	6E-01
			Aluminum	NA	NA	NA	--	Neurological	3E-03	3E-05	--	3E-03
			Antimony	NA	NA	NA	--	Blood	2E-03	NA	--	2E-03
			Arsenic	3E-06	3E-10	3E-07	3E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	1E-05	2E-03	1E-02
			Cadmium	NA	1E-10	NA	1E-10	Kidney; Respiratory; Musculoskeletal	3E-03	6E-06	5E-04	3E-03
			Cobalt	NA	4E-10	--	4E-10	Endocrine; Lung	9E-03	2E-05	--	9E-03
			Copper	NA	NA	--	--	GI tract	1E-03	NA	--	1E-03
			Iron	NA	NA	--	--	GI tract	1E-02	NA	--	1E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	4E-03	8E-05	--	4E-03
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	3E-05	1E-09	7E-06	4E-05		5E-01	1E-04	2E-01	8E-01
		Exposure Point Total					4E-05					8E-01
	Exposure Medium Total						4E-05					8E-01
Medium Total							4E-05					8E-01
Receptor Total							1E-03				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	3E-03
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	8E-02
Developmental HI Across All Media =	3E-02
Neurological HI Across All Media =	9E-02
Respiratory, Lung HI Across All Media =	6E-02
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	4E-04

TABLE 9.1.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU BB5	cis-1,2-Dichloroethene	NA	N/A	--	--	Kidney	1E-03	N/A	--	1E-03
			Vinyl chloride	7E-09	N/A	--	7E-09	Liver	1E-05	N/A	--	1E-05
			Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-05	N/A	1E-04	2E-04	Neurological; Liver	4E-04	N/A	1E-03	2E-03
			Benzo(a)anthracene	1E-08	N/A	6E-08	7E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-07	N/A	7E-07	9E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	9E-10	N/A	4E-09	5E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	2E-08	N/A	7E-08	1E-07	Liver	7E-04	N/A	2E-03	3E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			1,3-Dichlorobenzene	NA	N/A	NA	--	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	N/A	4E-08	5E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	1E-07	N/A	--	1E-07	Liver; Neurological	1E-03	N/A	--	1E-03
			4,4'-DDT	3E-09	N/A	3E-09	6E-09	Liver	1E-04	N/A	1E-04	3E-04
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	3E-08	N/A	--	3E-08	Liver	2E-03	N/A	--	2E-03
			Total PCB Aroclors	7E-07	N/A	3E-06	4E-06	Eye; Nails; Immunological	1E-01	N/A	6E-01	8E-01
			Aluminum	NA	N/A	--	--	Neurological	1E-03	N/A	--	1E-03
			Antimony	NA	N/A	--	--	Blood	5E-04	N/A	--	5E-04
			Arsenic	2E-07	N/A	1E-07	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-03	N/A	3E-03	5E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	2E-03	N/A	3E-03	5E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	3E-03	N/A	--	3E-03
			Iron	NA	N/A	--	--	GI tract	5E-03	N/A	--	5E-03
			Manganese	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Vanadium	NA	N/A	--	--	Hair	6E-04	N/A	--	6E-04
			Chemical Total	4E-05	--	1E-04	2E-04		2E-01	--	6E-01	8E-01
		Exposure Point Total					2E-04					8E-01
	Exposure Medium Total						2E-04					8E-01
Medium Total							2E-04					8E-01

TABLE 9.1.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	--	Kidney	1E-03	--	--	1E-03
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	3E-08	2E-13	3E-09	4E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-07	2E-12	3E-08	4E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	5E-08	3E-13	4E-09	5E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-09	1E-13	2E-10	2E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	1E-08	9E-14	7E-10	1E-08	Liver	3E-04	NA	2E-05	4E-04
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	4E-08	3E-13	3E-09	4E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	1E-13	2E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	2E-06	2E-11	--	2E-06	Liver; Neurological	2E-02	NA	--	2E-02
			4,4'-DDE	2E-07	3E-12	4E-09	2E-07	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Heptachlor epoxide	2E-07	2E-12	--	2E-07	Liver	1E-02	NA	--	1E-02
			Total PCB Aroclors	1E-06	2E-12	9E-08	1E-06	Eye; Nails; Immunological	2E-01	NA	2E-02	2E-01
			Aluminum	NA	NA	NA	--	Neurological	2E-03	1E-05	--	2E-03
			Antimony	NA	NA	NA	--	Blood	1E-03	NA	--	1E-03
			Arsenic	4E-07	5E-11	7E-09	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-03	6E-06	1E-04	7E-03
			Cadmium	NA	1E-11	NA	1E-11	Kidney; Respiratory; Musculoskeletal	1E-03	3E-06	4E-05	2E-03
			Cobalt	NA	7E-11	--	7E-11	Endocrine; Lung	5E-03	1E-05	--	5E-03
			Copper	NA	NA	--	--	GI tract	6E-04	NA	--	6E-04
			Iron	NA	NA	--	--	GI tract	5E-03	NA	--	5E-03
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-03	4E-05	--	2E-03
			Vanadium	NA	NA	--	--	Hair	1E-03	NA	--	1E-03
			Chemical Total	4E-06	2E-10	1E-07	5E-06		3E-01	7E-05	2E-02	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Receptor Total							2E-04				Receptor HI Total	1E+00

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU BB6	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	2E-04	N/A	6E-04	8E-04	Neurological; Liver	7E-04	N/A	2E-03	3E-03
			Benzo(a)anthracene	2E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-07	N/A	9E-07	1E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	5E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	4E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	N/A	7E-08	8E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Total PCB Aroclors	8E-08	N/A	3E-07	4E-07	Eye; Nails; Immunological	5E-03	N/A	2E-02	2E-02
			Arsenic	5E-07	N/A	5E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-03	N/A	2E-03	5E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	4E-03	N/A	5E-03	8E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	5E-03	N/A	--	5E-03
			Iron	NA	N/A	--	--	GI tract	4E-03	N/A	--	4E-03
			Manganese	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Thallium	NA	N/A	--	--	NOAEL	1E-03	N/A	--	1E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	2E-04	--	6E-04	8E-04		3E-02	--	3E-02	6E-02
		Exposure Point Total					8E-04					6E-02
	Exposure Medium Total						8E-04					6E-02
Medium Total							8E-04					6E-02

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	1E-07	8E-13	7E-08	2E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	7E-07	4E-12	4E-07	1E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-07	9E-13	8E-08	2E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	9E-13	7E-08	2E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	9E-08	5E-13	5E-08	1E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-05	2E-11	6E-06	2E-05	Eye; Nails; Immunological	6E-01	NA	4E-01	1E+00
			Aluminum	NA	NA	NA	--	Neurological	3E-03	3E-05	--	3E-03
			Arsenic	3E-07	4E-11	4E-08	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	1E-06	2E-04	2E-03
			Cadmium	NA	4E-11	NA	4E-11	Kidney; Respiratory; Musculoskeletal	1E-03	3E-06	2E-04	1E-03
			Cobalt	NA	2E-10	--	2E-10	Endocrine; Lung	5E-03	1E-05	--	5E-03
			Cyanide	NA	NA	--	--	Whole body; Endocrine	1E-03	NA	--	1E-03
			Iron	NA	NA	--	--	GI tract	7E-03	NA	--	7E-03
			Manganese	NA	NA	--	--	Neurological	5E-03	1E-04	--	5E-03
			Chemical Total	1E-05	3E-10	7E-06	2E-05		6E-01	1E-04	4E-01	1E+00
		Exposure Point Total					2E-05					1E+00
	Exposure Medium Total						2E-05					1E+00
Medium Total							2E-05					1E+00
Receptor Total							8E-04				Receptor HI Total	1E+00

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.1.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU BB6	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	3E-05	N/A	9E-05	1E-04	Neurological; Liver	3E-04	N/A	1E-03	1E-03
			Benzo(a)anthracene	3E-09	N/A	1E-08	1E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	3E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	7E-09	N/A	3E-08	4E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	6E-09	N/A	2E-08	3E-08	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-09	N/A	1E-08	1E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Total PCB Aroclors	1E-08	N/A	5E-08	6E-08	Eye; Nails; Immunological	2E-03	N/A	1E-02	1E-02
			Arsenic	8E-08	N/A	7E-08	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-03	N/A	1E-03	3E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	2E-03	N/A	2E-03	4E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-03	N/A	--	2E-03
			Iron	NA	N/A	--	--	GI tract	2E-03	N/A	--	2E-03
			Manganese	NA	N/A	--	--	Neurological	1E-03	N/A	--	1E-03
			Thallium	NA	N/A	--	--	NOAEL	7E-04	N/A	--	7E-04
			Vanadium	NA	N/A	--	--	Hair	5E-04	N/A	--	5E-04
			Chemical Total	3E-05	--	9E-05	1E-04		1E-02	--	1E-02	3E-02
		Exposure Point Total					1E-04					3E-02
	Exposure Medium Total						1E-04					3E-02
Medium Total							1E-04					3E-02

TABLE 9.1.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-08	1E-13	1E-09	2E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-07	6E-13	8E-09	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-08	1E-13	2E-09	2E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	1E-13	1E-09	2E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	8E-14	1E-09	1E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-06	3E-12	1E-07	2E-06	Eye; Nails; Immunological	3E-01	NA	3E-02	3E-01
			Aluminum	NA	NA	NA	--	Neurological	2E-03	1E-05	--	2E-03
			Arsenic	5E-08	6E-12	9E-10	5E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-04	7E-07	2E-05	8E-04
			Cadmium	NA	6E-12	NA	6E-12	Kidney; Respiratory; Musculoskeletal	6E-04	1E-06	1E-05	6E-04
			Cobalt	NA	3E-11	--	3E-11	Endocrine; Lung	2E-03	5E-06	--	2E-03
			Cyanide	NA	NA	--	--	Whole body; Endocrine	6E-04	NA	--	6E-04
			Iron	NA	NA	--	--	GI tract	4E-03	NA	--	4E-03
			Manganese	NA	NA	--	--	Neurological	3E-03	5E-05	--	3E-03
			Chemical Total	2E-06	5E-11	2E-07	2E-06		3E-01	7E-05	3E-02	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Receptor Total							1E-04				Receptor HI Total	5E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.1.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU SL	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(a)anthracene	2E-07	N/A	1E-06	1E-06	--	NA	N/A	NA	--
			Benzo(a)pyrene	4E-06	N/A	1E-05	2E-05	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-07	N/A	1E-06	2E-06	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	8E-07	N/A	3E-06	4E-06	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-07	N/A	8E-07	1E-06	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	4E-07	N/A	4E-07	8E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	N/A	2E-03	4E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	5E-03	N/A	--	5E-03
			Iron	NA	N/A	--	--	GI tract	5E-03	N/A	--	5E-03
			Manganese	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Chemical Total	6E-06	--	2E-05	3E-05		2E-02	--	2E-03	2E-02
		Exposure Point Total					3E-05					2E-02
	Exposure Medium Total						3E-05					2E-02
Medium Total							3E-05					2E-02
Receptor Total							3E-05				Receptor HI Total	3E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU GB	Benzo(a)anthracene	1E-08	N/A	2E-08	3E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-08	N/A	3E-08	5E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	3E-08	N/A	5E-08	8E-08	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	7E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Arsenic	3E-07	N/A	1E-07	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-03	N/A	1E-03	5E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Vanadium	NA	N/A	--	--	Hair	5E-03	N/A	--	5E-03
			Chemical Total	5E-07	--	4E-07	9E-07		5E-02	--	1E-03	5E-02
		Exposure Point Total					9E-07					5E-02
	Exposure Medium Total						9E-07					5E-02
Medium Total							9E-07					5E-02

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU GB	Benzo(a)anthracene	2E-08	4E-13	1E-08	4E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	4E-12	1E-07	4E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	4E-08	6E-13	2E-08	6E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	8E-13	3E-08	7E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	2E-13	8E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	1E-08	1E-14	1E-08	2E-08	Eye; Nails; Immunological	2E-03	NA	1E-03	4E-03
			Aluminum	NA	NA	NA	--	Neurological	1E-02	--	--	1E-02
			Arsenic	1E-06	4E-11	2E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	4E-06	2E-03	2E-02
			Cobalt	NA	2E-10	NA	2E-10	Endocrine; Lung	2E-02	--	--	2E-02
			Iron	NA	NA	NA	--	GI tract	3E-02	--	--	3E-02
			Manganese	NA	NA	NA	--	Neurological	2E-02	--	--	2E-02
			Mercury	NA	NA	NA	--	Immunological; Neurological	3E-03	4E-07	--	3E-03
			Vanadium	NA	NA	NA	--	Hair	6E-03	NA	--	6E-03
			Chemical Total	1E-06	2E-10	4E-07	2E-06		1E-01	4E-06	3E-03	1E-01
		Exposure Point Total					2E-06					1E-01
	Exposure Medium Total						2E-06					1E-01
Medium Total							2E-06					1E-01
Receptor Total							5E-06				Receptor HI Total	5E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU BB1	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	1E-04	N/A	1E-04	3E-04	Neurological; Liver	3E-03	N/A	3E-03	6E-03
			Benzo(a)anthracene	9E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-06	N/A	2E-06	3E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	8E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-07	N/A	3E-07	5E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	6E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			delta-BHC	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	1E-06	N/A	2E-06	3E-06	Eye; Nails; Immunological	2E-01	N/A	3E-01	5E-01
			Aluminum	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Arsenic	1E-06	N/A	4E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	N/A	6E-03	2E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	4E-02	N/A	--	4E-02
			Copper	NA	N/A	--	--	GI tract	2E-03	N/A	--	2E-03
			Iron	NA	N/A	--	--	GI tract	6E-02	N/A	--	6E-02
			Manganese	NA	N/A	--	--	Neurological	2E-02	N/A	--	2E-02
			Vanadium	NA	N/A	--	--	Hair	4E-03	N/A	--	4E-03
			Chemical Total	1E-04	--	1E-04	3E-04		3E-01	--	3E-01	7E-01
		Exposure Point Total					3E-04					7E-01
	Exposure Medium Total						3E-04					7E-01
Medium Total							3E-04					7E-01

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB1	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	2E-08	3E-13	1E-08	3E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	4E-12	1E-07	4E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	4E-13	2E-08	4E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-09	4E-13	1E-09	4E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	8E-13	3E-08	7E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	2E-13	7E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	2E-07	1E-13	1E-07	3E-07	Eye; Nails; Immunological	2E-02	NA	2E-02	4E-02
			Aluminum	NA	NA	NA	--	Neurological	8E-03	--	--	8E-03
			Arsenic	1E-06	5E-11	2E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	5E-06	2E-03	2E-02
			Cadmium	NA	5E-12	NA	5E-12	Kidney; Respiratory; Musculoskeletal	1E-03	7E-07	2E-04	1E-03
			Cobalt	NA	2E-10	NA	2E-10	Endocrine; Lung	2E-02	--	--	2E-02
			Iron	NA	NA	NA	--	GI tract	2E-02	--	--	2E-02
			Manganese	NA	NA	NA	--	Neurological	2E-02	--	--	2E-02
			Vanadium	NA	NA	NA	--	Hair	5E-03	NA	--	5E-03
			Chemical Total	2E-06	2E-10	5E-07	2E-06		1E-01	5E-06	2E-02	1E-01
		Exposure Point Total					2E-06					1E-01
	Exposure Medium Total						2E-06					1E-01
Medium Total							2E-06					1E-01
Receptor Total							3E-04				Receptor HI Total	1E+00

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU BB1	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	5E-05	N/A	7E-05	1E-04	Neurological; Liver	1E-03	N/A	1E-03	2E-03
			Benzo(a)anthracene	4E-08	N/A	6E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	5E-07	N/A	8E-07	1E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	5E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-09	N/A	6E-09	9E-09	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	8E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	N/A	5E-08	8E-08	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			delta-BHC	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	5E-07	N/A	5E-07	9E-07	Eye; Nails; Immunological	9E-02	N/A	9E-02	2E-01
			Aluminum	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Arsenic	4E-07	N/A	1E-07	5E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-03	N/A	2E-03	9E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-02	N/A	--	2E-02
			Copper	NA	N/A	--	--	GI tract	8E-04	N/A	--	8E-04
			Iron	NA	N/A	--	--	GI tract	3E-02	N/A	--	3E-02
			Manganese	NA	N/A	--	--	Neurological	8E-03	N/A	--	8E-03
			Vanadium	NA	N/A	--	--	Hair	2E-03	N/A	--	2E-03
			Chemical Total	5E-05	--	7E-05	1E-04		2E-01	--	1E-01	3E-01
		Exposure Point Total					1E-04					3E-01
	Exposure Medium Total						1E-04					3E-01
Medium Total							1E-04					3E-01

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB1	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	9E-09	1E-13	1E-09	1E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-07	1E-12	1E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-08	2E-13	2E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-09	1E-13	1E-10	1E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	3E-13	3E-09	2E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	5E-09	7E-14	7E-10	6E-09	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	6E-08	5E-14	9E-09	7E-08	Eye; Nails; Immunological	1E-02	NA	2E-03	1E-02
			Aluminum	NA	NA	NA	--	Neurological	4E-03	--	--	4E-03
			Arsenic	4E-07	2E-11	1E-08	5E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-03	2E-06	2E-04	8E-03
			Cadmium	NA	2E-12	NA	2E-12	Kidney; Respiratory; Musculoskeletal	5E-04	4E-07	2E-05	5E-04
			Cobalt	NA	6E-11	NA	6E-11	Endocrine; Lung	1E-02	--	--	1E-02
			Iron	NA	NA	NA	--	GI tract	1E-02	--	--	1E-02
			Manganese	NA	NA	NA	--	Neurological	9E-03	--	--	9E-03
			Vanadium	NA	NA	NA	--	Hair	3E-03	NA	--	3E-03
			Chemical Total	6E-07	8E-11	4E-08	7E-07		6E-02	3E-06	2E-03	6E-02
		Exposure Point Total					7E-07					6E-02
	Exposure Medium Total						7E-07					6E-02
Medium Total							7E-07					6E-02
Receptor Total							1E-04				Receptor HI Total	5E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU BB2	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	1E-04	N/A	2E-04	3E-04	Neurological; Liver	4E-03	N/A	4E-03	8E-03
			Benzo(a)anthracene	5E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	6E-07	N/A	9E-07	2E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	9E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	6E-09	N/A	9E-09	2E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	3E-08	N/A	4E-08	8E-08	Liver	7E-04	N/A	9E-04	2E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-07	N/A	2E-07	4E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	5E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	7E-07	N/A	1E-06	2E-06	Eye; Nails; Immunological	1E-01	N/A	2E-01	3E-01
			Aluminum	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Arsenic	1E-06	N/A	4E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	N/A	5E-03	2E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	2E-02	N/A	8E-03	3E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-02	N/A	--	2E-02
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	9E-03	N/A	--	9E-03
			Vanadium	NA	N/A	--	--	Hair	4E-03	N/A	--	4E-03
			Chemical Total	2E-04	--	2E-04	3E-04		2E-01	--	2E-01	4E-01
		Exposure Point Total					3E-04					4E-01
	Exposure Medium Total						3E-04					4E-01
Medium Total							3E-04					4E-01

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB2	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	7E-09	1E-13	5E-09	1E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	8E-08	1E-12	5E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-08	2E-13	6E-09	2E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	3E-13	1E-08	3E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	6E-09	1E-13	4E-09	9E-09	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	1E-07	1E-13	1E-07	2E-07	Eye; Nails; Immunological	2E-02	NA	1E-02	4E-02
			Aluminum	NA	NA	NA	--	Neurological	7E-03	--	--	7E-03
			Arsenic	2E-06	7E-11	3E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	7E-06	3E-03	3E-02
			Cobalt	NA	7E-11	NA	7E-11	Endocrine; Lung	1E-02	--	--	1E-02
			Iron	NA	NA	NA	--	GI tract	1E-02	--	--	1E-02
			Manganese	NA	NA	NA	--	Neurological	1E-02	--	--	1E-02
			Chemical Total	2E-06	1E-10	4E-07	2E-06		9E-02	7E-06	2E-02	1E-01
		Exposure Point Total					2E-06					1E-01
	Exposure Medium Total						2E-06					1E-01
Medium Total							2E-06					1E-01
Receptor Total							3E-04	Receptor HI Total				8E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU BB2	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	7E-05	N/A	9E-05	2E-04	Neurological; Liver	2E-03	N/A	1E-03	3E-03
			Benzo(a)anthracene	2E-08	N/A	4E-08	6E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	3E-07	N/A	5E-07	7E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	4E-08	N/A	7E-08	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-09	N/A	5E-09	7E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	1E-08	N/A	1E-08	2E-08	Liver	4E-04	N/A	3E-04	6E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	7E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	N/A	4E-08	6E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	3E-07	N/A	3E-07	5E-07	Eye; Nails; Immunological	5E-02	N/A	5E-02	1E-01
			Aluminum	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Arsenic	4E-07	N/A	9E-08	5E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-03	N/A	2E-03	8E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	8E-03	N/A	3E-03	1E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Iron	NA	N/A	--	--	GI tract	1E-02	N/A	--	1E-02
			Manganese	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Vanadium	NA	N/A	--	--	Hair	2E-03	N/A	--	2E-03
			Chemical Total	7E-05	--	9E-05	2E-04		1E-01	--	6E-02	2E-01
		Exposure Point Total					2E-04					2E-01
	Exposure Medium Total						2E-04					2E-01
Medium Total							2E-04					2E-01

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB2	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	3E-09	5E-14	4E-10	4E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	4E-08	5E-13	5E-09	4E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	5E-09	6E-14	6E-10	5E-09	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	9E-09	1E-13	1E-09	1E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-09	4E-14	3E-10	3E-09	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	5E-08	4E-14	8E-09	6E-08	Eye; Nails; Immunological	1E-02	NA	1E-03	1E-02
			Aluminum	NA	NA	NA	--	Neurological	4E-03	--	--	4E-03
			Arsenic	6E-07	3E-11	2E-08	7E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	3E-06	3E-04	1E-02
			Cobalt	NA	3E-11	NA	3E-11	Endocrine; Lung	5E-03	--	--	5E-03
			Iron	NA	NA	NA	--	GI tract	6E-03	--	--	6E-03
			Manganese	NA	NA	NA	--	Neurological	6E-03	--	--	6E-03
			Chemical Total	8E-07	6E-11	3E-08	8E-07		4E-02	3E-06	2E-03	4E-02
		Exposure Point Total					8E-07					4E-02
	Exposure Medium Total						8E-07					4E-02
Medium Total							8E-07					4E-02
Receptor Total							2E-04				Receptor HI Total	4E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU BB3	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-04	N/A	5E-04	9E-04	Neurological; Liver	9E-03	N/A	1E-02	2E-02
			Benzo(a)anthracene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-06	N/A	3E-06	4E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	7E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	3E-08	N/A	3E-08	6E-08	Liver	5E-04	N/A	7E-04	1E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	5E-07	N/A	--	5E-07	Liver; Neurological	3E-03	N/A	--	3E-03
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	1E-06	N/A	2E-06	3E-06	Eye; Nails; Immunological	2E-01	N/A	3E-01	5E-01
			Aluminum	NA	N/A	--	--	Neurological	7E-03	N/A	--	7E-03
			Arsenic	9E-07	N/A	3E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	N/A	4E-03	2E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	7E-03	N/A	4E-03	1E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	4E-02	N/A	--	4E-02
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	8E-03	N/A	--	8E-03
			Vanadium	NA	N/A	--	--	Hair	3E-03	N/A	--	3E-03
			Chemical Total	4E-04	--	5E-04	9E-04		3E-01	--	3E-01	6E-01
		Exposure Point Total					9E-04					6E-01
	Exposure Medium Total						9E-04					6E-01
Medium Total							9E-04					6E-01

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB3	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	5E-08	8E-13	3E-08	8E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	5E-07	9E-12	3E-07	9E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	7E-08	1E-12	4E-08	1E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-09	8E-13	3E-09	8E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	7E-08	2E-13	4E-08	1E-07	Liver	2E-03	NA	8E-04	2E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	2E-12	7E-08	2E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	4E-08	6E-13	2E-08	6E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	7E-07	5E-13	5E-07	1E-06	Eye; Nails; Immunological	1E-01	NA	7E-02	2E-01
			Aluminum	NA	NA	NA	--	Neurological	6E-03	--	--	6E-03
			Antimony	NA	NA	NA	--	Blood	2E-02	--	--	2E-02
			Arsenic	3E-06	1E-10	5E-07	3E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-02	1E-05	6E-03	5E-02
			Cadmium	NA	1E-11	NA	1E-11	Kidney; Respiratory; Musculoskeletal	3E-03	2E-06	6E-04	4E-03
			Cobalt	NA	2E-10	NA	2E-10	Endocrine; Lung	2E-02	--	--	2E-02
			Copper	NA	NA	NA	--	GI tract	4E-02	--	--	4E-02
			Iron	NA	NA	NA	--	GI tract	1E-01	--	--	1E-01
			Lead	NA	NA	NA	--	--	NA	NA	--	--
			Manganese	NA	NA	NA	--	Neurological	2E-02	--	--	2E-02
			Mercury	NA	NA	NA	--	Immunological; Neurological	4E-03	6E-07	--	4E-03
			Nickel	NA	3E-11	NA	3E-11	Whole body; Respiratory	3E-03	--	--	3E-03
			Thallium	NA	NA	NA	--	NOAEL	2E-01	--	--	2E-01
			Vanadium	NA	NA	NA	--	Hair	3E-03	NA	--	3E-03
			Zinc	NA	NA	NA	--	Blood	3E-03	NA	--	3E-03
			Chemical Total	5E-06	3E-10	1E-06	6E-06		6E-01	1E-05	8E-02	7E-01
		Exposure Point Total					6E-06					7E-01
	Exposure Medium Total						6E-06					7E-01
Medium Total							6E-06					7E-01
Receptor Total							9E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E-02
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	3E-02
Developmental HI Across All Media =	6E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	1E+00
Immunological HI Across All Media =	1E+00
Hair, Skin, Nails HI Across All Media =	1E+00
Cardiovascular HI Across All Media =	7E-02
Endocrine HI Across All Media =	6E-02
GI tract HI Across All Media =	1E-01
Whole body HI Across All Media =	3E-03

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU BB3	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	2E-04	N/A	2E-04	4E-04	Neurological; Liver	5E-03	N/A	3E-03	8E-03
			Benzo(a)anthracene	5E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	7E-07	N/A	1E-06	2E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	5E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-09	N/A	5E-09	9E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	1E-08	N/A	7E-09	2E-08	Liver	3E-04	N/A	2E-04	5E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	6E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	2E-07	N/A	--	2E-07	Liver; Neurological	2E-03	N/A	--	2E-03
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	5E-07	N/A	5E-07	1E-06	Eye; Nails; Immunological	9E-02	N/A	1E-01	2E-01
			Aluminum	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Arsenic	3E-07	N/A	8E-08	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	6E-03	N/A	1E-03	7E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	4E-03	N/A	1E-03	5E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-02	N/A	--	2E-02
			Iron	NA	N/A	--	--	GI tract	8E-03	N/A	--	8E-03
			Manganese	NA	N/A	--	--	Neurological	4E-03	N/A	--	4E-03
			Vanadium	NA	N/A	--	--	Hair	2E-03	N/A	--	2E-03
			Chemical Total	2E-04	--	2E-04	4E-04		1E-01	--	1E-01	2E-01
		Exposure Point Total					4E-04					2E-01
	Exposure Medium Total						4E-04					2E-01
Medium Total							4E-04					2E-01

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB3	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	2E-08	3E-13	3E-09	3E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	3E-12	3E-08	3E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	4E-13	4E-09	3E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-09	3E-13	3E-10	3E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	3E-08	7E-14	3E-09	3E-08	Liver	8E-04	NA	8E-05	8E-04
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	8E-13	7E-09	6E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	2E-13	2E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	3E-07	2E-13	4E-08	3E-07	Eye; Nails; Immunological	5E-02	NA	7E-03	6E-02
			Aluminum	NA	NA	NA	--	Neurological	3E-03	--	--	3E-03
			Antimony	NA	NA	NA	--	Blood	1E-02	--	--	1E-02
			Arsenic	1E-06	5E-11	3E-08	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	6E-06	6E-04	2E-02
			Cadmium	NA	5E-12	NA	5E-12	Kidney; Respiratory; Musculoskeletal	2E-03	1E-06	6E-05	2E-03
			Cobalt	NA	6E-11	NA	6E-11	Endocrine; Lung	1E-02	--	--	1E-02
			Copper	NA	NA	NA	--	GI tract	2E-02	--	--	2E-02
			Iron	NA	NA	NA	--	GI tract	5E-02	--	--	5E-02
			Lead	NA	NA	NA	--	--	NA	NA	--	--
			Manganese	NA	NA	NA	--	Neurological	8E-03	--	--	8E-03
			Mercury	NA	NA	NA	--	Immunological; Neurological	2E-03	3E-07	--	2E-03
			Nickel	NA	1E-11	NA	1E-11	Whole body; Respiratory	1E-03	--	--	1E-03
			Thallium	NA	NA	NA	--	NOAEL	1E-01	--	--	1E-01
			Vanadium	NA	NA	NA	--	Hair	2E-03	NA	--	2E-03
			Zinc	NA	NA	NA	--	Blood	1E-03	NA	--	1E-03
			Chemical Total	2E-06	1E-10	1E-07	2E-06		3E-01	7E-06	8E-03	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Receptor Total							4E-04				Receptor HI Total	7E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU BB4	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	2E-04	N/A	2E-04	3E-04	Neurological; Liver	4E-03	N/A	5E-03	8E-03
			Benzo(a)anthracene	4E-08	N/A	7E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	4E-07	N/A	6E-07	1E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	6E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	6E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	N/A	5E-08	8E-08	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endosulfan sulfate	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	2E-06	N/A	3E-06	4E-06	Eye; Nails; Immunological	2E-01	N/A	4E-01	6E-01
			Aluminum	NA	N/A	--	--	Neurological	4E-03	N/A	--	4E-03
			Arsenic	8E-07	N/A	3E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	N/A	4E-03	1E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	4E-03	N/A	2E-03	5E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	3E-02	N/A	--	3E-02
			Vanadium	NA	N/A	--	--	Hair	2E-03	N/A	--	2E-03
			Chemical Total	2E-04	--	2E-04	4E-04		3E-01	--	4E-01	7E-01
		Exposure Point Total					4E-04					7E-01
	Exposure Medium Total						4E-04					7E-01
Medium Total							4E-04					7E-01

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB4	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	3E-08	5E-13	2E-08	5E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	4E-07	6E-12	2E-07	6E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	6E-08	1E-12	4E-08	9E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-09	2E-13	8E-10	2E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	4E-07	7E-12	3E-07	7E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	3E-13	1E-08	3E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Aldrin	7E-08	3E-13	--	7E-08	Liver	8E-04	NA	--	8E-04
			delta-BHC	NA	NA	NA	--	--	NA	NA	NA	--
			Dieldrin	5E-07	--	--	5E-07	Liver; Neurological	4E-03	--	--	4E-03
			4,4'-DDT	2E-08	7E-14	3E-09	2E-08	Liver	6E-04	NA	9E-05	7E-04
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	3E-06	2E-12	2E-06	4E-06	Eye; Nails; Immunological	4E-01	NA	3E-01	6E-01
			Aluminum	NA	NA	NA	--	Neurological	6E-03	--	--	6E-03
			Antimony	NA	NA	NA	--	Blood	6E-03	--	--	6E-03
			Arsenic	1E-06	6E-11	2E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	6E-06	3E-03	2E-02
			Cadmium	NA	2E-11	NA	2E-11	Kidney; Respiratory; Musculoskeletal	5E-03	4E-06	1E-03	6E-03
			Cobalt	NA	1E-10	NA	1E-10	Endocrine; Lung	2E-02	--	--	2E-02
			Copper	NA	NA	NA	--	GI tract	2E-03	--	--	2E-03
			Iron	NA	NA	NA	--	GI tract	1E-02	--	--	1E-02
			Lead	NA	NA	NA	--	--	NA	NA	--	--
			Manganese	NA	NA	NA	--	Neurological	1E-02	--	--	1E-02
			Silver	NA	NA	NA	--	Skin	9E-04	NA	--	9E-04
			Vanadium	NA	NA	NA	--	Hair	4E-03	NA	--	4E-03
			Chemical Total	6E-06	2E-10	3E-06	8E-06		5E-01	9E-06	3E-01	7E-01
		Exposure Point Total					8E-06					7E-01
	Exposure Medium Total						8E-06					7E-01
Medium Total							8E-06					7E-01
Receptor Total							4E-04	Receptor HI Total				2E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	6E-03
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	1E-02
Developmental HI Across All Media =	4E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	8E-02
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	4E-02
Endocrine HI Across All Media =	3E-02
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	5E-04

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU BB4	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	7E-05	N/A	9E-05	2E-04	Neurological; Liver	2E-03	N/A	1E-03	3E-03
			Benzo(a)anthracene	2E-08	N/A	3E-08	5E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-07	N/A	3E-07	5E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-08	N/A	4E-08	7E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-08	N/A	4E-08	7E-08	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	N/A	2E-08	4E-08	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endosulfan sulfate	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	6E-07	N/A	6E-07	1E-06	Eye; Nails; Immunological	1E-01	N/A	1E-01	2E-01
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	3E-07	N/A	7E-08	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	N/A	1E-03	7E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	2E-03	N/A	5E-04	2E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	6E-03	N/A	--	6E-03
			Iron	NA	N/A	--	--	GI tract	8E-03	N/A	--	8E-03
			Manganese	NA	N/A	--	--	Neurological	2E-02	N/A	--	2E-02
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	7E-05	--	9E-05	2E-04		2E-01	--	1E-01	3E-01
		Exposure Point Total					2E-04					3E-01
	Exposure Medium Total						2E-04					3E-01
Medium Total							2E-04					3E-01

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB4	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	1E-08	2E-13	2E-09	2E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	2E-12	2E-08	2E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	4E-13	3E-09	3E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	6E-10	8E-14	8E-11	7E-10	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-07	3E-12	2E-08	2E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	9E-09	1E-13	1E-09	1E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Aldrin	3E-08	1E-13	--	3E-08	Liver	4E-04	NA	--	4E-04
			delta-BHC	NA	NA	NA	--	--	NA	NA	NA	--
			Dieldrin	2E-07	--	--	2E-07	Liver; Neurological	2E-03	--	--	2E-03
			4,4'-DDT	6E-09	3E-14	2E-10	7E-09	Liver	3E-04	NA	9E-06	3E-04
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	9E-07	7E-13	1E-07	1E-06	Eye; Nails; Immunological	2E-01	NA	3E-02	2E-01
			Aluminum	NA	NA	NA	--	Neurological	3E-03	--	--	3E-03
			Antimony	NA	NA	NA	--	Blood	3E-03	--	--	3E-03
			Arsenic	6E-07	2E-11	2E-08	6E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	3E-06	3E-04	1E-02
			Cadmium	NA	9E-12	NA	9E-12	Kidney; Respiratory; Musculoskeletal	3E-03	2E-06	1E-04	3E-03
			Cobalt	NA	4E-11	NA	4E-11	Endocrine; Lung	8E-03	--	--	8E-03
			Copper	NA	NA	NA	--	GI tract	9E-04	--	--	9E-04
			Iron	NA	NA	NA	--	GI tract	7E-03	--	--	7E-03
			Lead	NA	NA	NA	--	--	NA	NA	--	--
			Manganese	NA	NA	NA	--	Neurological	7E-03	--	--	7E-03
			Silver	NA	NA	NA	--	Skin	5E-04	NA	--	5E-04
			Vanadium	NA	NA	NA	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	2E-06	8E-11	2E-07	2E-06		2E-01	5E-06	3E-02	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Receptor Total							2E-04	Receptor HI Total				7E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU BB5	cis-1,2-Dichloroethene	NA	N/A	--	--	Kidney	8E-03	N/A	--	8E-03
			Vinyl chloride	2E-08	N/A	--	2E-08	Liver	7E-05	N/A	--	7E-05
			Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	1E-04	N/A	1E-04	2E-04	Neurological; Liver	2E-03	N/A	3E-03	5E-03
			Benzo(a)anthracene	4E-08	N/A	6E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	5E-07	N/A	7E-07	1E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	6E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	2E-09	N/A	4E-09	6E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	2E-07	N/A	2E-07	4E-07	Liver	4E-03	N/A	5E-03	9E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	6E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			1,3-Dichlorobenzene	NA	N/A	NA	--	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	N/A	4E-08	7E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	8E-07	N/A	--	8E-07	Liver; Neurological	6E-03	N/A	--	6E-03
			4,4'-DDT	2E-08	N/A	8E-09	3E-08	Liver	7E-04	N/A	3E-04	1E-03
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	2E-07	N/A	--	2E-07	Liver	1E-02	N/A	--	1E-02
			Total PCB Aroclors	6E-06	N/A	1E-05	2E-05	Eye; Nails; Immunological	8E-01	N/A	1E+00	2E+00
			Aluminum	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Antimony	NA	N/A	--	--	Blood	3E-03	N/A	--	3E-03
			Arsenic	1E-06	N/A	5E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	N/A	6E-03	2E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	1E-02	N/A	7E-03	2E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-02	N/A	--	2E-02
			Iron	NA	N/A	--	--	GI tract	3E-02	N/A	--	3E-02
			Manganese	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Vanadium	NA	N/A	--	--	Hair	3E-03	N/A	--	3E-03
			Chemical Total	1E-04	--	1E-04	2E-04		9E-01	--	1E+00	2E+00
		Exposure Point Total					2E-04					2E+00
	Exposure Medium Total						2E-04					2E+00
Medium Total							2E-04					2E+00

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB5	cis-1,2-Dichloroethene	NA	NA	NA	--	Kidney	6E-03	--	--	6E-03
			Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	1E-07	2E-12	6E-08	2E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	9E-07	2E-11	6E-07	2E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-07	2E-12	8E-08	2E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-09	9E-13	3E-09	9E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	9E-08	2E-13	5E-08	1E-07	Liver	2E-03	NA	1E-03	3E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	2E-12	7E-08	2E-07	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	6E-08	1E-12	4E-08	1E-07	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Dieldrin	2E-05	--	--	2E-05	Liver; Neurological	1E-01	--	--	1E-01
			4,4'-DDE	2E-06	8E-12	3E-07	2E-06	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Heptachlor epoxide	2E-06	--	--	2E-06	Liver	8E-02	--	--	8E-02
			Total PCB Aroclors	8E-06	6E-12	6E-06	1E-05	Eye; Nails; Immunological	1E+00	NA	8E-01	2E+00
			Aluminum	NA	NA	NA	--	Neurological	1E-02	--	--	1E-02
			Antimony	NA	NA	NA	--	Blood	6E-03	--	--	6E-03
			Arsenic	3E-06	1E-10	4E-07	3E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-02	1E-05	6E-03	4E-02
			Cadmium	NA	4E-11	NA	4E-11	Kidney; Respiratory; Musculoskeletal	8E-03	6E-06	2E-03	1E-02
			Cobalt	NA	2E-10	NA	2E-10	Endocrine; Lung	3E-02	--	--	3E-02
			Copper	NA	NA	NA	--	GI tract	3E-03	--	--	3E-03
			Iron	NA	NA	NA	--	GI tract	3E-02	--	--	3E-02
			Lead	NA	NA	NA	--	--	NA	NA	--	--
			Manganese	NA	NA	NA	--	Neurological	1E-02	--	--	1E-02
			Vanadium	NA	NA	NA	--	Hair	6E-03	NA	--	6E-03
			Chemical Total	3E-05	4E-10	7E-06	4E-05		1E+00	2E-05	8E-01	2E+00
		Exposure Point Total					4E-05					2E+00
	Exposure Medium Total						4E-05					2E+00
Medium Total							4E-05					2E+00
Receptor Total							3E-04				Receptor HI Total	5E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	9E-03
Kidney HI Across All Media =	5E-02
Liver HI Across All Media =	2E-01
Developmental HI Across All Media =	6E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	3E-02
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	5E+00
Cardiovascular HI Across All Media =	7E-02
Endocrine HI Across All Media =	4E-02
GI tract HI Across All Media =	6E-02
Whole body HI Across All Media =	5E-04

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU BB5	cis-1,2-Dichloroethene	NA	N/A	--	--	Kidney	4E-03	N/A	--	4E-03
			Vinyl chloride	8E-09	N/A	--	8E-09	Liver	3E-05	N/A	--	3E-05
			Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	5E-05	N/A	6E-05	1E-04	Neurological; Liver	1E-03	N/A	9E-04	2E-03
			Benzo(a)anthracene	2E-08	N/A	3E-08	5E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-07	N/A	4E-07	6E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-08	N/A	5E-08	8E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	1E-09	N/A	2E-09	3E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	7E-08	N/A	5E-08	1E-07	Liver	2E-03	N/A	1E-03	3E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	3E-08	N/A	5E-08	8E-08	--	NA	N/A	NA	--
			1,3-Dichlorobenzene	NA	N/A	NA	--	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	N/A	2E-08	3E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	3E-07	N/A	--	3E-07	Liver; Neurological	3E-03	N/A	--	3E-03
			4,4'-DDT	8E-09	N/A	2E-09	1E-08	Liver	4E-04	N/A	8E-05	5E-04
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	9E-08	N/A	--	9E-08	Liver	6E-03	N/A	--	6E-03
			Total PCB Aroclors	2E-06	N/A	2E-06	4E-06	Eye; Nails; Immunological	4E-01	N/A	4E-01	8E-01
			Aluminum	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Antimony	NA	N/A	--	--	Blood	1E-03	N/A	--	1E-03
			Arsenic	5E-07	N/A	1E-07	6E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-03	N/A	2E-03	1E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	7E-03	N/A	2E-03	9E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	8E-03	N/A	--	8E-03
			Iron	NA	N/A	--	--	GI tract	1E-02	N/A	--	1E-02
			Manganese	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Vanadium	NA	N/A	--	--	Hair	2E-03	N/A	--	2E-03
			Chemical Total	5E-05	--	6E-05	1E-04		5E-01	--	4E-01	9E-01
		Exposure Point Total					1E-04					9E-01
	Exposure Medium Total						1E-04					9E-01
Medium Total							1E-04					9E-01

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB5	cis-1,2-Dichloroethene	NA	NA	NA	--	Kidney	3E-03	--	--	3E-03
			Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	4E-08	6E-13	6E-09	5E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	4E-07	6E-12	6E-08	5E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	6E-08	8E-13	8E-09	7E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-09	3E-13	3E-10	3E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	3E-08	9E-14	3E-09	4E-08	Liver	1E-03	NA	1E-04	1E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	7E-13	7E-09	6E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	4E-13	4E-09	3E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Dieldrin	6E-06	--	--	6E-06	Liver; Neurological	6E-02	--	--	6E-02
			4,4'-DDE	7E-07	3E-12	2E-08	7E-07	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Heptachlor epoxide	6E-07	--	--	6E-07	Liver	4E-02	--	--	4E-02
			Total PCB Aroclors	3E-06	2E-12	4E-07	3E-06	Eye; Nails; Immunological	6E-01	NA	8E-02	7E-01
			Aluminum	NA	NA	NA	--	Neurological	5E-03	--	--	5E-03
			Antimony	NA	NA	NA	--	Blood	3E-03	--	--	3E-03
			Arsenic	1E-06	5E-11	3E-08	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	6E-06	6E-04	2E-02
			Cadmium	NA	1E-11	NA	1E-11	Kidney; Respiratory; Musculoskeletal	4E-03	3E-06	2E-04	4E-03
			Cobalt	NA	7E-11	NA	7E-11	Endocrine; Lung	1E-02	--	--	1E-02
			Copper	NA	NA	NA	--	GI tract	2E-03	--	--	2E-03
			Iron	NA	NA	NA	--	GI tract	1E-02	--	--	1E-02
			Lead	NA	NA	NA	--	--	NA	NA	--	--
			Manganese	NA	NA	NA	--	Neurological	6E-03	--	--	6E-03
			Vanadium	NA	NA	NA	--	Hair	3E-03	NA	--	3E-03
			Chemical Total	1E-05	1E-10	5E-07	1E-05		7E-01	9E-06	8E-02	8E-01
		Exposure Point Total					1E-05					8E-01
	Exposure Medium Total						1E-05					8E-01
Medium Total							1E-05					8E-01
Receptor Total							1E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	5E-03
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	1E-01
Developmental HI Across All Media =	3E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	6E-02
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	3E-04

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU BB6	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	8E-05	N/A	1E-04	2E-04	Neurological; Liver	2E-03	N/A	2E-03	4E-03
			Benzo(a)anthracene	8E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	9E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-08	N/A	3E-08	5E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-08	N/A	2E-08	4E-08	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	7E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Total PCB Aroclors	9E-08	N/A	2E-07	2E-07	Eye; Nails; Immunological	1E-02	N/A	2E-02	4E-02
			Arsenic	6E-07	N/A	2E-07	8E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-03	N/A	3E-03	1E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	1E-02	N/A	5E-03	2E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Iron	NA	N/A	--	--	GI tract	1E-02	N/A	--	1E-02
			Manganese	NA	N/A	--	--	Neurological	8E-03	N/A	--	8E-03
			Thallium	NA	N/A	--	--	NOAEL	4E-03	N/A	--	4E-03
			Vanadium	NA	N/A	--	--	Hair	3E-03	N/A	--	3E-03
			Chemical Total	8E-05	--	1E-04	2E-04		8E-02	--	3E-02	1E-01
		Exposure Point Total					2E-04					1E-01
	Exposure Medium Total						2E-04					1E-01
Medium Total							2E-04					1E-01

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB6	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	5E-08	8E-13	3E-08	8E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-07	5E-12	2E-07	4E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	6E-08	1E-12	4E-08	9E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	9E-13	3E-08	8E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	4E-08	6E-13	2E-08	6E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	1E-05	9E-12	8E-06	2E-05	Eye; Nails; Immunological	2E+00	NA	1E+00	3E+00
			Aluminum	NA	NA	NA	--	Neurological	9E-03	--	--	9E-03
			Arsenic	4E-07	2E-11	5E-08	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	1E-06	7E-04	5E-03
			Cadmium	NA	2E-11	NA	2E-11	Kidney; Respiratory; Musculoskeletal	3E-03	3E-06	7E-04	4E-03
			Cobalt	NA	9E-11	NA	9E-11	Endocrine; Lung	1E-02	--	--	1E-02
			Cyanide	NA	NA	NA	--	Whole body; Endocrine	3E-03	NA	--	3E-03
			Iron	NA	NA	NA	--	GI tract	2E-02	--	--	2E-02
			Manganese	NA	NA	NA	--	Neurological	1E-02	--	--	1E-02
			Chemical Total	1E-05	1E-10	9E-06	2E-05		2E+00	4E-06	1E+00	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total							2E-04	Receptor HI Total				3E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	2E-02
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	6E-02
Respiratory, Lung HI Across All Media =	6E-02
Musculoskeletal HI Across All Media =	2E-02
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	3E-02
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	4E-03

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU BB6	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-05	N/A	5E-05	8E-05	Neurological; Liver	9E-04	N/A	7E-04	2E-03
			Benzo(a)anthracene	3E-09	N/A	6E-09	9E-09	--	NA	N/A	NA	--
			Benzo(a)pyrene	4E-08	N/A	7E-08	1E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	9E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	7E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	3E-09	N/A	5E-09	8E-09	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Total PCB Aroclors	3E-08	N/A	3E-08	7E-08	Eye; Nails; Immunological	6E-03	N/A	7E-03	1E-02
			Arsenic	2E-07	N/A	5E-08	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-03	N/A	9E-04	5E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	5E-03	N/A	2E-03	7E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	7E-03	N/A	--	7E-03
			Iron	NA	N/A	--	--	GI tract	6E-03	N/A	--	6E-03
			Manganese	NA	N/A	--	--	Neurological	4E-03	N/A	--	4E-03
			Thallium	NA	N/A	--	--	NOAEL	2E-03	N/A	--	2E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	4E-05	--	5E-05	8E-05		4E-02	--	1E-02	5E-02
		Exposure Point Total					8E-05					5E-02
	Exposure Medium Total						8E-05					5E-02
Medium Total							8E-05					5E-02

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB6	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	2E-08	3E-13	3E-09	3E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-07	2E-12	2E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	4E-13	3E-09	3E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	3E-13	3E-09	3E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	2E-13	2E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	4E-06	3E-12	6E-07	5E-06	Eye; Nails; Immunological	9E-01	NA	1E-01	1E+00
			Aluminum	NA	NA	NA	--	Neurological	5E-03	--	--	5E-03
			Arsenic	1E-07	6E-12	4E-09	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	7E-07	7E-05	2E-03
			Cadmium	NA	6E-12	NA	6E-12	Kidney; Respiratory; Musculoskeletal	2E-03	1E-06	7E-05	2E-03
			Cobalt	NA	3E-11	NA	3E-11	Endocrine; Lung	7E-03	--	--	7E-03
			Cyanide	NA	NA	NA	--	Whole body; Endocrine	2E-03	NA	--	2E-03
			Iron	NA	NA	NA	--	GI tract	1E-02	--	--	1E-02
			Manganese	NA	NA	NA	--	Neurological	7E-03	--	--	7E-03
			Chemical Total	5E-06	5E-11	7E-07	5E-06		9E-01	2E-06	1E-01	1E+00
		Exposure Point Total					5E-06					1E+00
	Exposure Medium Total						5E-06					1E+00
Medium Total							5E-06					1E+00
Receptor Total							9E-05	Receptor HI Total				1E+00

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.2.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU SL	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(a)anthracene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-06	N/A	2E-06	4E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	1E-08	N/A	2E-08	3E-08	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	3E-07	N/A	5E-07	8E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	8E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Arsenic	5E-07	N/A	2E-07	7E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	6E-03	N/A	2E-03	8E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Chemical Total	3E-06	--	3E-06	6E-06		5E-02	--	2E-03	5E-02
		Exposure Point Total					6E-06					5E-02
	Exposure Medium Total						6E-06					5E-02
Medium Total							6E-06					5E-02
Receptor Total							8E-06				Receptor HI Total	4E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU GB	Benzo(a)anthracene	3E-08	N/A	1E-07	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	3E-07	N/A	1E-06	1E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	4E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	8E-08	N/A	3E-07	4E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	N/A	7E-08	8E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	3E-07	N/A	2E-07	5E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-03	N/A	1E-03	3E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	5E-03	N/A	--	5E-03
			Iron	NA	N/A	--	--	GI tract	5E-03	N/A	--	5E-03
			Manganese	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Vanadium	NA	N/A	--	--	Hair	2E-03	N/A	--	2E-03
			Chemical Total	7E-07	--	2E-06	3E-06		2E-02	--	1E-03	2E-02
		Exposure Point Total					3E-06					2E-02
	Exposure Medium Total						3E-06					2E-02
Medium Total							3E-06					2E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU GB	Benzo(a)anthracene	5E-08	3E-13	3E-08	8E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	6E-07	4E-12	3E-07	9E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	9E-08	5E-13	5E-08	1E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	8E-13	6E-08	2E-07	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	2E-13	2E-08	5E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Total PCB Aroclors	1E-08	3E-14	8E-09	2E-08	Eye; Nails; Immunological	7E-04	NA	4E-04	1E-03
			Aluminum	NA	NA	NA	--	Neurological	5E-03	4E-05	--	5E-03
			Arsenic	9E-07	1E-10	1E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	4E-06	6E-04	5E-03
			Cobalt	NA	4E-10	--	4E-10	Endocrine; Lung	8E-03	2E-05	--	8E-03
			Iron	NA	NA	--	--	GI tract	9E-03	NA	--	9E-03
			Manganese	NA	NA	--	--	Neurological	6E-03	1E-04	--	6E-03
			Mercury	NA	NA	--	--	Immunological; Neurological	9E-04	4E-07	--	9E-04
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	2E-06	5E-10	6E-07	2E-06		4E-02	2E-04	1E-03	4E-02
		Exposure Point Total					2E-06					4E-02
	Exposure Medium Total						2E-06					4E-02
Medium Total							2E-06					4E-02
Receptor Total - Abiotic Media Only							1E-05				Receptor HI Total	3E-01

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU GB	4,4'-DDD	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	2E-01	N/A	N/A	2E-01
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	4E-01	N/A	N/A	4E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	4E-04	--	--	4E-04		2E+01	--	--	2E+01
		Exposure Point Total					4E-04					2E+01
	Exposure Medium Total						4E-04					2E+01
Medium Total							4E-04					2E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							4E-04				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	2E-01
Developmental HI Across All Media =	8E-03
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	5E-01
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	3E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU GB	alpha-Chlordane	2E-06	N/A	N/A	2E-06	Liver	3E-02	N/A	N/A	3E-02
			gamma-Chlordane	1E-06	N/A	N/A	1E-06	Liver	1E-02	N/A	N/A	1E-02
			4,4'-DDD	1E-07	N/A	N/A	1E-07	--	NA	N/A	N/A	--
			4,4'-DDE	3E-06	N/A	N/A	3E-06	--	NA	N/A	N/A	--
			Total PCB Aroclors	5E-03	N/A	N/A	5E-03	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			Aluminum	NA	N/A	N/A	--	Neurological	2E-02	N/A	N/A	2E-02
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	7E-02	N/A	N/A	7E-02
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	5E-03	--	--	5E-03		3E+02	--	--	3E+02
		Exposure Point Total					5E-03					3E+02
	Exposure Medium Total						5E-03					3E+02
Medium Total							5E-03					3E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							5E-03				Receptor HI Total	3E+02

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	4E-02
Developmental HI Across All Media =	8E-03
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	2E-02
Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	1E-02
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	3E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU GB	Total PCB Aroclors	5E-05	N/A	N/A	5E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	5E-05	N/A	N/A	5E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	1E-04	--	--	1E-04		4E+00	--	--	4E+00
		Exposure Point Total					1E-04					4E+00
	Exposure Medium Total						1E-04					4E+00
Medium Total							1E-04					4E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							1E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	8E-03
Neurological HI Across All Media =	3E-02
Respiratory, Lung HI Across All Media =	1E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	4E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU GB	Total PCB Aroclors	4E-05	N/A	N/A	4E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	2E-05	N/A	N/A	2E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	5E-05	--	--	5E-05		2E+00	--	--	2E+00
		Exposure Point Total					5E-05					2E+00
	Exposure Medium Total						5E-05					2E+00
Medium Total							5E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							6E-05				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	1E-03
Developmental HI Across All Media =	9E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	9E-02
Endocrine HI Across All Media =	1E-02
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	4E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU GB	Benzo(a)anthracene	4E-09	N/A	2E-08	2E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	4E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	7E-09	N/A	3E-08	3E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	1E-08	N/A	5E-08	6E-08	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-09	N/A	1E-08	1E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	1E-03	N/A	--	1E-03
			Arsenic	4E-08	N/A	4E-08	8E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-04	N/A	6E-04	1E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-03	N/A	--	2E-03
			Iron	NA	N/A	--	--	GI tract	3E-03	N/A	--	3E-03
			Manganese	NA	N/A	--	--	Neurological	1E-03	N/A	--	1E-03
			Vanadium	NA	N/A	--	--	Hair	9E-04	N/A	--	9E-04
			Chemical Total	1E-07	--	3E-07	4E-07		9E-03	--	6E-04	9E-03
		Exposure Point Total					4E-07					9E-03
	Exposure Medium Total						4E-07					9E-03
Medium Total							4E-07					9E-03

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU GB	Benzo(a)anthracene	8E-09	5E-14	6E-10	9E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	9E-08	5E-13	7E-09	9E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-08	8E-14	1E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	1E-13	1E-09	2E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	5E-09	3E-14	4E-10	5E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Total PCB Aroclors	2E-09	4E-15	2E-10	2E-09	Eye; Nails; Immunological	4E-04	NA	3E-05	4E-04
			Aluminum	NA	NA	NA	--	Neurological	2E-03	2E-05	--	2E-03
			Arsenic	1E-07	2E-11	3E-09	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	2E-06	4E-05	2E-03
			Cobalt	NA	6E-11	--	6E-11	Endocrine; Lung	4E-03	9E-06	--	4E-03
			Iron	NA	NA	--	--	GI tract	5E-03	NA	--	5E-03
			Manganese	NA	NA	--	--	Neurological	3E-03	6E-05	--	3E-03
			Mercury	NA	NA	--	--	Immunological; Neurological	5E-04	2E-07	--	5E-04
			Vanadium	NA	NA	--	--	Hair	1E-03	NA	--	1E-03
			Chemical Total	3E-07	8E-11	1E-08	3E-07		2E-02	9E-05	8E-05	2E-02
		Exposure Point Total					3E-07					2E-02
	Exposure Medium Total						3E-07					2E-02
Medium Total							3E-07					2E-02
Receptor Total - Abiotic Media Only							1E-06				Receptor HI Total	2E-01

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU GB	4,4'-DDD	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			4,4'-DDE	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-06	N/A	N/A	2E-06	Liver	1E-01	N/A	N/A	1E-01
			Total PCB Aroclors	8E-05	N/A	N/A	8E-05	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	4E-01	N/A	N/A	4E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	8E-05	--	--	8E-05		2E+01	--	--	2E+01
		Exposure Point Total					8E-05					2E+01
	Exposure Medium Total						8E-05					2E+01
Medium Total							8E-05					2E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							8E-05	Receptor HI Total				2E+01

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	6E-04
Liver HI Across All Media =	1E-01
Developmental HI Across All Media =	4E-03
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	5E-01
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	6E-03
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	7E-03
Whole body HI Across All Media =	3E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU GB	alpha-Chlordane	4E-07	N/A	N/A	4E-07	Liver	2E-02	N/A	N/A	2E-02
			gamma-Chlordane	2E-07	N/A	N/A	2E-07	Liver	8E-03	N/A	N/A	8E-03
			4,4'-DDD	2E-08	N/A	N/A	2E-08	--	NA	N/A	N/A	--
			4,4'-DDE	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			Aluminum	NA	N/A	N/A	--	Neurological	2E-02	N/A	N/A	2E-02
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	7E-02	N/A	N/A	7E-02
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	1E-03	--	--	1E-03		2E+02	--	--	2E+02
		Exposure Point Total					1E-03					2E+02
	Exposure Medium Total						1E-03					2E+02
Medium Total							1E-03					2E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03	Receptor HI Total				2E+02

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	6E-04
Liver HI Across All Media =	3E-02
Developmental HI Across All Media =	4E-03
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	6E-03
Endocrine HI Across All Media =	7E-03
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	3E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU GB	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							2E-05				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	6E-04
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	4E-03
Neurological HI Across All Media =	1E-02
Respiratory, Lung HI Across All Media =	1E+00
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	6E-03
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	7E-03
Whole body HI Across All Media =	2E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU GB	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							1E-05				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	6E-04
Developmental HI Across All Media =	8E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	9E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	9E-02
Endocrine HI Across All Media =	7E-03
GI tract HI Across All Media =	7E-03
Whole body HI Across All Media =	2E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU BB1	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	3E-04	N/A	9E-04	1E-03	Neurological; Liver	1E-03	N/A	3E-03	4E-03
			Benzo(a)anthracene	2E-07	N/A	8E-07	1E-06	--	NA	N/A	NA	--
			Benzo(a)pyrene	3E-06	N/A	1E-05	1E-05	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-07	N/A	1E-06	1E-06	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	2E-08	N/A	7E-08	9E-08	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	5E-07	N/A	2E-06	2E-06	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-07	N/A	6E-07	8E-07	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			delta-BHC	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	1E-06	N/A	5E-06	6E-06	Eye; Nails; Immunological	6E-02	N/A	3E-01	3E-01
			Aluminum	NA	N/A	--	--	Neurological	4E-03	N/A	--	4E-03
			Arsenic	1E-06	N/A	1E-06	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	N/A	5E-03	1E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Copper	NA	N/A	--	--	GI tract	5E-04	N/A	--	5E-04
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	3E-04	--	9E-04	1E-03		1E-01	--	3E-01	4E-01
		Exposure Point Total					1E-03					4E-01
	Exposure Medium Total						1E-03					4E-01
Medium Total							1E-03					4E-01

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB1	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	5E-08	3E-13	3E-08	7E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	5E-07	3E-12	3E-07	8E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	6E-08	4E-13	3E-08	1E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-09	3E-13	3E-09	9E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	8E-13	6E-08	2E-07	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	2E-13	2E-08	4E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-07	3E-13	9E-08	2E-07	Eye; Nails; Immunological	8E-03	NA	5E-03	1E-02
			Aluminum	NA	NA	NA	--	Neurological	3E-03	2E-05	--	3E-03
			Arsenic	1E-06	1E-10	1E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	5E-06	7E-04	6E-03
			Cadmium	NA	1E-11	NA	1E-11	Kidney; Respiratory; Musculoskeletal	4E-04	7E-07	6E-05	4E-04
			Cobalt	NA	4E-10	--	4E-10	Endocrine; Lung	8E-03	2E-05	--	8E-03
			Iron	NA	NA	--	--	GI tract	7E-03	NA	--	7E-03
			Manganese	NA	NA	--	--	Neurological	6E-03	1E-04	--	6E-03
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	2E-06	6E-10	7E-07	3E-06		4E-02	2E-04	6E-03	5E-02
		Exposure Point Total					3E-06					5E-02
	Exposure Medium Total						3E-06					5E-02
Medium Total							3E-06					5E-02
Receptor Total - Abiotic Media Only							1E-03				Receptor HI Total	7E-01

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB1	4,4'-DDD	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	2E-01	N/A	N/A	2E-01
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	4E-01	N/A	N/A	4E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	4E-04	--	--	4E-04		2E+01	--	--	2E+01
		Exposure Point Total					4E-04					2E+01
	Exposure Medium Total						4E-04					2E+01
Medium Total							4E-04					2E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							2E-03				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	2E-03
Liver HI Across All Media =	2E-01
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	5E-01
Musculoskeletal HI Across All Media =	4E-04
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	3E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB1	alpha-Chlordane	2E-06	N/A	N/A	2E-06	Liver	3E-02	N/A	N/A	3E-02
			gamma-Chlordane	1E-06	N/A	N/A	1E-06	Liver	1E-02	N/A	N/A	1E-02
			4,4'-DDD	1E-07	N/A	N/A	1E-07	--	NA	N/A	N/A	--
			4,4'-DDE	3E-06	N/A	N/A	3E-06	--	NA	N/A	N/A	--
			Total PCB Aroclors	5E-03	N/A	N/A	5E-03	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			Aluminum	NA	N/A	N/A	--	Neurological	2E-02	N/A	N/A	2E-02
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	7E-02	N/A	N/A	7E-02
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	5E-03	--	--	5E-03		3E+02	--	--	3E+02
		Exposure Point Total					5E-03					3E+02
	Exposure Medium Total						5E-03					3E+02
Medium Total							5E-03					3E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							7E-03				Receptor HI Total	3E+02

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	2E-03
Liver HI Across All Media =	5E-02
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	4E-02
Musculoskeletal HI Across All Media =	4E-04
Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	5E-02
Whole body HI Across All Media =	3E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB1	Total PCB Aroclors	5E-05	N/A	N/A	5E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	5E-05	N/A	N/A	5E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	1E-04	--	--	1E-04		4E+00	--	--	4E+00
		Exposure Point Total					1E-04					4E+00
	Exposure Medium Total						1E-04					4E+00
Medium Total							1E-04					4E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							1E-03				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	2E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	5E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	4E-04
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	4E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB1	Total PCB Aroclors	4E-05	N/A	N/A	4E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	2E-05	N/A	N/A	2E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	5E-05	--	--	5E-05		2E+00	--	--	2E+00
		Exposure Point Total					5E-05					2E+00
	Exposure Medium Total						5E-05					2E+00
Medium Total							5E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							1E-03				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	2E-03
Liver HI Across All Media =	4E-03
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	4E-04
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	4E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU BB1	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-05	N/A	1E-04	2E-04	Neurological; Liver	5E-04	N/A	2E-03	2E-03
			Benzo(a)anthracene	3E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	4E-07	N/A	2E-06	2E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	4E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-09	N/A	1E-08	1E-08	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	7E-08	N/A	3E-07	3E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			delta-BHC	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	2E-07	N/A	7E-07	9E-07	Eye; Nails; Immunological	3E-02	N/A	1E-01	2E-01
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	2E-07	N/A	1E-07	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-03	N/A	2E-03	5E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	7E-03	N/A	--	7E-03
			Copper	NA	N/A	--	--	GI tract	3E-04	N/A	--	3E-04
			Iron	NA	N/A	--	--	GI tract	1E-02	N/A	--	1E-02
			Manganese	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Vanadium	NA	N/A	--	--	Hair	6E-04	N/A	--	6E-04
			Chemical Total	4E-05	--	1E-04	2E-04		6E-02	--	1E-01	2E-01
		Exposure Point Total					2E-04					2E-01
	Exposure Medium Total						2E-04					2E-01
Medium Total							2E-04					2E-01

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB1	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	7E-09	5E-14	6E-10	8E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	8E-08	5E-13	7E-09	9E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	9E-09	6E-14	7E-10	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	8E-10	5E-14	7E-11	9E-10	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	1E-13	1E-09	2E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	4E-09	3E-14	3E-10	5E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-08	5E-14	2E-09	2E-08	Eye; Nails; Immunological	4E-03	NA	4E-04	5E-03
			Aluminum	NA	NA	NA	--	Neurological	1E-03	1E-05	--	1E-03
			Arsenic	2E-07	2E-11	3E-09	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-03	2E-06	5E-05	3E-03
			Cadmium	NA	2E-12	NA	2E-12	Kidney; Respiratory; Musculoskeletal	2E-04	4E-07	4E-06	2E-04
			Cobalt	NA	6E-11	--	6E-11	Endocrine; Lung	4E-03	9E-06	--	4E-03
			Iron	NA	NA	--	--	GI tract	4E-03	NA	--	4E-03
			Manganese	NA	NA	--	--	Neurological	3E-03	6E-05	--	3E-03
			Vanadium	NA	NA	--	--	Hair	9E-04	NA	--	9E-04
			Chemical Total	3E-07	8E-11	1E-08	3E-07		2E-02	8E-05	4E-04	2E-02
		Exposure Point Total					3E-07					2E-02
	Exposure Medium Total						3E-07					2E-02
Medium Total							3E-07					2E-02
Receptor Total - Abiotic Media Only							2E-04				Receptor HI Total	4E-01

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB1	4,4'-DDD	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			4,4'-DDE	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-06	N/A	N/A	2E-06	Liver	1E-01	N/A	N/A	1E-01
			Total PCB Aroclors	8E-05	N/A	N/A	8E-05	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	4E-01	N/A	N/A	4E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	8E-05	--	--	8E-05		2E+01	--	--	2E+01
		Exposure Point Total					8E-05					2E+01
	Exposure Medium Total						8E-05					2E+01
Medium Total							8E-05					2E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							3E-04				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	7E-04
Liver HI Across All Media =	2E-01
Developmental HI Across All Media =	8E-03
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	5E-01
Musculoskeletal HI Across All Media =	2E-04
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	3E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB1	alpha-Chlordane	4E-07	N/A	N/A	4E-07	Liver	2E-02	N/A	N/A	2E-02
			gamma-Chlordane	2E-07	N/A	N/A	2E-07	Liver	8E-03	N/A	N/A	8E-03
			4,4'-DDD	2E-08	N/A	N/A	2E-08	--	NA	N/A	N/A	--
			4,4'-DDE	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			Aluminum	NA	N/A	N/A	--	Neurological	2E-02	N/A	N/A	2E-02
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	7E-02	N/A	N/A	7E-02
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	1E-03	--	--	1E-03		2E+02	--	--	2E+02
		Exposure Point Total					1E-03					2E+02
	Exposure Medium Total						1E-03					2E+02
Medium Total							1E-03					2E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	7E-04
Liver HI Across All Media =	3E-02
Developmental HI Across All Media =	8E-03
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	2E-02
Musculoskeletal HI Across All Media =	2E-04
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	1E-02
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	3E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB1	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	7E-04
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	8E-03
Neurological HI Across All Media =	2E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	2E-04
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	2E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB1	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	7E-04
Liver HI Across All Media =	2E-03
Developmental HI Across All Media =	9E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	2E-04
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	9E-02
Endocrine HI Across All Media =	1E-02
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	2E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU BB2	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-04	N/A	1E-03	2E-03	Neurological; Liver	1E-03	N/A	4E-03	5E-03
			Benzo(a)anthracene	1E-07	N/A	5E-07	6E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-06	N/A	6E-06	7E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-07	N/A	9E-07	1E-06	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	1E-08	N/A	6E-08	7E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	3E-08	N/A	9E-08	1E-07	Liver	3E-04	N/A	8E-04	1E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	4E-07	N/A	2E-06	2E-06	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-07	N/A	5E-07	6E-07	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	6E-07	N/A	3E-06	3E-06	Eye; Nails; Immunological	3E-02	N/A	1E-01	2E-01
			Aluminum	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Arsenic	9E-07	N/A	9E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	N/A	4E-03	9E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	6E-03	N/A	7E-03	1E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	8E-03	N/A	--	8E-03
			Iron	NA	N/A	--	--	GI tract	8E-03	N/A	--	8E-03
			Manganese	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	4E-04	--	1E-03	2E-03		7E-02	--	2E-01	2E-01
		Exposure Point Total					2E-03					2E-01
	Exposure Medium Total						2E-03					2E-01
Medium Total							2E-03					2E-01

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB2	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-08	1E-13	1E-08	3E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	1E-12	1E-07	3E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	2E-13	1E-08	4E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	3E-13	3E-08	7E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	9E-14	8E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-07	3E-13	8E-08	2E-07	Eye; Nails; Immunological	7E-03	NA	4E-03	1E-02
			Aluminum	NA	NA	NA	--	Neurological	3E-03	2E-05	--	3E-03
			Arsenic	2E-06	2E-10	2E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-03	7E-06	1E-03	9E-03
			Cobalt	NA	2E-10	--	2E-10	Endocrine; Lung	4E-03	8E-06	--	4E-03
			Iron	NA	NA	--	--	GI tract	4E-03	NA	--	4E-03
			Manganese	NA	NA	--	--	Neurological	4E-03	8E-05	--	4E-03
			Chemical Total	2E-06	4E-10	4E-07	2E-06		3E-02	1E-04	5E-03	4E-02
		Exposure Point Total					2E-06					4E-02
	Exposure Medium Total						2E-06					4E-02
Medium Total							2E-06					4E-02
Receptor Total - Abiotic Media Only							2E-03				Receptor HI Total	6E-01

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB2	4,4'-DDD	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			4,4'-DDE	8E-07	N/A	N/A	8E-07	--	NA	N/A	N/A	--
			Endrin aldehyde	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-05	N/A	N/A	2E-05	Liver	3E-01	N/A	N/A	3E-01
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+00	N/A	N/A	4E+00
			Aluminum	NA	N/A	N/A	--	Neurological	3E-02	N/A	N/A	3E-02
			Arsenic	3E-05	N/A	N/A	3E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	6E-04	--	--	6E-04		3E+01	--	--	3E+01
		Exposure Point Total					6E-04					3E+01
	Exposure Medium Total						6E-04					3E+01
Medium Total							6E-04					3E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							2E-03				Receptor HI Total	3E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+00
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	4E+00
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	4E-01
Respiratory, Lung HI Across All Media =	4E+00
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	4E+00
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	3E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB2	4,4'-DDE	8E-06	N/A	N/A	8E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-04	N/A	N/A	1E-04	Liver	2E+00	N/A	N/A	2E+00
			Total PCB Aroclors	4E-03	N/A	N/A	4E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	4E-03	N/A	N/A	4E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+02	N/A	N/A	1E+02
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Copper	NA	N/A	N/A	--	GI tract	1E-02	N/A	N/A	1E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	8E-02	N/A	N/A	8E-02
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	8E-03	--	--	8E-03		3E+02	--	--	3E+02
		Exposure Point Total					8E-03					3E+02
	Exposure Medium Total						8E-03					3E+02
Medium Total							8E-03					3E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							9E-03				Receptor HI Total	3E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+02
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	1E+02
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E+02
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	1E+02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	4E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB2	Total PCB Aroclors	5E-05	N/A	N/A	5E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	5E-05	N/A	N/A	5E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	1E-04	--	--	1E-04		4E+00	--	--	4E+00
		Exposure Point Total					1E-04					4E+00
	Exposure Medium Total						1E-04					4E+00
Medium Total							1E-04					4E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							2E-03				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	4E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	4E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB2	Total PCB Aroclors	4E-05	N/A	N/A	4E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	2E-05	N/A	N/A	2E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	5E-05	--	--	5E-05		2E+00	--	--	2E+00
		Exposure Point Total					5E-05					2E+00
	Exposure Medium Total						5E-05					2E+00
Medium Total							5E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							2E-03				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	6E-03
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	1E-02
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	4E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU BB2	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	5E-05	N/A	2E-04	2E-04	Neurological; Liver	6E-04	N/A	2E-03	3E-03
			Benzo(a)anthracene	2E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-07	N/A	9E-07	1E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	2E-09	N/A	9E-09	1E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	5E-09	N/A	1E-08	2E-08	Liver	1E-04	N/A	4E-04	5E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	6E-08	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	9E-08	N/A	4E-07	5E-07	Eye; Nails; Immunological	2E-02	N/A	7E-02	9E-02
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	1E-07	N/A	1E-07	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	N/A	2E-03	5E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	3E-03	N/A	4E-03	7E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	4E-03	N/A	--	4E-03
			Iron	NA	N/A	--	--	GI tract	4E-03	N/A	--	4E-03
			Manganese	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Vanadium	NA	N/A	--	--	Hair	6E-04	N/A	--	6E-04
			Chemical Total	6E-05	--	2E-04	2E-04		4E-02	--	8E-02	1E-01
		Exposure Point Total					2E-04					1E-01
	Exposure Medium Total						2E-04					1E-01
Medium Total							2E-04					1E-01

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB2	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	3E-09	2E-14	2E-10	3E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-08	2E-13	2E-09	3E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	4E-09	2E-14	3E-10	4E-09	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	7E-09	5E-14	6E-10	8E-09	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-09	1E-14	2E-10	2E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-08	4E-14	2E-09	2E-08	Eye; Nails; Immunological	4E-03	NA	3E-04	4E-03
			Aluminum	NA	NA	NA	--	Neurological	1E-03	1E-05	--	1E-03
			Arsenic	2E-07	3E-11	4E-09	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-03	3E-06	7E-05	4E-03
			Cobalt	NA	3E-11	--	3E-11	Endocrine; Lung	2E-03	4E-06	--	2E-03
			Iron	NA	NA	--	--	GI tract	2E-03	NA	--	2E-03
			Manganese	NA	NA	--	--	Neurological	2E-03	4E-05	--	2E-03
			Chemical Total	3E-07	5E-11	1E-08	3E-07		1E-02	6E-05	4E-04	2E-02
		Exposure Point Total					3E-07					2E-02
	Exposure Medium Total						3E-07					2E-02
Medium Total							3E-07					2E-02
Receptor Total - Abiotic Media Only							2E-04				Receptor HI Total	3E-01

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB2	4,4'-DDD	6E-08	N/A	N/A	6E-08	--	NA	N/A	N/A	--
			4,4'-DDE	1E-07	N/A	N/A	1E-07	--	NA	N/A	N/A	--
			Endrin aldehyde	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Heptachlor epoxide	3E-06	N/A	N/A	3E-06	Liver	2E-01	N/A	N/A	2E-01
			Total PCB Aroclors	8E-05	N/A	N/A	8E-05	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			TCDD TEQ (PCBs)	4E-05	N/A	N/A	4E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			Aluminum	NA	N/A	N/A	--	Neurological	3E-02	N/A	N/A	3E-02
			Arsenic	9E-06	N/A	N/A	9E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	1E-04	--	--	1E-04		2E+01	--	--	2E+01
		Exposure Point Total					1E-04					2E+01
	Exposure Medium Total						1E-04					2E+01
Medium Total							1E-04					2E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							4E-04				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+00
Kidney HI Across All Media =	7E-03
Liver HI Across All Media =	3E+00
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	4E-01
Respiratory, Lung HI Across All Media =	3E+00
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	3E+00
GI tract HI Across All Media =	6E-03
Whole body HI Across All Media =	3E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB2	4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-05	N/A	N/A	2E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	8E-04	N/A	N/A	8E-04	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	9E-04	N/A	N/A	9E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	8E+01	N/A	N/A	8E+01
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Copper	NA	N/A	N/A	--	GI tract	1E-02	N/A	N/A	1E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	8E-02	N/A	N/A	8E-02
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	2E-03	--	--	2E-03		2E+02	--	--	2E+02
		Exposure Point Total					2E-03					2E+02
	Exposure Medium Total						2E-03					2E+02
Medium Total							2E-03					2E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	8E+01
Kidney HI Across All Media =	7E-03
Liver HI Across All Media =	8E+01
Developmental HI Across All Media =	9E-03
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	8E+01
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	8E+01
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	4E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB2	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05		1E+00	N/A	N/A	1E+00
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							3E-04				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	7E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	9E-03
Neurological HI Across All Media =	2E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	6E-03
Whole body HI Across All Media =	2E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB2	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	7E-03
Liver HI Across All Media =	3E-03
Developmental HI Across All Media =	9E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	9E-02
Endocrine HI Across All Media =	6E-03
GI tract HI Across All Media =	6E-03
Whole body HI Across All Media =	2E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU BB3	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	1E-03	N/A	3E-03	4E-03	Neurological; Liver	3E-03	N/A	1E-02	1E-02
			Benzo(a)anthracene	3E-07	N/A	1E-06	1E-06	--	NA	N/A	NA	--
			Benzo(a)pyrene	4E-06	N/A	2E-05	2E-05	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-07	N/A	1E-06	1E-06	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	2E-08	N/A	7E-08	9E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	2E-08	N/A	7E-08	9E-08	Liver	2E-04	N/A	6E-04	8E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	3E-07	N/A	1E-06	2E-06	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	4E-07	N/A	--	4E-07	Liver; Neurological	1E-03	N/A	--	1E-03
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	1E-06	N/A	5E-06	6E-06	Eye; Nails; Immunological	6E-02	N/A	3E-01	3E-01
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	8E-07	N/A	7E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-03	N/A	4E-03	8E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	3E-03	N/A	3E-03	6E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Iron	NA	N/A	--	--	GI tract	5E-03	N/A	--	5E-03
			Manganese	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	1E-03	--	3E-03	4E-03		1E-01	--	3E-01	4E-01
		Exposure Point Total					4E-03					4E-01
	Exposure Medium Total						4E-03					4E-01
Medium Total							4E-03					4E-01

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	1E-07	8E-13	7E-08	2E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-06	8E-12	7E-07	2E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-07	1E-12	9E-08	3E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-08	8E-13	7E-09	2E-08	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	6E-08	5E-13	3E-08	9E-08	Liver	5E-04	NA	2E-04	8E-04
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	3E-07	2E-12	2E-07	4E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	9E-08	5E-13	5E-08	1E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	6E-07	1E-12	4E-07	1E-06	Eye; Nails; Immunological	4E-02	NA	2E-02	6E-02
			Aluminum	NA	NA	NA	--	Neurological	2E-03	2E-05	--	2E-03
			Antimony	NA	NA	NA	--	Blood	7E-03	NA	--	7E-03
			Arsenic	3E-06	3E-10	3E-07	3E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	1E-05	2E-03	2E-02
			Cadmium	NA	4E-11	NA	4E-11	Kidney; Respiratory; Musculoskeletal	1E-03	2E-06	2E-04	1E-03
			Cobalt	NA	4E-10	--	4E-10	Endocrine; Lung	8E-03	2E-05	--	8E-03
			Copper	NA	NA	--	--	GI tract	1E-02	NA	--	1E-02
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Lead	NA	NA	--	--	--	NA	NA	--	0E+00
			Manganese	NA	NA	--	--	Neurological	6E-03	1E-04	--	6E-03
			Mercury	NA	NA	--	--	Immunological; Neurological	1E-03	6E-07	--	1E-03
			Nickel	NA	8E-11	--	8E-11	Whole body; Respiratory	9E-04	8E-06	--	9E-04
			Thallium	NA	NA	--	--	NOAEL	8E-02	NA	--	8E-02
			Vanadium	NA	NA	--	--	Hair	1E-03	NA	--	1E-03
			Zinc	NA	NA	--	--	Blood	1E-03	NA	--	1E-03
			Chemical Total	5E-06	8E-10	2E-06	7E-06		2E-01	2E-04	2E-02	2E-01
		Exposure Point Total					7E-06					2E-01
	Exposure Medium Total						7E-06					2E-01
Medium Total							7E-06					2E-01
Receptor Total - Abiotic Media Only							4E-03				Receptor HI Total	9E-01

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB3	4,4'-DDE	2E-06	N/A	N/A	2E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	4E-05	N/A	N/A	4E-05	Liver	6E-01	N/A	N/A	6E-01
			Total PCB Aroclors	7E-04	N/A	N/A	7E-04	Eye; Nails; Immunological	4E+01	N/A	N/A	4E+01
			TCDD TEQ (PCBs)	5E-04	N/A	N/A	5E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+01	N/A	N/A	1E+01
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	1E-03	--	--	1E-03		5E+01	--	--	5E+01
		Exposure Point Total					1E-03					5E+01
	Exposure Medium Total						1E-03					5E+01
Medium Total							1E-03					5E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							5E-03				Receptor HI Total	5E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+01
Kidney HI Across All Media =	8E-03
Liver HI Across All Media =	1E+01
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	1E+01
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	1E+01
GI tract HI Across All Media =	5E-02
Whole body HI Across All Media =	4E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB3	4,4'-DDE	4E-06	N/A	N/A	4E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	7E-05	N/A	N/A	7E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	7E+01	N/A	N/A	7E+01
			TCDD TEQ (PCBs)	1E-03	N/A	N/A	1E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Copper	NA	N/A	N/A	--	GI tract	3E-02	N/A	N/A	3E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	3E-03	--	--	3E-03		1E+02	--	--	1E+02
		Exposure Point Total					3E-03					1E+02
	Exposure Medium Total						3E-03					1E+02
Medium Total							3E-03					1E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							7E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Kidney HI Across All Media =	8E-03
Liver HI Across All Media =	4E+01
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	3E+01
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	7E+01
Immunological HI Across All Media =	7E+01
Hair, Skin, Nails HI Across All Media =	7E+01
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	3E+01
GI tract HI Across All Media =	8E-02
Whole body HI Across All Media =	3E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB3	Total PCB Aroclors	5E-05	N/A	N/A	5E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	5E-05	N/A	N/A	5E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	1E-04	--	--	1E-04		4E+00	--	--	4E+00
		Exposure Point Total					1E-04					4E+00
	Exposure Medium Total						1E-04					4E+00
Medium Total							1E-04					4E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							4E-03				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	8E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	6E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	5E-02
Whole body HI Across All Media =	1E-03

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB3	Total PCB Aroclors	4E-05	N/A	N/A	4E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	2E-05	N/A	N/A	2E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	5E-05	--	--	5E-05		2E+00	--	--	2E+00
		Exposure Point Total					5E-05					2E+00
	Exposure Medium Total						5E-05					2E+00
Medium Total							5E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							4E-03				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	8E-03
Kidney HI Across All Media =	8E-03
Liver HI Across All Media =	2E-02
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	5E-02
Whole body HI Across All Media =	1E-03

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU BB3	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	1E-04	N/A	4E-04	6E-04	Neurological; Liver	2E-03	N/A	5E-03	7E-03
			Benzo(a)anthracene	4E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	6E-07	N/A	2E-06	3E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	4E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-09	N/A	1E-08	1E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	3E-09	N/A	1E-08	1E-08	Liver	9E-05	N/A	3E-04	4E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	5E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	6E-08	N/A	--	6E-08	Liver; Neurological	6E-04	N/A	--	6E-04
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	2E-07	N/A	7E-07	9E-07	Eye; Nails; Immunological	3E-02	N/A	1E-01	2E-01
			Aluminum	NA	N/A	--	--	Neurological	1E-03	N/A	--	1E-03
			Arsenic	1E-07	N/A	1E-07	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	N/A	2E-03	4E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	1E-03	N/A	2E-03	3E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	7E-03	N/A	--	7E-03
			Iron	NA	N/A	--	--	GI tract	3E-03	N/A	--	3E-03
			Manganese	NA	N/A	--	--	Neurological	1E-03	N/A	--	1E-03
			Vanadium	NA	N/A	--	--	Hair	6E-04	N/A	--	6E-04
			Chemical Total	1E-04	--	5E-04	6E-04		5E-02	--	1E-01	2E-01
		Exposure Point Total					6E-04					2E-01
	Exposure Medium Total						6E-04					2E-01
Medium Total							6E-04					2E-01

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-08	1E-13	1E-09	2E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	1E-12	2E-08	2E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-08	2E-13	2E-09	3E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-09	1E-13	1E-10	2E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	1E-08	7E-14	6E-10	1E-08	Liver	3E-04	NA	2E-05	3E-04
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	4E-08	3E-13	3E-09	4E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	8E-14	1E-09	1E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	9E-08	2E-13	8E-09	1E-07	Eye; Nails; Immunological	2E-02	NA	2E-03	2E-02
			Aluminum	NA	NA	NA	--	Neurological	1E-03	9E-06	--	1E-03
			Antimony	NA	NA	NA	--	Blood	4E-03	NA	--	4E-03
			Arsenic	4E-07	5E-11	7E-09	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-03	6E-06	1E-04	7E-03
			Cadmium	NA	5E-12	NA	5E-12	Kidney; Respiratory; Musculoskeletal	5E-04	1E-06	1E-05	6E-04
			Cobalt	NA	6E-11	--	6E-11	Endocrine; Lung	4E-03	8E-06	--	4E-03
			Copper	NA	NA	--	--	GI tract	7E-03	NA	--	7E-03
			Iron	NA	NA	--	--	GI tract	2E-02	NA	--	2E-02
			Lead	NA	NA	--	--	--	NA	NA	--	0E+00
			Manganese	NA	NA	--	--	Neurological	3E-03	6E-05	--	3E-03
			Mercury	NA	NA	--	--	Immunological; Neurological	7E-04	3E-07	--	7E-04
			Nickel	NA	1E-11	--	1E-11	Whole body; Respiratory	5E-04	4E-06	--	5E-04
			Thallium	NA	NA	--	--	NOAEL	4E-02	NA	--	4E-02
			Vanadium	NA	NA	--	--	Hair	5E-04	NA	--	5E-04
			Zinc	NA	NA	--	--	Blood	5E-04	NA	--	5E-04
			Chemical Total	8E-07	1E-10	4E-08	8E-07		1E-01	9E-05	2E-03	1E-01
		Exposure Point Total					8E-07					1E-01
	Exposure Medium Total						8E-07					1E-01
Medium Total							8E-07					1E-01
Receptor Total - Abiotic Media Only							6E-04				Receptor HI Total	4E-01

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB3	4,4'-DDE	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	6E-06	N/A	N/A	6E-06	Liver	4E-01	N/A	N/A	4E-01
			Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			TCDD TEQ (PCBs)	1E-04	N/A	N/A	1E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E+00	N/A	N/A	9E+00
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	3E-04	--	--	3E-04		4E+01	--	--	4E+01
		Exposure Point Total					3E-04					4E+01
	Exposure Medium Total						3E-04					4E+01
Medium Total							3E-04					4E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							9E-04				Receptor HI Total	4E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E+00
Kidney HI Across All Media =	4E-03
Liver HI Across All Media =	9E+00
Developmental HI Across All Media =	1E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	9E+00
Musculoskeletal HI Across All Media =	3E-03
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	9E+00
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	4E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB3	4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	7E-01	N/A	N/A	7E-01
			Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Copper	NA	N/A	N/A	--	GI tract	3E-02	N/A	N/A	3E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	6E-04	--	--	6E-04		8E+01	--	--	8E+01
		Exposure Point Total					6E-04					8E+01
	Exposure Medium Total						6E-04					8E+01
Medium Total							6E-04					8E+01
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Kidney HI Across All Media =	4E-03
Liver HI Across All Media =	3E+01
Developmental HI Across All Media =	1E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	3E+01
Musculoskeletal HI Across All Media =	3E-03
Eye HI Across All Media =	5E+01
Immunological HI Across All Media =	6E+01
Hair, Skin, Nails HI Across All Media =	6E+01
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	3E+01
GI tract HI Across All Media =	5E-02
Whole body HI Across All Media =	3E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB3	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							6E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	4E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	1E-02
Neurological HI Across All Media =	3E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	3E-03
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	7E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB3	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							6E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E-03
Kidney HI Across All Media =	4E-03
Liver HI Across All Media =	8E-03
Developmental HI Across All Media =	9E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	3E-03
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	9E-02
Endocrine HI Across All Media =	1E-02
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	7E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU BB4	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-04	N/A	1E-03	2E-03	Neurological; Liver	1E-03	N/A	4E-03	5E-03
			Benzo(a)anthracene	1E-07	N/A	4E-07	5E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-06	N/A	4E-06	5E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	1E-07	N/A	6E-07	7E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	1E-07	N/A	5E-07	7E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	7E-08	N/A	3E-07	4E-07	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endosulfan sulfate	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	1E-06	N/A	6E-06	8E-06	Eye; Nails; Immunological	8E-02	N/A	4E-01	4E-01
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	7E-07	N/A	7E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-03	N/A	4E-03	7E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	1E-03	N/A	2E-03	3E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	4E-03	N/A	--	4E-03
			Iron	NA	N/A	--	--	GI tract	6E-03	N/A	--	6E-03
			Manganese	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Vanadium	NA	N/A	--	--	Hair	7E-04	N/A	--	7E-04
			Chemical Total	4E-04	--	1E-03	2E-03		1E-01	--	4E-01	5E-01
		Exposure Point Total					2E-03					5E-01
	Exposure Medium Total						2E-03					5E-01
Medium Total							2E-03					5E-01

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB4	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	8E-08	5E-13	4E-08	1E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	9E-07	5E-12	5E-07	1E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-07	9E-13	8E-08	2E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-09	2E-13	2E-09	5E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-06	7E-12	6E-07	2E-06	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	5E-08	3E-13	3E-08	8E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Aldrin	6E-08	7E-13	--	6E-08	Liver	3E-04	NA	--	3E-04
			delta-BHC	NA	NA	--	--	--	NA	NA	--	--
			Dieldrin	5E-07	6E-12	--	5E-07	Liver; Neurological	1E-03	NA	--	1E-03
			4,4'-DDT	1E-08	2E-13	2E-09	2E-08	Liver	2E-04	NA	3E-05	2E-04
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-06	5E-12	1E-06	4E-06	Eye; Nails; Immunological	1E-01	NA	8E-02	2E-01
			Aluminum	NA	NA	NA	--	Neurological	2E-03	2E-05	--	2E-03
			Antimony	NA	NA	NA	--	Blood	2E-03	NA	--	2E-03
			Arsenic	1E-06	2E-10	2E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-03	6E-06	9E-04	8E-03
			Cadmium	NA	6E-11	NA	6E-11	Kidney; Respiratory; Musculoskeletal	2E-03	4E-06	3E-04	2E-03
			Cobalt	NA	3E-10	--	3E-10	Endocrine; Lung	6E-03	1E-05	--	6E-03
			Copper	NA	NA	--	--	GI tract	7E-04	NA	--	7E-04
			Iron	NA	NA	--	--	GI tract	5E-03	NA	--	5E-03
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	5E-03	1E-04	--	5E-03
			Silver	NA	NA	--	--	Skin	3E-04	NA	--	3E-04
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	6E-06	5E-10	3E-06	9E-06		2E-01	1E-04	8E-02	2E-01
		Exposure Point Total					9E-06					2E-01
	Exposure Medium Total						9E-06					2E-01
Medium Total							9E-06					2E-01
Receptor Total - Abiotic Media Only							2E-03				Receptor HI Total	1E+00

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB4	4,4'-DDE	2E-06	N/A	N/A	2E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	4E-05	N/A	N/A	4E-05	Liver	6E-01	N/A	N/A	6E-01
			Total PCB Aroclors	7E-04	N/A	N/A	7E-04	Eye; Nails; Immunological	4E+01	N/A	N/A	4E+01
			TCDD TEQ (PCBs)	5E-04	N/A	N/A	5E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+01	N/A	N/A	1E+01
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	1E-03	--	--	1E-03		5E+01	--	--	5E+01
		Exposure Point Total					1E-03					5E+01
	Exposure Medium Total						1E-03					5E+01
Medium Total							1E-03					5E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							3E-03				Receptor HI Total	5E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+01
Kidney HI Across All Media =	6E-03
Liver HI Across All Media =	1E+01
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E+01
Musculoskeletal HI Across All Media =	5E-03
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	1E+01
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	4E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB4	4,4'-DDE	4E-06	N/A	N/A	4E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	7E-05	N/A	N/A	7E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	7E+01	N/A	N/A	7E+01
			TCDD TEQ (PCBs)	1E-03	N/A	N/A	1E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Copper	NA	N/A	N/A	--	GI tract	3E-02	N/A	N/A	3E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	3E-03	--	--	3E-03		1E+02	--	--	1E+02
		Exposure Point Total					3E-03					1E+02
	Exposure Medium Total						3E-03					1E+02
Medium Total							3E-03					1E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							4E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Kidney HI Across All Media =	6E-03
Liver HI Across All Media =	4E+01
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	3E+01
Musculoskeletal HI Across All Media =	5E-03
Eye HI Across All Media =	7E+01
Immunological HI Across All Media =	7E+01
Hair, Skin, Nails HI Across All Media =	7E+01
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	3E+01
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	3E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB4	Total PCB Aroclors	5E-05	N/A	N/A	5E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	5E-05	N/A	N/A	5E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	1E-04	--	--	1E-04		4E+00	--	--	4E+00
		Exposure Point Total					1E-04					4E+00
	Exposure Medium Total						1E-04					4E+00
Medium Total							1E-04					4E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							2E-03				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	6E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	5E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	5E-03
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	4E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB4	Total PCB Aroclors	4E-05	N/A	N/A	4E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	2E-05	N/A	N/A	2E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	5E-05	--	--	5E-05		2E+00	--	--	2E+00
		Exposure Point Total					5E-05					2E+00
	Exposure Medium Total						5E-05					2E+00
Medium Total							5E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							2E-03				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E-03
Kidney HI Across All Media =	6E-03
Liver HI Across All Media =	7E-03
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	5E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	1E-02
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	4E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU BB4	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	6E-05	N/A	2E-04	2E-04	Neurological; Liver	7E-04	N/A	2E-03	3E-03
			Benzo(a)anthracene	2E-08	N/A	6E-08	8E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-07	N/A	6E-07	7E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	N/A	4E-08	6E-08	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endosulfan sulfate	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	2E-07	N/A	9E-07	1E-06	Eye; Nails; Immunological	4E-02	N/A	2E-01	2E-01
			Aluminum	NA	N/A	--	--	Neurological	8E-04	N/A	--	8E-04
			Arsenic	1E-07	N/A	1E-07	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	N/A	2E-03	4E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	6E-04	N/A	8E-04	1E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-03	N/A	--	2E-03
			Iron	NA	N/A	--	--	GI tract	3E-03	N/A	--	3E-03
			Manganese	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Vanadium	NA	N/A	--	--	Hair	4E-04	N/A	--	4E-04
			Chemical Total	6E-05	--	2E-04	2E-04		6E-02	--	2E-01	2E-01
		Exposure Point Total					2E-04					2E-01
	Exposure Medium Total						2E-04					2E-01
Medium Total							2E-04					2E-01

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB4	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	1E-08	8E-14	1E-09	1E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-07	8E-13	1E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-08	1E-13	2E-09	2E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-10	3E-14	4E-11	5E-10	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	1E-12	1E-08	2E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	7E-09	5E-14	6E-10	8E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Aldrin	9E-09	1E-13	--	9E-09	Liver	1E-04	NA	--	1E-04
			delta-BHC	NA	NA	--	--	--	NA	NA	--	--
			Dieldrin	7E-08	9E-13	--	7E-08	Liver; Neurological	7E-04	NA	--	7E-04
			4,4'-DDT	2E-09	3E-14	4E-11	2E-09	Liver	1E-04	NA	2E-06	1E-04
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	3E-07	7E-13	3E-08	4E-07	Eye; Nails; Immunological	6E-02	NA	6E-03	7E-02
			Aluminum	NA	NA	NA	--	Neurological	1E-03	9E-06	--	1E-03
			Antimony	NA	NA	NA	--	Blood	1E-03	NA	--	1E-03
			Arsenic	2E-07	2E-11	4E-09	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-03	3E-06	6E-05	3E-03
			Cadmium	NA	9E-12	NA	9E-12	Kidney; Respiratory; Musculoskeletal	9E-04	2E-06	2E-05	9E-04
			Cobalt	NA	4E-11	--	4E-11	Endocrine; Lung	3E-03	6E-06	--	3E-03
			Copper	NA	NA	--	--	GI tract	3E-04	NA	--	3E-04
			Iron	NA	NA	--	--	GI tract	2E-03	NA	--	2E-03
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-03	5E-05	--	2E-03
			Silver	NA	NA	--	--	Skin	2E-04	NA	--	2E-04
			Vanadium	NA	NA	--	--	Hair	8E-04	NA	--	8E-04
			Chemical Total	9E-07	8E-11	6E-08	1E-06		8E-02	7E-05	6E-03	9E-02
		Exposure Point Total					1E-06					9E-02
	Exposure Medium Total						1E-06					9E-02
Medium Total							1E-06					9E-02
Receptor Total - Abiotic Media Only							2E-04				Receptor HI Total	5E-01

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB4	4,4'-DDE	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	6E-06	N/A	N/A	6E-06	Liver	4E-01	N/A	N/A	4E-01
			Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			TCDD TEQ (PCBs)	1E-04	N/A	N/A	1E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E+00	N/A	N/A	9E+00
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	3E-04	--	--	3E-04		4E+01	--	--	4E+01
		Exposure Point Total					3E-04					4E+01
	Exposure Medium Total						3E-04					4E+01
Medium Total							3E-04					4E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							5E-04				Receptor HI Total	4E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E+00
Kidney HI Across All Media =	3E-03
Liver HI Across All Media =	9E+00
Developmental HI Across All Media =	7E-03
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	9E+00
Musculoskeletal HI Across All Media =	2E-03
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Cardiovascular HI Across All Media =	9E-03
Endocrine HI Across All Media =	9E+00
GI tract HI Across All Media =	6E-03
Whole body HI Across All Media =	4E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB4	4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	7E-01	N/A	N/A	7E-01
			Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Copper	NA	N/A	N/A	--	GI tract	3E-02	N/A	N/A	3E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	6E-04	--	--	6E-04		8E+01	--	--	8E+01
		Exposure Point Total					6E-04					8E+01
	Exposure Medium Total						6E-04					8E+01
Medium Total							6E-04					8E+01
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							9E-04				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Kidney HI Across All Media =	3E-03
Liver HI Across All Media =	3E+01
Developmental HI Across All Media =	7E-03
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	3E+01
Musculoskeletal HI Across All Media =	2E-03
Eye HI Across All Media =	6E+01
Immunological HI Across All Media =	6E+01
Hair, Skin, Nails HI Across All Media =	6E+01
Cardiovascular HI Across All Media =	9E-03
Endocrine HI Across All Media =	3E+01
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	3E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB4	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05		1E+00	N/A	N/A	1E+00
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							3E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	3E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	7E-03
Neurological HI Across All Media =	2E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	2E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	9E-03
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	6E-03
Whole body HI Across All Media =	2E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB4	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							3E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E-03
Kidney HI Across All Media =	3E-03
Liver HI Across All Media =	4E-03
Developmental HI Across All Media =	9E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	2E-03
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	9E-02
Endocrine HI Across All Media =	5E-03
GI tract HI Across All Media =	6E-03
Whole body HI Across All Media =	2E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU BB5	cis-1,2-Dichloroethene	NA	N/A	--	--	Kidney	3E-03	N/A	--	3E-03
			Vinyl chloride	4E-08	N/A	--	4E-08	Liver	2E-05	N/A	--	2E-05
			Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	3E-04	N/A	8E-04	1E-03	Neurological; Liver	8E-04	N/A	3E-03	3E-03
			Benzo(a)anthracene	9E-08	N/A	4E-07	5E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-06	N/A	5E-06	6E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-07	N/A	6E-07	8E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	6E-09	N/A	2E-08	3E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	2E-07	N/A	5E-07	7E-07	Liver	1E-03	N/A	4E-03	5E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-07	N/A	6E-07	8E-07	--	NA	N/A	NA	--
			1,3-Dichlorobenzene	NA	N/A	NA	--	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	7E-08	N/A	3E-07	3E-07	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	7E-07	N/A	--	7E-07	Liver; Neurological	2E-03	N/A	--	2E-03
			4,4'-DDT	2E-08	N/A	2E-08	4E-08	Liver	3E-04	N/A	2E-04	5E-04
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	2E-07	N/A	--	2E-07	Liver	4E-03	N/A	--	4E-03
			Total PCB Aroclors	5E-06	N/A	2E-05	3E-05	Eye; Nails; Immunological	3E-01	N/A	1E+00	2E+00
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Antimony	NA	N/A	--	--	Blood	1E-03	N/A	--	1E-03
			Arsenic	1E-06	N/A	1E-06	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	N/A	5E-03	1E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	5E-03	N/A	6E-03	1E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	6E-03	N/A	--	6E-03
			Iron	NA	N/A	--	--	GI tract	9E-03	N/A	--	9E-03
			Manganese	NA	N/A	--	--	Neurological	4E-03	N/A	--	4E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	3E-04	--	8E-04	1E-03		3E-01	--	1E+00	2E+00
		Exposure Point Total					1E-03					2E+00
	Exposure Medium Total						1E-03					2E+00
Medium Total							1E-03					2E+00

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	--	Kidney	2E-03	--	--	2E-03
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-07	1E-12	1E-07	4E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-06	1E-11	1E-06	4E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-07	2E-12	2E-07	5E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-08	8E-13	7E-09	2E-08	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	8E-08	6E-13	3E-08	1E-07	Liver	7E-04	NA	3E-04	1E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	3E-07	2E-12	2E-07	4E-07	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-07	9E-13	8E-08	2E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	1E-05	2E-10	--	1E-05	Liver; Neurological	4E-02	NA	--	4E-02
			4,4'-DDE	2E-06	2E-11	2E-07	2E-06	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Heptachlor epoxide	1E-06	2E-11	--	1E-06	Liver	3E-02	NA	--	3E-02
			Total PCB Aroclors	7E-06	1E-11	4E-06	1E-05	Eye; Nails; Immunological	4E-01	NA	2E-01	6E-01
			Aluminum	NA	NA	NA	--	Neurological	3E-03	3E-05	--	3E-03
			Antimony	NA	NA	NA	--	Blood	2E-03	NA	--	2E-03
			Arsenic	3E-06	3E-10	3E-07	3E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	1E-05	2E-03	1E-02
			Cadmium	NA	1E-10	NA	1E-10	Kidney; Respiratory; Musculoskeletal	3E-03	6E-06	5E-04	3E-03
			Cobalt	NA	4E-10	--	4E-10	Endocrine; Lung	9E-03	2E-05	--	9E-03
			Copper	NA	NA	--	--	GI tract	1E-03	NA	--	1E-03
			Iron	NA	NA	--	--	GI tract	1E-02	NA	--	1E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	4E-03	8E-05	--	4E-03
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	3E-05	1E-09	7E-06	4E-05		5E-01	1E-04	2E-01	8E-01
		Exposure Point Total					4E-05					8E-01
	Exposure Medium Total						4E-05					8E-01
Medium Total							4E-05					8E-01
Receptor Total - Abiotic Media Only							1E-03				Receptor HI Total	3E+00

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB5	4,4'-DDD	1E-07	N/A	N/A	1E-07	--	NA	N/A	N/A	--
			4,4'-DDE	3E-06	N/A	N/A	3E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	6E-05	N/A	N/A	6E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	3E-03	N/A	N/A	3E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	6E+01	N/A	N/A	6E+01
			Aluminum	NA	N/A	N/A	--	Neurological	4E-03	N/A	N/A	4E-03
			Arsenic	3E-05	N/A	N/A	3E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	7E-02	N/A	N/A	7E-02
			Chemical Total	4E-03	--	--	4E-03		1E+02	--	--	1E+02
		Exposure Point Total					4E-03					1E+02
	Exposure Medium Total						4E-03					1E+02
Medium Total							4E-03					1E+02
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							5E-03				Receptor HI Total	1E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	6E+01
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	6E+01
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	6E+01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	6E+01
Immunological HI Across All Media =	6E+01
Hair, Skin, Nails HI Across All Media =	6E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	6E+01
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	7E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB5	alpha-Chlordane	2E-05	N/A	N/A	2E-05	Liver	2E-01	N/A	N/A	2E-01
			gamma-Chlordane	1E-05	N/A	N/A	1E-05	Liver	1E-01	N/A	N/A	1E-01
			4,4'-DDD	7E-06	N/A	N/A	7E-06	--	NA	N/A	N/A	--
			4,4'-DDE	7E-06	N/A	N/A	7E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	5E-05	N/A	N/A	5E-05	Liver	9E-01	N/A	N/A	9E-01
			Total PCB Aroclors	4E-03	N/A	N/A	4E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	2E-02	N/A	N/A	2E-02	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+02	N/A	N/A	4E+02
			Aluminum	NA	N/A	N/A	--	Neurological	4E-02	N/A	N/A	4E-02
			Copper	NA	N/A	N/A	--	GI tract	1E-02	N/A	N/A	1E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	5E-02	N/A	N/A	5E-02
			Selenium	NA	N/A	N/A	--	Whole body	5E-02	N/A	N/A	5E-02
			Chemical Total	2E-02	--	--	2E-02		6E+02	--	--	6E+02
		Exposure Point Total					2E-02					6E+02
	Exposure Medium Total						2E-02					6E+02
Medium Total							2E-02					6E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							2E-02				Receptor HI Total	6E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	4E+02
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	4E+02
Developmental HI Across All Media =	3E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	4E+02
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	4E+02
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	5E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB5	Total PCB Aroclors	5E-05	N/A	N/A	5E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	5E-05	N/A	N/A	5E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	1E-04	--	--	1E-04		4E+00	--	--	4E+00
		Exposure Point Total					1E-04					4E+00
	Exposure Medium Total						1E-04					4E+00
Medium Total							1E-04					4E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							1E-03				Receptor HI Total	7E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	3E-02
Neurological HI Across All Media =	9E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	5E+00
Immunological HI Across All Media =	5E+00
Hair, Skin, Nails HI Across All Media =	5E+00
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	4E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB5	Total PCB Aroclors	4E-05	N/A	N/A	4E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	2E-05	N/A	N/A	2E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	5E-05	--	--	5E-05		2E+00	--	--	2E+00
		Exposure Point Total					5E-05					2E+00
	Exposure Medium Total						5E-05					2E+00
Medium Total							5E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							1E-03				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E-03
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	8E-02
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	4E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU BB5	cis-1,2-Dichloroethene	NA	N/A	--	--	Kidney	1E-03	N/A	--	1E-03
			Vinyl chloride	7E-09	N/A	--	7E-09	Liver	1E-05	N/A	--	1E-05
			Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-05	N/A	1E-04	2E-04	Neurological; Liver	4E-04	N/A	1E-03	2E-03
			Benzo(a)anthracene	1E-08	N/A	6E-08	7E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-07	N/A	7E-07	9E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	9E-10	N/A	4E-09	5E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	2E-08	N/A	7E-08	1E-07	Liver	7E-04	N/A	2E-03	3E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			1,3-Dichlorobenzene	NA	N/A	NA	--	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	N/A	4E-08	5E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	1E-07	N/A	--	1E-07	Liver; Neurological	1E-03	N/A	--	1E-03
			4,4'-DDT	3E-09	N/A	3E-09	6E-09	Liver	1E-04	N/A	1E-04	3E-04
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	3E-08	N/A	--	3E-08	Liver	2E-03	N/A	--	2E-03
			Total PCB Aroclors	7E-07	N/A	3E-06	4E-06	Eye; Nails; Immunological	1E-01	N/A	6E-01	8E-01
			Aluminum	NA	N/A	--	--	Neurological	1E-03	N/A	--	1E-03
			Antimony	NA	N/A	--	--	Blood	5E-04	N/A	--	5E-04
			Arsenic	2E-07	N/A	1E-07	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-03	N/A	3E-03	5E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	2E-03	N/A	3E-03	5E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	3E-03	N/A	--	3E-03
			Iron	NA	N/A	--	--	GI tract	5E-03	N/A	--	5E-03
			Manganese	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Vanadium	NA	N/A	--	--	Hair	6E-04	N/A	--	6E-04
			Chemical Total	4E-05	--	1E-04	2E-04		2E-01	--	6E-01	8E-01
		Exposure Point Total					2E-04					8E-01
	Exposure Medium Total						2E-04					8E-01
Medium Total							2E-04					8E-01

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	--	Kidney	1E-03	--	--	1E-03
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	3E-08	2E-13	3E-09	4E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-07	2E-12	3E-08	4E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	5E-08	3E-13	4E-09	5E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-09	1E-13	2E-10	2E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	1E-08	9E-14	7E-10	1E-08	Liver	3E-04	NA	2E-05	4E-04
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	4E-08	3E-13	3E-09	4E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	1E-13	2E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	2E-06	2E-11	--	2E-06	Liver; Neurological	2E-02	NA	--	2E-02
			4,4'-DDE	2E-07	3E-12	4E-09	2E-07	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Heptachlor epoxide	2E-07	2E-12	--	2E-07	Liver	1E-02	NA	--	1E-02
			Total PCB Aroclors	1E-06	2E-12	9E-08	1E-06	Eye; Nails; Immunological	2E-01	NA	2E-02	2E-01
			Aluminum	NA	NA	NA	--	Neurological	2E-03	1E-05	--	2E-03
			Antimony	NA	NA	NA	--	Blood	1E-03	NA	--	1E-03
			Arsenic	4E-07	5E-11	7E-09	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-03	6E-06	1E-04	7E-03
			Cadmium	NA	1E-11	NA	1E-11	Kidney; Respiratory; Musculoskeletal	1E-03	3E-06	4E-05	2E-03
			Cobalt	NA	7E-11	--	7E-11	Endocrine; Lung	5E-03	1E-05	--	5E-03
			Copper	NA	NA	--	--	GI tract	6E-04	NA	--	6E-04
			Iron	NA	NA	--	--	GI tract	5E-03	NA	--	5E-03
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-03	4E-05	--	2E-03
			Vanadium	NA	NA	--	--	Hair	1E-03	NA	--	1E-03
			Chemical Total	4E-06	2E-10	1E-07	5E-06		3E-01	7E-05	2E-02	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Receptor Total - Abiotic Media Only							2E-04				Receptor HI Total	1E+00

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB5	4,4'-DDD	2E-08	N/A	N/A	2E-08	--	NA	N/A	N/A	--
			4,4'-DDE	5E-07	N/A	N/A	5E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	9E-06	N/A	N/A	9E-06	Liver	6E-01	N/A	N/A	6E-01
			Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	4E+01	N/A	N/A	4E+01
			TCDD TEQ (PCBs)	6E-04	N/A	N/A	6E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	5E+01	N/A	N/A	5E+01
			Aluminum	NA	N/A	N/A	--	Neurological	4E-03	N/A	N/A	4E-03
			Arsenic	8E-06	N/A	N/A	8E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	7E-02	N/A	N/A	7E-02
			Chemical Total	8E-04	--	--	8E-04		9E+01	--	--	9E+01
		Exposure Point Total					8E-04					9E+01
	Exposure Medium Total						8E-04					9E+01
Medium Total							8E-04					9E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							1E-03				Receptor HI Total	9E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	5E+01
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	5E+01
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	5E+01
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	5E+01
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	7E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB5	alpha-Chlordane	3E-06	N/A	N/A	3E-06	Liver	1E-01	N/A	N/A	1E-01
			gamma-Chlordane	2E-06	N/A	N/A	2E-06	Liver	7E-02	N/A	N/A	7E-02
			4,4'-DDD	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	8E-06	N/A	N/A	8E-06	Liver	6E-01	N/A	N/A	6E-01
			Total PCB Aroclors	8E-04	N/A	N/A	8E-04	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	3E-03	N/A	N/A	3E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Bloo	3E+02	N/A	N/A	3E+02
			Aluminum	NA	N/A	N/A	--	Neurological	4E-02	N/A	N/A	4E-02
			Copper	NA	N/A	N/A	--	GI tract	1E-02	N/A	N/A	1E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	5E-02	N/A	N/A	5E-02
			Selenium	NA	N/A	N/A	--	Whole body	5E-02	N/A	N/A	5E-02
			Chemical Total	4E-03	--	--	4E-03		5E+02	--	--	5E+02
		Exposure Point Total					4E-03					5E+02
	Exposure Medium Total						4E-03					5E+02
Medium Total							4E-03					5E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							5E-03				Receptor HI Total	5E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+02
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	3E+02
Developmental HI Across All Media =	1E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	3E+02
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	3E+02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	5E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB5	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	1E-02
Neurological HI Across All Media =	4E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	2E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB5	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							2E-04				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E-03
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	4E-02
Developmental HI Across All Media =	9E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	9E-02
Endocrine HI Across All Media =	8E-03
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	2E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU BB6	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	2E-04	N/A	6E-04	8E-04	Neurological; Liver	7E-04	N/A	2E-03	3E-03
			Benzo(a)anthracene	2E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-07	N/A	9E-07	1E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	5E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	4E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	N/A	7E-08	8E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Total PCB Aroclors	8E-08	N/A	3E-07	4E-07	Eye; Nails; Immunological	5E-03	N/A	2E-02	2E-02
			Arsenic	5E-07	N/A	5E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-03	N/A	2E-03	5E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	4E-03	N/A	5E-03	8E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	5E-03	N/A	--	5E-03
			Iron	NA	N/A	--	--	GI tract	4E-03	N/A	--	4E-03
			Manganese	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Thallium	NA	N/A	--	--	NOAEL	1E-03	N/A	--	1E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	2E-04	--	6E-04	8E-04		3E-02	--	3E-02	6E-02
		Exposure Point Total					8E-04					6E-02
	Exposure Medium Total						8E-04					6E-02
Medium Total							8E-04					6E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	1E-07	8E-13	7E-08	2E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	7E-07	4E-12	4E-07	1E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-07	9E-13	8E-08	2E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	9E-13	7E-08	2E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	9E-08	5E-13	5E-08	1E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-05	2E-11	6E-06	2E-05	Eye; Nails; Immunological	6E-01	NA	4E-01	1E+00
			Aluminum	NA	NA	NA	--	Neurological	3E-03	3E-05	--	3E-03
			Arsenic	3E-07	4E-11	4E-08	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	1E-06	2E-04	2E-03
			Cadmium	NA	4E-11	NA	4E-11	Kidney; Respiratory; Musculoskeletal	1E-03	3E-06	2E-04	1E-03
			Cobalt	NA	2E-10	--	2E-10	Endocrine; Lung	5E-03	1E-05	--	5E-03
			Cyanide	NA	NA	--	--	Whole body; Endocrine	1E-03	NA	--	1E-03
			Iron	NA	NA	--	--	GI tract	7E-03	NA	--	7E-03
			Manganese	NA	NA	--	--	Neurological	5E-03	1E-04	--	5E-03
			Chemical Total	1E-05	3E-10	7E-06	2E-05		6E-01	1E-04	4E-01	1E+00
		Exposure Point Total					2E-05					1E+00
	Exposure Medium Total						2E-05					1E+00
Medium Total							2E-05					1E+00
Receptor Total - Abiotic Media Only							8E-04				Receptor HI Total	1E+00

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB6	Total PCB Aroclors	7E-05	N/A	N/A	7E-05	Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)	6E-05	N/A	N/A	6E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	1E-04	--	--	1E-04		5E+00	--	--	5E+00
		Exposure Point Total					1E-04					5E+00
	Exposure Medium Total						1E-04					5E+00
Medium Total							1E-04					5E+00
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							9E-04				Receptor HI Total	6E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	7E-03
Neurological HI Across All Media =	3E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	5E+00
Immunological HI Across All Media =	5E+00
Hair, Skin, Nails HI Across All Media =	5E+00
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	2E-03

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB6	alpha-Chlordane	3E-06	N/A	N/A	3E-06	Liver	3E-02	N/A	N/A	3E-02
			gamma-Chlordane	1E-06	N/A	N/A	1E-06	Liver	1E-02	N/A	N/A	1E-02
			4,4'-DDD	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			4,4'-DDE	2E-06	N/A	N/A	2E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	3E-05	N/A	N/A	3E-05	Liver	6E-01	N/A	N/A	6E-01
			Total PCB Aroclors	2E-03	N/A	N/A	2E-03	Eye; Nails; Immunological	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+00	N/A	N/A	4E+00
			Aluminum	NA	N/A	N/A	--	Neurological	2E-03	N/A	N/A	2E-03
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	8E-02	N/A	N/A	8E-02
			Selenium	NA	N/A	N/A	--	Whole body	2E-02	N/A	N/A	2E-02
			Chemical Total	2E-03	--	--	2E-03		1E+02	--	--	1E+02
		Exposure Point Total					2E-03					1E+02
	Exposure Medium Total						2E-03					1E+02
Medium Total							2E-03					1E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							3E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+00
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	4E+00
Developmental HI Across All Media =	7E-03
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	4E+00
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	4E+00
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	2E-02

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB6	Total PCB Aroclors	3E-06	N/A	N/A	3E-06	Eye; Nails; Immunological	1E-01	N/A	N/A	1E-01
			TCDD TEQ (PCBs)	5E-06	N/A	N/A	5E-06	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E-01	N/A	N/A	1E-01
			Chemical Total	8E-06	--	--	8E-06		3E-01	--	--	3E-01
		Exposure Point Total					8E-06					3E-01
	Exposure Medium Total						8E-06					3E-01
Medium Total							8E-06					3E-01
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							8E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E-01
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	1E-01
Developmental HI Across All Media =	7E-03
Neurological HI Across All Media =	3E-02
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	1E+00
Immunological HI Across All Media =	1E+00
Hair, Skin, Nails HI Across All Media =	1E+00
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	1E-01
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	2E-03

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB6	Total PCB Aroclors	5E-05	N/A	N/A	5E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	5E-05	--	--	5E-05		3E+00	--	--	3E+00
		Exposure Point Total					5E-05					3E+00
	Exposure Medium Total						5E-05					3E+00
Medium Total							5E-05					3E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							9E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	1E-02
Developmental HI Across All Media =	7E-03
Neurological HI Across All Media =	3E-02
Respiratory, Lung HI Across All Media =	3E-02
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	1E-02
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	2E-03

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU BB6	Acenaphthylene	NA	N/A	--	--	--	NA	N/A	--	--
			Benzidine	3E-05	N/A	NA	3E-05	Neurological; Liver	3E-04	N/A	NA	3E-04
			Benzo(a)anthracene	3E-09	N/A	9E-05	9E-05	--	NA	N/A	--	--
			Benzo(a)pyrene	3E-08	N/A	1E-08	4E-08	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	7E-09	N/A	1E-07	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	3E-08	3E-08	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	6E-09	N/A	NA	6E-09	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-09	N/A	NA	2E-09	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Total PCB Aroclors	1E-08	N/A	--	1E-08	Eye; Nails; Immunological	2E-03	N/A	--	2E-03
			Arsenic	8E-08	N/A	--	8E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-03	N/A	--	1E-03
			Cadmium	NA	N/A	7E-08	7E-08	Kidney; Respiratory; Musculoskeletal	2E-03	N/A	1E-03	3E-03
			Cobalt	NA	N/A	NA	--	Endocrine; Lung	2E-03	N/A	2E-03	5E-03
			Iron	NA	N/A	--	--	GI tract	2E-03	N/A	--	2E-03
			Manganese	NA	N/A	--	--	Neurological	1E-03	N/A	--	1E-03
			Thallium	NA	N/A	--	--	NOAEL	7E-04	N/A	--	7E-04
			Vanadium	NA	N/A	--	--	Hair	5E-04	N/A	--	5E-04
			Chemical Total	3E-05	--	9E-05	1E-04		1E-02	--	1E-02	3E-02
		Exposure Point Total					1E-04					3E-02
	Exposure Medium Total						1E-04					3E-02
Medium Total							1E-04					3E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-08	1E-13	1E-09	2E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-07	6E-13	8E-09	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-08	1E-13	2E-09	2E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	1E-13	1E-09	2E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	8E-14	1E-09	1E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-06	3E-12	1E-07	2E-06	Eye; Nails; Immunological	3E-01	NA	3E-02	3E-01
			Aluminum	NA	NA	NA	--	Neurological	2E-03	1E-05	--	2E-03
			Arsenic	5E-08	6E-12	9E-10	5E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-04	7E-07	2E-05	8E-04
			Cadmium	NA	6E-12	NA	6E-12	Kidney; Respiratory; Musculoskeletal	6E-04	1E-06	1E-05	6E-04
			Cobalt	NA	3E-11	--	3E-11	Endocrine; Lung	2E-03	5E-06	--	2E-03
			Cyanide	NA	NA	--	--	Whole body; Endocrine	6E-04	NA	--	6E-04
			Iron	NA	NA	--	--	GI tract	4E-03	NA	--	4E-03
			Manganese	NA	NA	--	--	Neurological	3E-03	5E-05	--	3E-03
			Chemical Total	2E-06	5E-11	2E-07	2E-06		3E-01	7E-05	3E-02	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Receptor Total - Abiotic Media Only							1E-04				Receptor HI Total	5E-01

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB6	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	3E-05	--	--	3E-05		4E+00	--	--	4E+00
		Exposure Point Total					3E-05					4E+00
	Exposure Medium Total						3E-05					4E+00
Medium Total							3E-05					4E+00
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							1E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	4E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	2E-03
Neurological HI Across All Media =	2E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	4E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	4E-03
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	5E-03
Whole body HI Across All Media =	8E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB6	alpha-Chlordane	4E-07	N/A	N/A	4E-07	Liver	2E-02	N/A	N/A	2E-02
			gamma-Chlordane	2E-07	N/A	N/A	2E-07	Liver	8E-03	N/A	N/A	8E-03
			4,4'-DDD	3E-08	N/A	N/A	3E-08	--	NA	N/A	N/A	--
			4,4'-DDE	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	5E-06	N/A	N/A	5E-06	Liver	3E-01	N/A	N/A	3E-01
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	8E+01	N/A	N/A	8E+01
			TCDD TEQ (PCBs)	3E-05	N/A	N/A	3E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			Aluminum	NA	N/A	N/A	--	Neurological	2E-03	N/A	N/A	2E-03
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	8E-02	N/A	N/A	8E-02
			Selenium	NA	N/A	N/A	--	Whole body	2E-02	N/A	N/A	2E-02
			Chemical Total	4E-04	--	--	4E-04		8E+01	--	--	8E+01
		Exposure Point Total					4E-04					8E+01
	Exposure Medium Total						4E-04					8E+01
Medium Total							4E-04					8E+01
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							6E-04				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+00
Kidney HI Across All Media =	4E-03
Liver HI Across All Media =	3E+00
Developmental HI Across All Media =	2E-03
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	3E+00
Musculoskeletal HI Across All Media =	4E-03
Eye HI Across All Media =	8E+01
Immunological HI Across All Media =	8E+01
Hair, Skin, Nails HI Across All Media =	8E+01
Cardiovascular HI Across All Media =	4E-03
Endocrine HI Across All Media =	3E+00
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	2E-02

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB6	Total PCB Aroclors	6E-07	N/A	N/A	6E-07	Eye; Nails; Immunological	1E-01	N/A	N/A	1E-01
			TCDD TEQ (PCBs)	1E-06	N/A	N/A	1E-06	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E-02	N/A	N/A	9E-02
			Chemical Total	2E-06	--	--	2E-06		2E-01	--	--	2E-01
		Exposure Point Total					2E-06					2E-01
	Exposure Medium Total						2E-06					2E-01
Medium Total							2E-06					2E-01
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							1E-04				Receptor HI Total	7E-01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E-02
Kidney HI Across All Media =	4E-03
Liver HI Across All Media =	9E-02
Developmental HI Across All Media =	2E-03
Neurological HI Across All Media =	2E-02
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	4E-03
Eye HI Across All Media =	6E-01
Immunological HI Across All Media =	6E-01
Hair, Skin, Nails HI Across All Media =	6E-01
Cardiovascular HI Across All Media =	4E-03
Endocrine HI Across All Media =	1E-01
GI tract HI Across All Media =	5E-03
Whole body HI Across All Media =	8E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB6	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							1E-04				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	4E-03
Developmental HI Across All Media =	2E-03
Neurological HI Across All Media =	2E-02
Respiratory, Lung HI Across All Media =	1E-02
Musculoskeletal HI Across All Media =	4E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	4E-03
Endocrine HI Across All Media =	8E-03
GI tract HI Across All Media =	5E-03
Whole body HI Across All Media =	8E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	3E-08	3E-08	Cardiovascular; Immunological	N/A	N/A	3E-03	3E-03
			Total PCB Congeners	N/A	N/A	5E-06	5E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	6E-08	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	3E-04	3E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	4E-04	4E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	5E-03	5E-03
			Chemical Total	--	--	5E-06	5E-06		--	--	3E-01	3E-01
		Exposure Point Total					5E-06					3E-01
	Exposure Medium Total						5E-06					3E-01
Medium Total							5E-06					3E-01
Sediment	Surface Sediment	EU SL	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(a)anthracene	2E-07	N/A	1E-06	1E-06	--	NA	N/A	NA	--
			Benzo(a)pyrene	4E-06	N/A	1E-05	2E-05	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-07	N/A	1E-06	2E-06	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	8E-07	N/A	3E-06	4E-06	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-07	N/A	8E-07	1E-06	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	4E-07	N/A	4E-07	8E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	N/A	2E-03	4E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	5E-03	N/A	--	5E-03
			Iron	NA	N/A	--	--	GI tract	5E-03	N/A	--	5E-03
			Manganese	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Chemical Total	6E-06	--	2E-05	3E-05		2E-02	--	2E-03	2E-02
		Exposure Point Total					3E-05					2E-02
	Exposure Medium Total						3E-05					2E-02
Medium Total							3E-05					2E-02
Receptor Total - Abiotic Media Only							3E-05				Receptor HI Total	3E-01

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU SL	4,4'-DDE	8E-07	N/A	N/A	8E-07	--	NA	N/A	N/A	--
			Dieldrin	2E-05	N/A	N/A	2E-05	Liver; Neurological	6E-03	N/A	N/A	6E-03
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	2E-01	N/A	N/A	2E-01
			Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	1E+01	N/A	N/A	1E+01
			TCDD TEQ (PCBs)	3E-05	N/A	N/A	3E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	8E-01	N/A	N/A	8E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	3E-01	N/A	N/A	3E-01
			Chemical Total	3E-04	--	--	3E-04		1E+01	--	--	1E+01
		Exposure Point Total					3E-04					1E+01
	Exposure Medium Total						3E-04					1E+01
Medium Total							3E-04					1E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							3E-04				Receptor HI Total	1E+01

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	8E-01
Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	4E-03
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	8E-01
Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	1E+01
Hair, Skin, Nails HI Across All Media =	1E+01
Cardiovascular HI Across All Media =	8E-03
Endocrine HI Across All Media =	8E-01
GI tract HI Across All Media =	5E-03
Whole body HI Across All Media =	4E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU SL	alpha-Chlordane	1E-05	N/A	N/A	1E-05	Liver	1E-01	N/A	N/A	1E-01
			gamma-Chlordane	8E-06	N/A	N/A	8E-06	Liver	1E-01	N/A	N/A	1E-01
			4,4'-DDD	3E-06	N/A	N/A	3E-06	--	NA	N/A	N/A	--
			4,4'-DDE	4E-06	N/A	N/A	4E-06	--	NA	N/A	N/A	--
			Dieldrin	7E-05	N/A	N/A	7E-05	Liver; Neurological	2E-01	N/A	N/A	2E-01
			Heptachlor epoxide	4E-05	N/A	N/A	4E-05	Liver	8E-01	N/A	N/A	8E-01
			Total PCB Aroclors	2E-03	N/A	N/A	2E-03	Eye; Nails; Immunological	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	9E-04	N/A	N/A	9E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Arsenic	4E-05	N/A	N/A	4E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-01	N/A	N/A	2E-01
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	4E-01	N/A	N/A	4E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Chemical Total	3E-03	--	--	3E-03		1E+02	--	--	1E+02
		Exposure Point Total					3E-03					1E+02
	Exposure Medium Total						3E-03					1E+02
Medium Total							3E-03					1E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							3E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+01
Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	2E+01
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	2E+01
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	2E+01
GI tract HI Across All Media =	5E-03
Whole body HI Across All Media =	4E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU SL	Total PCB Aroclors	5E-05	N/A	N/A	5E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	5E-05	N/A	N/A	5E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	1E-04	--	--	1E-04		4E+00	--	--	4E+00
		Exposure Point Total					1E-04					4E+00
	Exposure Medium Total						1E-04					4E+00
Medium Total							1E-04					4E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							1E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	4E-03
Neurological HI Across All Media =	1E-02
Respiratory, Lung HI Across All Media =	1E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	8E-03
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	5E-03
Whole body HI Across All Media =	4E-04

TABLE 9.3.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU SL	Total PCB Aroclors	4E-05	N/A	N/A	4E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	2E-05	N/A	N/A	2E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	5E-05	--	--	5E-05		2E+00	--	--	2E+00
		Exposure Point Total					5E-05					2E+00
	Exposure Medium Total						5E-05					2E+00
Medium Total							5E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							9E-05				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	1E-03
Developmental HI Across All Media =	9E-02
Neurological HI Across All Media =	9E-02
Respiratory, Lung HI Across All Media =	9E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	9E-02
Endocrine HI Across All Media =	6E-03
GI tract HI Across All Media =	5E-03
Whole body HI Across All Media =	4E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	7E-07	7E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	9E-09	9E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	2E-04	2E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	7E-07	7E-07		--	--	1E-01	1E-01
		Exposure Point Total					7E-07					1E-01
	Exposure Medium Total						7E-07					1E-01
Medium Total							7E-07					1E-01
Sediment	Surface Sediment	EU SL	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(a)anthracene	4E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	5E-07	N/A	2E-06	3E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	5E-08	N/A	2E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	5E-09	N/A	2E-08	2E-08	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	1E-07	N/A	5E-07	6E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	N/A	1E-07	1E-07	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	1E-03	N/A	--	1E-03
			Arsenic	6E-08	N/A	6E-08	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-03	N/A	1E-03	2E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	3E-03	N/A	--	3E-03
			Iron	NA	N/A	--	--	GI tract	3E-03	N/A	--	3E-03
			Manganese	NA	N/A	--	--	Neurological	9E-04	N/A	--	9E-04
			Chemical Total	8E-07	--	3E-06	4E-06		8E-03	--	1E-03	9E-03
		Exposure Point Total					4E-06					9E-03
	Exposure Medium Total						4E-06					9E-03
Medium Total							4E-06					9E-03
Receptor Total - Abiotic Media Only							5E-06				Receptor HI Total	2E-01

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU SL	4,4'-DDE	1E-07	N/A	N/A	1E-07	--	NA	N/A	N/A	--
			Dieldrin	4E-06	N/A	N/A	4E-06	Liver; Neurological	4E-03	N/A	N/A	4E-03
			Heptachlor epoxide	2E-06	N/A	N/A	2E-06	Liver	1E-01	N/A	N/A	1E-01
			Total PCB Aroclors	5E-05	N/A	N/A	5E-05	Eye; Nails; Immunological	1E+01	N/A	N/A	1E+01
			TCDD TEQ (PCBs)	7E-06	N/A	N/A	7E-06	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	6E-01	N/A	N/A	6E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	3E-01	N/A	N/A	3E-01
			Chemical Total	7E-05	--	--	7E-05		1E+01	--	--	1E+01
		Exposure Point Total					7E-05					1E+01
	Exposure Medium Total						7E-05					1E+01
Medium Total							7E-05					1E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							7E-05				Receptor HI Total	1E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	6E-01
Kidney HI Across All Media =	6E-04
Liver HI Across All Media =	8E-01
Developmental HI Across All Media =	2E-03
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	6E-01
Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	1E+01
Hair, Skin, Nails HI Across All Media =	1E+01
Cardiovascular HI Across All Media =	4E-03
Endocrine HI Across All Media =	6E-01
GI tract HI Across All Media =	3E-03
Whole body HI Across All Media =	2E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU SL	alpha-Chlordane	2E-06	N/A	N/A	2E-06	Liver	9E-02	N/A	N/A	9E-02
			gamma-Chlordane	1E-06	N/A	N/A	1E-06	Liver	6E-02	N/A	N/A	6E-02
			4,4'-DDD	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Dieldrin	1E-05	N/A	N/A	1E-05	Liver; Neurological	1E-01	N/A	N/A	1E-01
			Heptachlor epoxide	7E-06	N/A	N/A	7E-06	Liver	5E-01	N/A	N/A	5E-01
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	8E+01	N/A	N/A	8E+01
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Arsenic	1E-05	N/A	N/A	1E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-01	N/A	N/A	2E-01
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	4E-01	N/A	N/A	4E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Chemical Total	6E-04	--	--	6E-04		1E+02	--	--	1E+02
		Exposure Point Total					6E-04					1E+02
	Exposure Medium Total						6E-04					1E+02
Medium Total							6E-04					1E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							6E-04				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+01
Kidney HI Across All Media =	6E-04
Liver HI Across All Media =	2E+01
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	2E+01
Eye HI Across All Media =	8E+01
Immunological HI Across All Media =	8E+01
Hair, Skin, Nails HI Across All Media =	8E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	2E+01
GI tract HI Across All Media =	3E-03
Whole body HI Across All Media =	2E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU SL	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							3E-05				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	6E-04
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	2E-03
Neurological HI Across All Media =	7E-03
Respiratory, Lung HI Across All Media =	1E+00
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	4E-03
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	3E-03
Whole body HI Across All Media =	2E-04

TABLE 9.3.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU SL	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							2E-05				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	6E-04
Developmental HI Across All Media =	8E-02
Neurological HI Across All Media =	9E-02
Respiratory, Lung HI Across All Media =	9E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	8E-02
Endocrine HI Across All Media =	3E-03
GI tract HI Across All Media =	3E-03
Whole body HI Across All Media =	2E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU GB	Benzo(a)anthracene	1E-08	N/A	2E-08	3E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-08	N/A	3E-08	5E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	3E-08	N/A	5E-08	8E-08	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	7E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Arsenic	3E-07	N/A	1E-07	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-03	N/A	1E-03	5E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Vanadium	NA	N/A	--	--	Hair	5E-03	N/A	--	5E-03
			Chemical Total	5E-07	--	4E-07	9E-07		5E-02	--	1E-03	5E-02
		Exposure Point Total					9E-07					5E-02
	Exposure Medium Total						9E-07					5E-02
Medium Total							9E-07					5E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU GB	Benzo(a)anthracene	2E-08	4E-13	1E-08	4E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	4E-12	1E-07	4E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	4E-08	6E-13	2E-08	6E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	8E-13	3E-08	7E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	2E-13	8E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	1E-08	1E-14	1E-08	2E-08	Eye; Nails; Immunological	2E-03	NA	1E-03	4E-03
			Aluminum	NA	NA	NA	--	Neurological	1E-02	--	--	1E-02
			Arsenic	1E-06	4E-11	2E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	4E-06	2E-03	2E-02
			Cobalt	NA	2E-10	NA	2E-10	Endocrine; Lung	2E-02	--	--	2E-02
			Iron	NA	NA	NA	--	GI tract	3E-02	--	--	3E-02
			Manganese	NA	NA	NA	--	Neurological	2E-02	--	--	2E-02
			Mercury	NA	NA	NA	--	Immunological; Neurological	3E-03	4E-07	--	3E-03
			Vanadium	NA	NA	NA	--	Hair	6E-03	NA	--	6E-03
			Chemical Total	1E-06	2E-10	4E-07	2E-06		1E-01	4E-06	3E-03	1E-01
		Exposure Point Total					2E-06					1E-01
	Exposure Medium Total						2E-06					1E-01
Medium Total							2E-06					1E-01
Receptor Total - Abiotic Media Only							5E-06				Receptor HI Total	5E-01
Biota	Predatory Fish Fillet	EU GB	4,4'-DDD	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			4,4'-DDE	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	5E-06	N/A	N/A	5E-06	Liver	2E-01	N/A	N/A	2E-01
			Total PCB Aroclors	1E-04	N/A	N/A	1E-04	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	4E-01	N/A	N/A	4E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	2E-02	N/A	N/A	2E-02
			Chemical Total	1E-04	--	--	1E-04		2E+01	--	--	2E+01
		Exposure Point Total					1E-04					2E+01
	Exposure Medium Total						1E-04					2E+01
Medium Total							1E-04					2E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							1E-04				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	2E-01
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	5E-01
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	2E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU GB	alpha-Chlordane	9E-07	N/A	N/A	9E-07	Liver	3E-02	N/A	N/A	3E-02
			gamma-Chlordane	4E-07	N/A	N/A	4E-07	Liver	1E-02	N/A	N/A	1E-02
			4,4'-DDD	5E-08	N/A	N/A	5E-08	--	NA	N/A	N/A	--
			4,4'-DDE	9E-07	N/A	N/A	9E-07	--	NA	N/A	N/A	--
			Total PCB Aroclors	2E-03	N/A	N/A	2E-03	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			Aluminum	NA	N/A	N/A	--	Neurological	2E-02	N/A	N/A	2E-02
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	6E-02	N/A	N/A	6E-02
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	2E-03	--	--	2E-03		3E+02	--	--	3E+02
		Exposure Point Total					2E-03					3E+02
	Exposure Medium Total						2E-03					3E+02
Medium Total							2E-03					3E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	3E+02

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	4E-02
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	6E-02
Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	4E-02
GI tract HI Across All Media =	6E-02
Whole body HI Across All Media =	3E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU GB	Total PCB Aroclors	2E-05	N/A	N/A	2E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	2E-05	N/A	N/A	2E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	4E-05	--	--	4E-05		4E+00	--	--	4E+00
		Exposure Point Total					4E-05					4E+00
	Exposure Medium Total						4E-05					4E+00
Medium Total							4E-05					4E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							4E-05				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	7E-02
Respiratory, Lung HI Across All Media =	1E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU GB	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	6E-06	N/A	N/A	6E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		2E+00	--	--	2E+00
		Exposure Point Total					2E-05					2E+00
	Exposure Medium Total						2E-05					2E+00
Medium Total							2E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							2E-05				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	1E-03
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	4E-02
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU GB	Benzo(a)anthracene	5E-09	N/A	8E-09	1E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	5E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	8E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	1E-08	N/A	2E-08	4E-08	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	3E-09	N/A	5E-09	8E-09	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Arsenic	1E-07	N/A	3E-08	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	N/A	4E-04	2E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	7E-03	N/A	--	7E-03
			Iron	NA	N/A	--	--	GI tract	8E-03	N/A	--	8E-03
			Manganese	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Vanadium	NA	N/A	--	--	Hair	3E-03	N/A	--	3E-03
			Chemical Total	2E-07	--	2E-07	4E-07		2E-02	--	4E-04	3E-02
		Exposure Point Total					4E-07					3E-02
	Exposure Medium Total						4E-07					3E-02
Medium Total							4E-07					3E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU GB	Benzo(a)anthracene	1E-08	1E-13	1E-09	1E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-07	1E-12	1E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-08	2E-13	2E-09	2E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	3E-13	3E-09	2E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	6E-09	8E-14	8E-10	7E-09	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	5E-09	4E-15	7E-10	6E-09	Eye; Nails; Immunological	1E-03	NA	1E-04	1E-03
			Aluminum	NA	NA	NA	--	Neurological	7E-03	--	--	7E-03
			Arsenic	4E-07	2E-11	1E-08	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-03	2E-06	2E-04	7E-03
			Cobalt	NA	6E-11	NA	6E-11	Endocrine; Lung	1E-02	--	--	1E-02
			Iron	NA	NA	NA	--	GI tract	1E-02	--	--	1E-02
			Manganese	NA	NA	NA	--	Neurological	8E-03	--	--	8E-03
			Mercury	NA	NA	NA	--	Immunological; Neurological	1E-03	2E-07	--	1E-03
			Vanadium	NA	NA	NA	--	Hair	3E-03	NA	--	3E-03
			Chemical Total	6E-07	8E-11	3E-08	6E-07		5E-02	2E-06	3E-04	5E-02
		Exposure Point Total					6E-07					5E-02
	Exposure Medium Total						6E-07					5E-02
Medium Total							6E-07					5E-02
Receptor Total - Abiotic Media Only							2E-06				Receptor HI Total	2E-01
Biota	Predatory Fish Fillet	EU GB	4,4'-DDD	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			4,4'-DDE	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-06	N/A	N/A	2E-06	Liver	1E-01	N/A	N/A	1E-01
			Total PCB Aroclors	7E-05	N/A	N/A	7E-05	Eye; Nails; Immunological	1E+01	N/A	N/A	1E+01
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	4E-01	N/A	N/A	4E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	2E-02	N/A	N/A	2E-02
			Chemical Total	8E-05	--	--	8E-05		2E+01	--	--	2E+01
		Exposure Point Total					8E-05					2E+01
	Exposure Medium Total						8E-05					2E+01
Medium Total							8E-05					2E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							8E-05				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	6E-04
Liver HI Across All Media =	1E-01
Developmental HI Across All Media =	1E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	5E-01
Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	1E+01
Hair, Skin, Nails HI Across All Media =	1E+01
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	4E-01
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	2E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU GB	alpha-Chlordane	4E-07	N/A	N/A	4E-07	Liver	2E-02	N/A	N/A	2E-02
			gamma-Chlordane	2E-07	N/A	N/A	2E-07	Liver	7E-03	N/A	N/A	7E-03
			4,4'-DDD	2E-08	N/A	N/A	2E-08	--	NA	N/A	N/A	--
			4,4'-DDE	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			Aluminum	NA	N/A	N/A	--	Neurological	2E-02	N/A	N/A	2E-02
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	6E-02	N/A	N/A	6E-02
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	1E-03	--	--	1E-03		2E+02	--	--	2E+02
		Exposure Point Total					1E-03					2E+02
	Exposure Medium Total						1E-03					2E+02
Medium Total							1E-03					2E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	6E-04
Liver HI Across All Media =	2E-02
Developmental HI Across All Media =	1E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	3E-02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	3E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU GB	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E-01	N/A	N/A	9E-01
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							2E-05				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E-01
Kidney HI Across All Media =	6E-04
Liver HI Across All Media =	9E-01
Developmental HI Across All Media =	1E-02
Neurological HI Across All Media =	3E-02
Respiratory, Lung HI Across All Media =	1E+00
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	9E-01
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	3E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU GB	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	1E+00	N/A	N/A	1E+00
			Arsenic	4E-06	N/A	N/A	4E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							1E-05				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	6E-04
Developmental HI Across All Media =	9E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	9E-02
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	3E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU BB1	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	1E-04	N/A	1E-04	3E-04	Neurological; Liver	3E-03	N/A	3E-03	6E-03
			Benzo(a)anthracene	9E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-06	N/A	2E-06	3E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	8E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-07	N/A	3E-07	5E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	6E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			delta-BHC	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	1E-06	N/A	2E-06	3E-06	Eye; Nails; Immunological	2E-01	N/A	3E-01	5E-01
			Aluminum	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Arsenic	1E-06	N/A	4E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	N/A	6E-03	2E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	4E-02	N/A	--	4E-02
			Copper	NA	N/A	--	--	GI tract	2E-03	N/A	--	2E-03
			Iron	NA	N/A	--	--	GI tract	6E-02	N/A	--	6E-02
			Manganese	NA	N/A	--	--	Neurological	2E-02	N/A	--	2E-02
			Vanadium	NA	N/A	--	--	Hair	4E-03	N/A	--	4E-03
			Chemical Total	1E-04	--	1E-04	3E-04		3E-01	--	3E-01	7E-01
		Exposure Point Total					3E-04					7E-01
	Exposure Medium Total						3E-04					7E-01
Medium Total							3E-04					7E-01

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB1	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	2E-08	3E-13	1E-08	3E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	4E-12	1E-07	4E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	4E-13	2E-08	4E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-09	4E-13	1E-09	4E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	8E-13	3E-08	7E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	2E-13	7E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	2E-07	1E-13	1E-07	3E-07	Eye; Nails; Immunological	2E-02	NA	2E-02	4E-02
			Aluminum	NA	NA	NA	--	Neurological	8E-03	--	--	8E-03
			Arsenic	1E-06	5E-11	2E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	5E-06	2E-03	2E-02
			Cadmium	NA	5E-12	NA	5E-12	Kidney; Respiratory; Musculoskeletal	1E-03	7E-07	2E-04	1E-03
			Cobalt	NA	2E-10	NA	2E-10	Endocrine; Lung	2E-02	--	--	2E-02
			Iron	NA	NA	NA	--	GI tract	2E-02	--	--	2E-02
			Manganese	NA	NA	NA	--	Neurological	2E-02	--	--	2E-02
			Vanadium	NA	NA	NA	--	Hair	5E-03	NA	--	5E-03
			Chemical Total	2E-06	2E-10	5E-07	2E-06		1E-01	5E-06	2E-02	1E-01
		Exposure Point Total					2E-06					1E-01
	Exposure Medium Total						2E-06					1E-01
Medium Total							2E-06					1E-01
Receptor Total - Abiotic Media Only							3E-04				Receptor HI Total	1E+00
Biota	Predatory Fish Fillet	EU BB1	4,4'-DDD	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			4,4'-DDE	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	5E-06	N/A	N/A	5E-06	Liver	2E-01	N/A	N/A	2E-01
			Total PCB Aroclors	1E-04	N/A	N/A	1E-04	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	4E-01	N/A	N/A	4E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	2E-02	N/A	N/A	2E-02
			Chemical Total	1E-04	--	--	1E-04		2E+01	--	--	2E+01
		Exposure Point Total					1E-04					2E+01
	Exposure Medium Total						1E-04					2E+01
Medium Total							1E-04					2E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							4E-04				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	3E-03
Liver HI Across All Media =	2E-01
Developmental HI Across All Media =	4E-02
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	5E-01
Musculoskeletal HI Across All Media =	1E-03
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	4E-02
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	8E-02
Whole body HI Across All Media =	2E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB1	alpha-Chlordane	9E-07	N/A	N/A	9E-07	Liver	3E-02	N/A	N/A	3E-02
			gamma-Chlordane	4E-07	N/A	N/A	4E-07	Liver	1E-02	N/A	N/A	1E-02
			4,4'-DDD	5E-08	N/A	N/A	5E-08	--	NA	N/A	N/A	--
			4,4'-DDE	9E-07	N/A	N/A	9E-07	--	NA	N/A	N/A	--
			Total PCB Aroclors	2E-03	N/A	N/A	2E-03	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			Aluminum	NA	N/A	N/A	--	Neurological	2E-02	N/A	N/A	2E-02
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	6E-02	N/A	N/A	6E-02
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	2E-03	--	--	2E-03		3E+02	--	--	3E+02
		Exposure Point Total					2E-03					3E+02
	Exposure Medium Total						2E-03					3E+02
Medium Total							2E-03					3E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	3E+02

Notes
N/A = Not Applicable
NA = Not Available

Kidney HI Across All Media =	3E-03
Liver HI Across All Media =	5E-02
Developmental HI Across All Media =	4E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	1E-03
Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02
Cardiovascular HI Across All Media =	4E-02
Endocrine HI Across All Media =	7E-02
GI tract HI Across All Media =	1E-01
Whole body HI Across All Media =	3E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB1	Total PCB Aroclors	2E-05	N/A	N/A	2E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	2E-05	N/A	N/A	2E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	4E-05	--	--	4E-05		4E+00	--	--	4E+00
		Exposure Point Total					4E-05					4E+00
	Exposure Medium Total						4E-05					4E+00
Medium Total							4E-05					4E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							3E-04				Receptor HI Total	5E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	3E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	4E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	1E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	4E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	8E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB1	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	6E-06	N/A	N/A	6E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		2E+00	--	--	2E+00
		Exposure Point Total					2E-05					2E+00
	Exposure Medium Total						2E-05					2E+00
Medium Total							2E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							3E-04				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	3E-03
Liver HI Across All Media =	6E-03
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	2E-01
Musculoskeletal HI Across All Media =	1E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	7E-02
GI tract HI Across All Media =	8E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU BB1	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	5E-05	N/A	7E-05	1E-04	Neurological; Liver	1E-03	N/A	1E-03	2E-03
			Benzo(a)anthracene	4E-08	N/A	6E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	5E-07	N/A	8E-07	1E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	5E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-09	N/A	6E-09	9E-09	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	8E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	N/A	5E-08	8E-08	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			delta-BHC	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	5E-07	N/A	5E-07	9E-07	Eye; Nails; Immunological	9E-02	N/A	9E-02	2E-01
			Aluminum	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Arsenic	4E-07	N/A	1E-07	5E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-03	N/A	2E-03	9E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-02	N/A	--	2E-02
			Copper	NA	N/A	--	--	GI tract	8E-04	N/A	--	8E-04
			Iron	NA	N/A	--	--	GI tract	3E-02	N/A	--	3E-02
			Manganese	NA	N/A	--	--	Neurological	8E-03	N/A	--	8E-03
			Vanadium	NA	N/A	--	--	Hair	2E-03	N/A	--	2E-03
			Chemical Total	5E-05	--	7E-05	1E-04		2E-01	--	1E-01	3E-01
		Exposure Point Total					1E-04					3E-01
	Exposure Medium Total						1E-04					3E-01
Medium Total							1E-04					3E-01

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB1	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	9E-09	1E-13	1E-09	1E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-07	1E-12	1E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-08	2E-13	2E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-09	1E-13	1E-10	1E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	3E-13	3E-09	2E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	5E-09	7E-14	7E-10	6E-09	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	6E-08	5E-14	9E-09	7E-08	Eye; Nails; Immunological	1E-02	NA	2E-03	1E-02
			Aluminum	NA	NA	NA	--	Neurological	4E-03	--	--	4E-03
			Arsenic	4E-07	2E-11	1E-08	5E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-03	2E-06	2E-04	8E-03
			Cadmium	NA	2E-12	NA	2E-12	Kidney; Respiratory; Musculoskeletal	5E-04	4E-07	2E-05	5E-04
			Cobalt	NA	6E-11	NA	6E-11	Endocrine; Lung	1E-02	--	--	1E-02
			Iron	NA	NA	NA	--	GI tract	1E-02	--	--	1E-02
			Manganese	NA	NA	NA	--	Neurological	9E-03	--	--	9E-03
			Vanadium	NA	NA	NA	--	Hair	3E-03	NA	--	3E-03
			Chemical Total	6E-07	8E-11	4E-08	7E-07		6E-02	3E-06	2E-03	6E-02
		Exposure Point Total					7E-07					6E-02
	Exposure Medium Total						7E-07					6E-02
Medium Total							7E-07					6E-02
Receptor Total - Abiotic Media Only							1E-04				Receptor HI Total	5E-01
Biota	Predatory Fish Fillet	EU BB1	4,4'-DDD	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			4,4'-DDE	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-06	N/A	N/A	2E-06	Liver	1E-01	N/A	N/A	1E-01
			Total PCB Aroclors	7E-05	N/A	N/A	7E-05	Eye; Nails; Immunological	1E+01	N/A	N/A	1E+01
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	4E-01	N/A	N/A	4E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	2E-02	N/A	N/A	2E-02
			Chemical Total	8E-05	--	--	8E-05		2E+01	--	--	2E+01
		Exposure Point Total					8E-05					2E+01
	Exposure Medium Total						8E-05					2E+01
Medium Total							8E-05					2E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							2E-04				Receptor HI Total	2E+01

Notes
N/A = Not Applicable
NA = Not Available

Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	1E-01
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	5E-01
Musculoskeletal HI Across All Media =	5E-04
Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	1E+01
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	2E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB1	alpha-Chlordane	4E-07	N/A	N/A	4E-07	Liver	2E-02	N/A	N/A	2E-02
			gamma-Chlordane	2E-07	N/A	N/A	2E-07	Liver	7E-03	N/A	N/A	7E-03
			4,4'-DDD	2E-08	N/A	N/A	2E-08	--	NA	N/A	N/A	--
			4,4'-DDE	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			Aluminum	NA	N/A	N/A	--	Neurological	2E-02	N/A	N/A	2E-02
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	6E-02	N/A	N/A	6E-02
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	1E-03	--	--	1E-03		2E+02	--	--	2E+02
		Exposure Point Total					1E-03					2E+02
	Exposure Medium Total						1E-03					2E+02
Medium Total							1E-03					2E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	2E+02

Notes
N/A = Not Applicable
NA = Not Available

Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	3E-02
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	5E-02
Musculoskeletal HI Across All Media =	5E-04
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	3E-02
GI tract HI Across All Media =	6E-02
Whole body HI Across All Media =	3E-02

Biota	Asiatic Clams	EU BB1	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E-01	N/A	N/A	9E-01
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							1E-04				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	9E-01
Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	9E-01
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	5E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	5E-04
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	3E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB1	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	1E+00	N/A	N/A	1E+00
			Arsenic	4E-06	N/A	N/A	4E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							1E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	2E-03
Developmental HI Across All Media =	9E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	5E-04
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	3E-02
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	3E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU BB2	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	1E-04	N/A	2E-04	3E-04	Neurological; Liver	4E-03	N/A	4E-03	8E-03
			Benzo(a)anthracene	5E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	6E-07	N/A	9E-07	2E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	9E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	6E-09	N/A	9E-09	2E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	3E-08	N/A	4E-08	8E-08	Liver	7E-04	N/A	9E-04	2E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-07	N/A	2E-07	4E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	5E-08	N/A	8E-08	1E-07	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	7E-07	N/A	1E-06	2E-06	Eye; Nails; Immunological	1E-01	N/A	2E-01	3E-01
			Aluminum	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Arsenic	1E-06	N/A	4E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	N/A	5E-03	2E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	2E-02	N/A	8E-03	3E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-02	N/A	--	2E-02
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	9E-03	N/A	--	9E-03
			Vanadium	NA	N/A	--	--	Hair	4E-03	N/A	--	4E-03
			Chemical Total	2E-04	--	2E-04	3E-04		2E-01	--	2E-01	4E-01
		Exposure Point Total					3E-04					4E-01
	Exposure Medium Total						3E-04					4E-01
Medium Total							3E-04					4E-01

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB2	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	7E-09	1E-13	5E-09	1E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	8E-08	1E-12	5E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-08	2E-13	6E-09	2E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	3E-13	1E-08	3E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	6E-09	1E-13	4E-09	9E-09	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	1E-07	1E-13	1E-07	2E-07	Eye; Nails; Immunological	2E-02	NA	1E-02	4E-02
			Aluminum	NA	NA	NA	--	Neurological	7E-03	--	--	7E-03
			Arsenic	2E-06	7E-11	3E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	7E-06	3E-03	3E-02
			Cobalt	NA	7E-11	NA	7E-11	Endocrine; Lung	1E-02	--	--	1E-02
			Iron	NA	NA	NA	--	GI tract	1E-02	--	--	1E-02
			Manganese	NA	NA	NA	--	Neurological	1E-02	--	--	1E-02
			Chemical Total	2E-06	1E-10	4E-07	2E-06		9E-02	7E-06	2E-02	1E-01
		Exposure Point Total					2E-06					1E-01
	Exposure Medium Total						2E-06					1E-01
Medium Total							2E-06					1E-01
Receptor Total - Abiotic Media Only							3E-04				Receptor HI Total	8E-01

Biota	Predatory Fish Fillet	EU BB2	4,4'-DDD	1E-07	N/A	N/A	1E-07	--	NA	N/A	N/A	--
			4,4'-DDE	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			Endrin aldehyde	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Heptachlor epoxide	7E-06	N/A	N/A	7E-06	Liver	3E-01	N/A	N/A	3E-01
			Total PCB Aroclors	1E-04	N/A	N/A	1E-04	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			TCDD TEQ (PCBs)	6E-05	N/A	N/A	6E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+00	N/A	N/A	4E+00
			Aluminum	NA	N/A	N/A	--	Neurological	3E-02	N/A	N/A	3E-02
			Arsenic	1E-05	N/A	N/A	1E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	2E-04	--	--	2E-04		2E+01	--	--	2E+01
		Exposure Point Total					2E-04					2E+01
	Exposure Medium Total						2E-04					2E+01
Medium Total							2E-04					2E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							6E-04				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+00
Kidney HI Across All Media =	3E-02
Liver HI Across All Media =	4E+00
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	4E-01
Respiratory, Lung HI Across All Media =	4E+00
Musculoskeletal HI Across All Media =	3E-02
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	4E+00
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	3E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB2	4,4'-DDE	3E-06	N/A	N/A	3E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	3E-05	N/A	N/A	3E-05	Liver	2E+00	N/A	N/A	2E+00
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	1E-03	N/A	N/A	1E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E+01	N/A	N/A	9E+01
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Copper	NA	N/A	N/A	--	GI tract	1E-02	N/A	N/A	1E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	8E-02	N/A	N/A	8E-02
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	3E-03	--	--	3E-03		3E+02	--	--	3E+02
		Exposure Point Total					3E-03					3E+02
	Exposure Medium Total						3E-03					3E+02
Medium Total							3E-03					3E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							3E-03				Receptor HI Total	3E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E+01
Kidney HI Across All Media =	3E-02
Liver HI Across All Media =	9E+01
Developmental HI Across All Media =	5E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	9E+01
Musculoskeletal HI Across All Media =	3E-02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	5E-02
Endocrine HI Across All Media =	9E+01
GI tract HI Across All Media =	5E-02
Whole body HI Across All Media =	4E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB2	Total PCB Aroclors	2E-05	N/A	N/A	2E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	2E-05	N/A	N/A	2E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	4E-05	--	--	4E-05		4E+00	--	--	4E+00
		Exposure Point Total					4E-05					4E+00
	Exposure Medium Total						4E-05					4E+00
Medium Total							4E-05					4E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							4E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	3E-02
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	5E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	3E-02
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	5E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB2	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological Skin; Developmental; Cardiovascular; Neurological; Lung --	2E+00	N/A	N/A	2E+00
			Arsenic	6E-06	N/A	N/A	6E-06		8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--		NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		2E+00	--	--	2E+00
		Exposure Point Total					2E-05					2E+00
	Exposure Medium Total						2E-05					2E+00
Medium Total							2E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							4E-04				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	3E-02
Liver HI Across All Media =	1E-02
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	2E-01
Musculoskeletal HI Across All Media =	3E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	3E-02
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU BB2	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	7E-05	N/A	9E-05	2E-04	Neurological; Liver	2E-03	N/A	1E-03	3E-03
			Benzo(a)anthracene	2E-08	N/A	4E-08	6E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	3E-07	N/A	5E-07	7E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	4E-08	N/A	7E-08	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-09	N/A	5E-09	7E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	1E-08	N/A	1E-08	2E-08	Liver	4E-04	N/A	3E-04	6E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	7E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	N/A	4E-08	6E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	3E-07	N/A	3E-07	5E-07	Eye; Nails; Immunological	5E-02	N/A	5E-02	1E-01
			Aluminum	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Arsenic	4E-07	N/A	9E-08	5E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-03	N/A	2E-03	8E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	8E-03	N/A	3E-03	1E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Iron	NA	N/A	--	--	GI tract	1E-02	N/A	--	1E-02
			Manganese	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Vanadium	NA	N/A	--	--	Hair	2E-03	N/A	--	2E-03
			Chemical Total	7E-05	--	9E-05	2E-04		1E-01	--	6E-02	2E-01
		Exposure Point Total					2E-04					2E-01
	Exposure Medium Total						2E-04					2E-01
Medium Total							2E-04					2E-01

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB2	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	3E-09	5E-14	4E-10	4E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	4E-08	5E-13	5E-09	4E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	5E-09	6E-14	6E-10	5E-09	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	9E-09	1E-13	1E-09	1E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-09	4E-14	3E-10	3E-09	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	5E-08	4E-14	8E-09	6E-08	Eye; Nails; Immunological	1E-02	NA	1E-03	1E-02
			Aluminum	NA	NA	NA	--	Neurological	4E-03	--	--	4E-03
			Arsenic	6E-07	3E-11	2E-08	7E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	3E-06	3E-04	1E-02
			Cobalt	NA	3E-11	NA	3E-11	Endocrine; Lung	5E-03	--	--	5E-03
			Iron	NA	NA	NA	--	GI tract	6E-03	--	--	6E-03
			Manganese	NA	NA	NA	--	Neurological	6E-03	--	--	6E-03
			Chemical Total	8E-07	6E-11	3E-08	8E-07		4E-02	3E-06	2E-03	4E-02
		Exposure Point Total					8E-07					4E-02
	Exposure Medium Total						8E-07					4E-02
Medium Total							8E-07					4E-02
Receptor Total - Abiotic Media Only							2E-04				Receptor HI Total	4E-01

Biota	Predatory Fish Fillet	EU BB2	4,4'-DDD	6E-08	N/A	N/A	6E-08	--	NA	N/A	N/A	--
			4,4'-DDE	1E-07	N/A	N/A	1E-07	--	NA	N/A	N/A	--
			Endrin aldehyde	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Heptachlor epoxide	3E-06	N/A	N/A	3E-06	Liver	2E-01	N/A	N/A	2E-01
			Total PCB Aroclors	8E-05	N/A	N/A	8E-05	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			TCDD TEQ (PCBs)	3E-05	N/A	N/A	3E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			Aluminum	NA	N/A	N/A	--	Neurological	3E-02	N/A	N/A	3E-02
			Arsenic	8E-06	N/A	N/A	8E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	1E-04	--	--	1E-04		2E+01	--	--	2E+01
		Exposure Point Total					1E-04					2E+01
	Exposure Medium Total						1E-04					2E+01
Medium Total							1E-04					2E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							3E-04				Receptor HI Total	2E+01

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	3E+00
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	3E+00
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	4E-01
Respiratory, Lung HI Across All Media =	3E+00
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	3E+00
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	3E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB2	4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-05	N/A	N/A	2E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	7E-04	N/A	N/A	7E-04	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	9E-04	N/A	N/A	9E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	7E+01	N/A	N/A	7E+01
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Copper	NA	N/A	N/A	--	GI tract	1E-02	N/A	N/A	1E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	8E-02	N/A	N/A	8E-02
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	2E-03	--	--	2E-03		3E+02	--	--	3E+02
		Exposure Point Total					2E-03					3E+02
	Exposure Medium Total						2E-03					3E+02
Medium Total							2E-03					3E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	3E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	7E+01
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	7E+01
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	7E+01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	7E+01
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	3E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB2	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05		9E-01	N/A	N/A	9E-01
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	9E-01
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	9E-01
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	5E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	9E-01
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	3E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB2	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological Skin; Developmental; Cardiovascular; Neurological; Lung --	1E+00	N/A	N/A	1E+00
			Arsenic	4E-06	N/A	N/A	4E-06		8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--		NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	4E-03
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	3E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 3 (BB3)
Receptor Population: Angler
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU BB3	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-04	N/A	5E-04	9E-04	Neurological; Liver	9E-03	N/A	1E-02	2E-02
			Benzo(a)anthracene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-06	N/A	3E-06	4E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	7E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	3E-08	N/A	3E-08	6E-08	Liver	5E-04	N/A	7E-04	1E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	5E-07	N/A	--	5E-07	Liver; Neurological	3E-03	N/A	--	3E-03
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	1E-06	N/A	2E-06	3E-06	Eye; Nails; Immunological	2E-01	N/A	3E-01	5E-01
			Aluminum	NA	N/A	--	--	Neurological	7E-03	N/A	--	7E-03
			Arsenic	9E-07	N/A	3E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	N/A	4E-03	2E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	7E-03	N/A	4E-03	1E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	4E-02	N/A	--	4E-02
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	8E-03	N/A	--	8E-03
			Vanadium	NA	N/A	--	--	Hair	3E-03	N/A	--	3E-03
			Chemical Total	4E-04	--	5E-04	9E-04		3E-01	--	3E-01	6E-01
		Exposure Point Total					9E-04					6E-01
	Exposure Medium Total						9E-04					6E-01
Medium Total							9E-04					6E-01

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB3	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	5E-08	8E-13	3E-08	8E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	5E-07	9E-12	3E-07	9E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	7E-08	1E-12	4E-08	1E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-09	8E-13	3E-09	8E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	7E-08	2E-13	4E-08	1E-07	Liver	2E-03	NA	8E-04	2E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	2E-12	7E-08	2E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	4E-08	6E-13	2E-08	6E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	7E-07	5E-13	5E-07	1E-06	Eye; Nails; Immunological	1E-01	NA	7E-02	2E-01
			Aluminum	NA	NA	NA	--	Neurological	6E-03	--	--	6E-03
			Antimony	NA	NA	NA	--	Blood	2E-02	--	--	2E-02
			Arsenic	3E-06	1E-10	5E-07	3E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-02	1E-05	6E-03	5E-02
			Cadmium	NA	1E-11	NA	1E-11	Kidney; Respiratory; Musculoskeletal	3E-03	2E-06	6E-04	4E-03
			Cobalt	NA	2E-10	NA	2E-10	Endocrine; Lung	2E-02	--	--	2E-02
			Copper	NA	NA	NA	--	GI tract	4E-02	--	--	4E-02
			Iron	NA	NA	NA	--	GI tract	1E-01	--	--	1E-01
			Lead	NA	NA	NA	--	--	NA	NA	--	--
			Manganese	NA	NA	NA	--	Neurological	2E-02	--	--	2E-02
			Mercury	NA	NA	NA	--	Immunological; Neurological	4E-03	6E-07	--	4E-03
			Nickel	NA	3E-11	NA	3E-11	Whole body; Respiratory	3E-03	--	--	3E-03
			Thallium	NA	NA	NA	--	NOAEL	2E-01	--	--	2E-01
			Vanadium	NA	NA	NA	--	Hair	3E-03	NA	--	3E-03
			Zinc	NA	NA	NA	--	Blood	3E-03	NA	--	3E-03
			Chemical Total	5E-06	3E-10	1E-06	6E-06		6E-01	1E-05	8E-02	7E-01
		Exposure Point Total					6E-06					7E-01
	Exposure Medium Total						6E-06					7E-01
Medium Total							6E-06					7E-01
Receptor Total - Abiotic Media Only							9E-04				Receptor HI Total	2E+00

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB3	4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	6E-01	N/A	N/A	6E-01
			Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	4E+01	N/A	N/A	4E+01
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+01	N/A	N/A	1E+01
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	4E-04	--	--	4E-04		5E+01	--	--	5E+01
		Exposure Point Total					4E-04					5E+01
	Exposure Medium Total						4E-04					5E+01
Medium Total							4E-04					5E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							1E-03				Receptor HI Total	5E+01

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	1E+01
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	1E+01
Developmental HI Across All Media =	6E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	1E+01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Cardiovascular HI Across All Media =	7E-02
Endocrine HI Across All Media =	1E+01
GI tract HI Across All Media =	1E-01
Whole body HI Across All Media =	4E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB3	4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-05	N/A	N/A	2E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	7E+01	N/A	N/A	7E+01
			TCDD TEQ (PCBs)	5E-04	N/A	N/A	5E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Copper	NA	N/A	N/A	--	GI tract	3E-02	N/A	N/A	3E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	1E-03	--	--	1E-03		1E+02	--	--	1E+02
		Exposure Point Total					1E-03					1E+02
	Exposure Medium Total						1E-03					1E+02
Medium Total							1E-03					1E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	1E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	3E+01
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	3E+01
Developmental HI Across All Media =	6E-02
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	3E+01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	7E+01
Immunological HI Across All Media =	7E+01
Hair, Skin, Nails HI Across All Media =	7E+01
Cardiovascular HI Across All Media =	7E-02
Endocrine HI Across All Media =	3E+01
GI tract HI Across All Media =	2E-01
Whole body HI Across All Media =	3E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB3	Total PCB Aroclors	2E-05	N/A	N/A	2E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	2E-05	N/A	N/A	2E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	4E-05	--	--	4E-05		4E+00	--	--	4E+00
		Exposure Point Total					4E-05					4E+00
	Exposure Medium Total						4E-05					4E+00
Medium Total							4E-05					4E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							9E-04				Receptor HI Total	5E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	6E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Cardiovascular HI Across All Media =	7E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	1E-01
Whole body HI Across All Media =	3E-03

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB3	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	6E-06	N/A	N/A	6E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		2E+00	--	--	2E+00
		Exposure Point Total					2E-05					2E+00
	Exposure Medium Total						2E-05					2E+00
Medium Total							2E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							9E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E-02
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	3E-02
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	2E-01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	6E-02
GI tract HI Across All Media =	1E-01
Whole body HI Across All Media =	3E-03

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 3 (BB3)
Receptor Population: Angler
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU BB3	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	2E-04	N/A	2E-04	4E-04	Neurological; Liver	5E-03	N/A	3E-03	8E-03
			Benzo(a)anthracene	5E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	7E-07	N/A	1E-06	2E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	5E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-09	N/A	5E-09	9E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	1E-08	N/A	7E-09	2E-08	Liver	3E-04	N/A	2E-04	5E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	6E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	2E-07	N/A	--	2E-07	Liver; Neurological	2E-03	N/A	--	2E-03
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	5E-07	N/A	5E-07	1E-06	Eye; Nails; Immunological	9E-02	N/A	1E-01	2E-01
			Aluminum	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Arsenic	3E-07	N/A	8E-08	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	6E-03	N/A	1E-03	7E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	4E-03	N/A	1E-03	5E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-02	N/A	--	2E-02
			Iron	NA	N/A	--	--	GI tract	8E-03	N/A	--	8E-03
			Manganese	NA	N/A	--	--	Neurological	4E-03	N/A	--	4E-03
			Vanadium	NA	N/A	--	--	Hair	2E-03	N/A	--	2E-03
			Chemical Total	2E-04	--	2E-04	4E-04		1E-01	--	1E-01	2E-01
		Exposure Point Total					4E-04					2E-01
	Exposure Medium Total						4E-04					2E-01
Medium Total							4E-04					2E-01

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 3 (BB3)
Receptor Population: Angler
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB3	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	2E-08	3E-13	3E-09	3E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	3E-12	3E-08	3E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	4E-13	4E-09	3E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-09	3E-13	3E-10	3E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	3E-08	7E-14	3E-09	3E-08	Liver	8E-04	NA	8E-05	8E-04
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	8E-13	7E-09	6E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	2E-13	2E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	3E-07	2E-13	4E-08	3E-07	Eye; Nails; Immunological	5E-02	NA	7E-03	6E-02
			Aluminum	NA	NA	NA	--	Neurological	3E-03	--	--	3E-03
			Antimony	NA	NA	NA	--	Blood	1E-02	--	--	1E-02
			Arsenic	1E-06	5E-11	3E-08	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	6E-06	6E-04	2E-02
			Cadmium	NA	5E-12	NA	5E-12	Kidney; Respiratory; Musculoskeletal	2E-03	1E-06	6E-05	2E-03
			Cobalt	NA	6E-11	NA	6E-11	Endocrine; Lung	1E-02	--	--	1E-02
			Copper	NA	NA	NA	--	GI tract	2E-02	--	--	2E-02
			Iron	NA	NA	NA	--	GI tract	5E-02	--	--	5E-02
			Lead	NA	NA	NA	--	--	NA	NA	--	--
			Manganese	NA	NA	NA	--	Neurological	8E-03	--	--	8E-03
			Mercury	NA	NA	NA	--	Immunological; Neurological	2E-03	3E-07	--	2E-03
			Nickel	NA	1E-11	NA	1E-11	Whole body; Respiratory	1E-03	--	--	1E-03
			Thallium	NA	NA	NA	--	NOAEL	1E-01	--	--	1E-01
			Vanadium	NA	NA	NA	--	Hair	2E-03	NA	--	2E-03
			Zinc	NA	NA	NA	--	Blood	1E-03	NA	--	1E-03
			Chemical Total	2E-06	1E-10	1E-07	2E-06		3E-01	7E-06	8E-03	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Receptor Total - Abiotic Media Only							4E-04				Receptor HI Total	7E-01

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB3	4,4'-DDE	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	6E-06	N/A	N/A	6E-06	Liver	4E-01	N/A	N/A	4E-01
			Total PCB Aroclors	1E-04	N/A	N/A	1E-04	Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			TCDD TEQ (PCBs)	1E-04	N/A	N/A	1E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blooc	9E+00	N/A	N/A	9E+00
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	3E-04	--	--	3E-04		4E+01	--	--	4E+01
		Exposure Point Total					3E-04					4E+01
	Exposure Medium Total						3E-04					4E+01
Medium Total							3E-04					4E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							7E-04				Receptor HI Total	4E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E+00
Kidney HI Across All Media =	7E-03
Liver HI Across All Media =	9E+00
Developmental HI Across All Media =	3E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	9E+00
Musculoskeletal HI Across All Media =	6E-03
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	9E+00
GI tract HI Across All Media =	7E-02
Whole body HI Across All Media =	4E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 3 (BB3)
Receptor Population: Angler
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB3	4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	7E-01	N/A	N/A	7E-01
			Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blooc	3E+01	N/A	N/A	3E+01
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Copper	NA	N/A	N/A	--	GI tract	3E-02	N/A	N/A	3E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	6E-04	--	--	6E-04		8E+01	--	--	8E+01
		Exposure Point Total					6E-04					8E+01
	Exposure Medium Total						6E-04					8E+01
Medium Total							6E-04					8E+01
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	8E+01

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	3E+01
Kidney HI Across All Media =	7E-03
Liver HI Across All Media =	3E+01
Developmental HI Across All Media =	3E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	3E+01
Musculoskeletal HI Across All Media =	6E-03
Eye HI Across All Media =	5E+01
Immunological HI Across All Media =	5E+01
Hair, Skin, Nails HI Across All Media =	5E+01
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	3E+01
GI tract HI Across All Media =	1E-01
Whole body HI Across All Media =	3E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB3	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blooc	9E-01	N/A	N/A	9E-01
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							4E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E-01
Kidney HI Across All Media =	7E-03
Liver HI Across All Media =	9E-01
Developmental HI Across All Media =	3E-02
Neurological HI Across All Media =	6E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	6E-03
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	7E-02
Whole body HI Across All Media =	2E-03

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB3	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	1E+00	N/A	N/A	1E+00
			Arsenic	4E-06	N/A	N/A	4E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							4E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E-02
Kidney HI Across All Media =	7E-03
Liver HI Across All Media =	1E-02
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	6E-03
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	3E-02
GI tract HI Across All Media =	7E-02
Whole body HI Across All Media =	2E-03

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU BB4	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	2E-04	N/A	2E-04	3E-04	Neurological; Liver	4E-03	N/A	5E-03	8E-03
			Benzo(a)anthracene	4E-08	N/A	7E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	4E-07	N/A	6E-07	1E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	6E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	6E-08	N/A	9E-08	1E-07	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	N/A	5E-08	8E-08	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endosulfan sulfate	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	2E-06	N/A	3E-06	4E-06	Eye; Nails; Immunological	2E-01	N/A	4E-01	6E-01
			Aluminum	NA	N/A	--	--	Neurological	4E-03	N/A	--	4E-03
			Arsenic	8E-07	N/A	3E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	N/A	4E-03	1E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	4E-03	N/A	2E-03	5E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	3E-02	N/A	--	3E-02
			Vanadium	NA	N/A	--	--	Hair	2E-03	N/A	--	2E-03
			Chemical Total	2E-04	--	2E-04	4E-04		3E-01	--	4E-01	7E-01
		Exposure Point Total					4E-04					7E-01
	Exposure Medium Total						4E-04					7E-01
Medium Total							4E-04					7E-01

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB4	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	3E-08	5E-13	2E-08	5E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	4E-07	6E-12	2E-07	6E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	6E-08	1E-12	4E-08	9E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-09	2E-13	8E-10	2E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	4E-07	7E-12	3E-07	7E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	3E-13	1E-08	3E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Aldrin	7E-08	3E-13	--	7E-08	Liver	8E-04	NA	--	8E-04
			delta-BHC	NA	NA	NA	--	--	NA	NA	NA	--
			Dieldrin	5E-07	--	--	5E-07	Liver; Neurological	4E-03	--	--	4E-03
			4,4'-DDT	2E-08	7E-14	3E-09	2E-08	Liver	6E-04	NA	9E-05	7E-04
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	3E-06	2E-12	2E-06	4E-06	Eye; Nails; Immunological	4E-01	NA	3E-01	6E-01
			Aluminum	NA	NA	NA	--	Neurological	6E-03	--	--	6E-03
			Antimony	NA	NA	NA	--	Blood	6E-03	--	--	6E-03
			Arsenic	1E-06	6E-11	2E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	6E-06	3E-03	2E-02
			Cadmium	NA	2E-11	NA	2E-11	Kidney; Respiratory; Musculoskeletal	5E-03	4E-06	1E-03	6E-03
			Cobalt	NA	1E-10	NA	1E-10	Endocrine; Lung	2E-02	--	--	2E-02
			Copper	NA	NA	NA	--	GI tract	2E-03	--	--	2E-03
			Iron	NA	NA	NA	--	GI tract	1E-02	--	--	1E-02
			Lead	NA	NA	NA	--	--	NA	NA	--	--
			Manganese	NA	NA	NA	--	Neurological	1E-02	--	--	1E-02
			Silver	NA	NA	NA	--	Skin	9E-04	NA	--	9E-04
			Vanadium	NA	NA	NA	--	Hair	4E-03	NA	--	4E-03
			Chemical Total	6E-06	2E-10	3E-06	8E-06		5E-01	9E-06	3E-01	7E-01
		Exposure Point Total					8E-06					7E-01
	Exposure Medium Total						8E-06					7E-01
Medium Total							8E-06					7E-01
Receptor Total - Abiotic Media Only							4E-04				Receptor HI Total	2E+00

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB4	4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	6E-01	N/A	N/A	6E-01
			Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	4E+01	N/A	N/A	4E+01
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+01	N/A	N/A	1E+01
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	4E-04	--	--	4E-04		5E+01	--	--	5E+01
		Exposure Point Total					4E-04					5E+01
	Exposure Medium Total						4E-04					5E+01
Medium Total							4E-04					5E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							8E-04				Receptor HI Total	5E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+01
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	1E+01
Developmental HI Across All Media =	4E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	1E+01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Cardiovascular HI Across All Media =	4E-02
Endocrine HI Across All Media =	1E+01
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	4E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB4	4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-05	N/A	N/A	2E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	7E+01	N/A	N/A	7E+01
			TCDD TEQ (PCBs)	5E-04	N/A	N/A	5E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Copper	NA	N/A	N/A	--	GI tract	3E-02	N/A	N/A	3E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	1E-03	--	--	1E-03		1E+02	--	--	1E+02
		Exposure Point Total					1E-03					1E+02
	Exposure Medium Total						1E-03					1E+02
Medium Total							1E-03					1E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	3E+01
Developmental HI Across All Media =	4E-02
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	3E+01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	7E+01
Immunological HI Across All Media =	7E+01
Hair, Skin, Nails HI Across All Media =	7E+01
Cardiovascular HI Across All Media =	4E-02
Endocrine HI Across All Media =	3E+01
GI tract HI Across All Media =	6E-02
Whole body HI Across All Media =	3E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB4	Total PCB Aroclors	2E-05	N/A	N/A	2E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	2E-05	N/A	N/A	2E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	4E-05	--	--	4E-05		4E+00	--	--	4E+00
		Exposure Point Total					4E-05					4E+00
	Exposure Medium Total						4E-05					4E+00
Medium Total							4E-05					4E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							4E-04				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	4E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Cardiovascular HI Across All Media =	4E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB4	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	6E-06	N/A	N/A	6E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		2E+00	--	--	2E+00
		Exposure Point Total					2E-05					2E+00
	Exposure Medium Total						2E-05					2E+00
Medium Total							2E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							4E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	6E-03
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	1E-02
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	2E-01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	3E-02
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU BB4	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	7E-05	N/A	9E-05	2E-04	Neurological; Liver	2E-03	N/A	1E-03	3E-03
			Benzo(a)anthracene	2E-08	N/A	3E-08	5E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-07	N/A	3E-07	5E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-08	N/A	4E-08	7E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-08	N/A	4E-08	7E-08	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	N/A	2E-08	4E-08	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endosulfan sulfate	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	6E-07	N/A	6E-07	1E-06	Eye; Nails; Immunological	1E-01	N/A	1E-01	2E-01
			Aluminum	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Arsenic	3E-07	N/A	7E-08	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	N/A	1E-03	7E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	2E-03	N/A	5E-04	2E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	6E-03	N/A	--	6E-03
			Iron	NA	N/A	--	--	GI tract	8E-03	N/A	--	8E-03
			Manganese	NA	N/A	--	--	Neurological	2E-02	N/A	--	2E-02
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	7E-05	--	9E-05	2E-04		2E-01	--	1E-01	3E-01
		Exposure Point Total					2E-04					3E-01
	Exposure Medium Total						2E-04					3E-01
Medium Total							2E-04					3E-01

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB4	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	1E-08	2E-13	2E-09	2E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	2E-12	2E-08	2E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	4E-13	3E-09	3E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	6E-10	8E-14	8E-11	7E-10	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-07	3E-12	2E-08	2E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	9E-09	1E-13	1E-09	1E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Aldrin	3E-08	1E-13	--	3E-08	Liver	4E-04	NA	--	4E-04
			delta-BHC	NA	NA	NA	--	--	NA	NA	NA	--
			Dieldrin	2E-07	--	--	2E-07	Liver; Neurological	2E-03	--	--	2E-03
			4,4'-DDT	6E-09	3E-14	2E-10	7E-09	Liver	3E-04	NA	9E-06	3E-04
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	9E-07	7E-13	1E-07	1E-06	Eye; Nails; Immunological	2E-01	NA	3E-02	2E-01
			Aluminum	NA	NA	NA	--	Neurological	3E-03	--	--	3E-03
			Antimony	NA	NA	NA	--	Blood	3E-03	--	--	3E-03
			Arsenic	6E-07	2E-11	2E-08	6E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	3E-06	3E-04	1E-02
			Cadmium	NA	9E-12	NA	9E-12	Kidney; Respiratory; Musculoskeletal	3E-03	2E-06	1E-04	3E-03
			Cobalt	NA	4E-11	NA	4E-11	Endocrine; Lung	8E-03	--	--	8E-03
			Copper	NA	NA	NA	--	GI tract	9E-04	--	--	9E-04
			Iron	NA	NA	NA	--	GI tract	7E-03	--	--	7E-03
			Lead	NA	NA	NA	--	--	NA	NA	--	--
			Manganese	NA	NA	NA	--	Neurological	7E-03	--	--	7E-03
			Silver	NA	NA	NA	--	Skin	5E-04	NA	--	5E-04
			Vanadium	NA	NA	NA	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	2E-06	8E-11	2E-07	2E-06		2E-01	5E-06	3E-02	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Receptor Total - Abiotic Media Only							2E-04				Receptor HI Total	7E-01

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB4	4,4'-DDE	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	6E-06	N/A	N/A	6E-06	Liver	4E-01	N/A	N/A	4E-01
			Total PCB Aroclors	1E-04	N/A	N/A	1E-04	Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			TCDD TEQ (PCBs)	1E-04	N/A	N/A	1E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E+00	N/A	N/A	9E+00
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	3E-04	--	--	3E-04		4E+01	--	--	4E+01
		Exposure Point Total					3E-04					4E+01
	Exposure Medium Total						3E-04					4E+01
Medium Total							3E-04					4E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							4E-04				Receptor HI Total	4E+01

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	9E+00
Kidney HI Across All Media =	6E-03
Liver HI Across All Media =	9E+00
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	9E+00
Musculoskeletal HI Across All Media =	5E-03
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	9E+00
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	3E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB4	4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	7E-01	N/A	N/A	7E-01
			Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Aluminum	NA	N/A	N/A	--	Neurological	1E-03	N/A	N/A	1E-03
			Copper	NA	N/A	N/A	--	GI tract	3E-02	N/A	N/A	3E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	6E-04	--	--	6E-04		8E+01	--	--	8E+01
		Exposure Point Total					6E-04					8E+01
	Exposure Medium Total						6E-04					8E+01
Medium Total							6E-04					8E+01
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							8E-04				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Kidney HI Across All Media =	6E-03
Liver HI Across All Media =	3E+01
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	3E+01
Musculoskeletal HI Across All Media =	5E-03
Eye HI Across All Media =	5E+01
Immunological HI Across All Media =	5E+01
Hair, Skin, Nails HI Across All Media =	5E+01
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	3E+01
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	3E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB4	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E-01	N/A	N/A	9E-01
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E-01
Kidney HI Across All Media =	6E-03
Liver HI Across All Media =	9E-01
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	5E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	5E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	9E-01
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	3E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB4	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	1E+00	N/A	N/A	1E+00
			Arsenic	4E-06	N/A	N/A	4E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E-03
Kidney HI Across All Media =	6E-03
Liver HI Across All Media =	6E-03
Developmental HI Across All Media =	9E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	5E-03
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	9E-02
Endocrine HI Across All Media =	1E-02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	3E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU BB5	cis-1,2-Dichloroethene	NA	N/A	--	--	Kidney	8E-03	N/A	--	8E-03
			Vinyl chloride	2E-08	N/A	--	2E-08	Liver	7E-05	N/A	--	7E-05
			Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	1E-04	N/A	1E-04	2E-04	Neurological; Liver	2E-03	N/A	3E-03	5E-03
			Benzo(a)anthracene	4E-08	N/A	6E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	5E-07	N/A	7E-07	1E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	6E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	2E-09	N/A	4E-09	6E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	2E-07	N/A	2E-07	4E-07	Liver	4E-03	N/A	5E-03	9E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	6E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			1,3-Dichlorobenzene	NA	N/A	NA	--	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	N/A	4E-08	7E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	8E-07	N/A	--	8E-07	Liver; Neurological	6E-03	N/A	--	6E-03
			4,4'-DDT	2E-08	N/A	8E-09	3E-08	Liver	7E-04	N/A	3E-04	1E-03
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	2E-07	N/A	--	2E-07	Liver	1E-02	N/A	--	1E-02
			Total PCB Aroclors	6E-06	N/A	1E-05	2E-05	Eye; Nails; Immunological	8E-01	N/A	1E+00	2E+00
			Aluminum	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Antimony	NA	N/A	--	--	Blood	3E-03	N/A	--	3E-03
			Arsenic	1E-06	N/A	5E-07	2E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	N/A	6E-03	2E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	1E-02	N/A	7E-03	2E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-02	N/A	--	2E-02
			Iron	NA	N/A	--	--	GI tract	3E-02	N/A	--	3E-02
			Manganese	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Vanadium	NA	N/A	--	--	Hair	3E-03	N/A	--	3E-03
			Chemical Total	1E-04	--	1E-04	2E-04		9E-01	--	1E+00	2E+00
		Exposure Point Total					2E-04					2E+00
	Exposure Medium Total						2E-04					2E+00
Medium Total							2E-04					2E+00

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB5	cis-1,2-Dichloroethene	NA	NA	NA	--	Kidney	6E-03	--	--	6E-03
			Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	1E-07	2E-12	6E-08	2E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	9E-07	2E-11	6E-07	2E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-07	2E-12	8E-08	2E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-09	9E-13	3E-09	9E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	9E-08	2E-13	5E-08	1E-07	Liver	2E-03	NA	1E-03	3E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	2E-12	7E-08	2E-07	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	6E-08	1E-12	4E-08	1E-07	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Dieldrin	2E-05	--	--	2E-05	Liver; Neurological	1E-01	--	--	1E-01
			4,4'-DDE	2E-06	8E-12	3E-07	2E-06	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Heptachlor epoxide	2E-06	--	--	2E-06	Liver	8E-02	--	--	8E-02
			Total PCB Aroclors	8E-06	6E-12	6E-06	1E-05	Eye; Nails; Immunological	1E+00	NA	8E-01	2E+00
			Aluminum	NA	NA	NA	--	Neurological	1E-02	--	--	1E-02
			Antimony	NA	NA	NA	--	Blood	6E-03	--	--	6E-03
			Arsenic	3E-06	1E-10	4E-07	3E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-02	1E-05	6E-03	4E-02
			Cadmium	NA	4E-11	NA	4E-11	Kidney; Respiratory; Musculoskeletal	8E-03	6E-06	2E-03	1E-02
			Cobalt	NA	2E-10	NA	2E-10	Endocrine; Lung	3E-02	--	--	3E-02
			Copper	NA	NA	NA	--	GI tract	3E-03	--	--	3E-03
			Iron	NA	NA	NA	--	GI tract	3E-02	--	--	3E-02
			Lead	NA	NA	NA	--	--	NA	NA	--	--
			Manganese	NA	NA	NA	--	Neurological	1E-02	--	--	1E-02
			Vanadium	NA	NA	NA	--	Hair	6E-03	NA	--	6E-03
			Chemical Total	3E-05	4E-10	7E-06	4E-05		1E+00	2E-05	8E-01	2E+00
		Exposure Point Total					4E-05					2E+00
	Exposure Medium Total						4E-05					2E+00
Medium Total							4E-05					2E+00
Receptor Total - Abiotic Media Only							3E-04				Receptor HI Total	5E+00

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB5	4,4'-DDD	4E-08	N/A	N/A	4E-08	--	NA	N/A	N/A	--
			4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-05	N/A	N/A	2E-05	Liver	9E-01	N/A	N/A	9E-01
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	9E-04	N/A	N/A	9E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	6E+01	N/A	N/A	6E+01
			Aluminum	NA	N/A	N/A	--	Neurological	4E-03	N/A	N/A	4E-03
			Arsenic	1E-05	N/A	N/A	1E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	9E-02	N/A	N/A	9E-02
			Selenium	NA	N/A	N/A	--	Whole body	7E-02	N/A	N/A	7E-02
			Chemical Total	1E-03	--	--	1E-03		1E+02	--	--	1E+02
		Exposure Point Total					1E-03					1E+02
	Exposure Medium Total						1E-03					1E+02
Medium Total							1E-03					1E+02
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							2E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	6E+01
Kidney HI Across All Media =	5E-02
Liver HI Across All Media =	6E+01
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	5E-01
Respiratory, Lung HI Across All Media =	6E+01
Musculoskeletal HI Across All Media =	3E-02
Eye HI Across All Media =	6E+01
Immunological HI Across All Media =	6E+01
Hair, Skin, Nails HI Across All Media =	6E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	6E+01
GI tract HI Across All Media =	6E-02
Whole body HI Across All Media =	7E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB5	alpha-Chlordane	6E-06	N/A	N/A	6E-06	Liver	2E-01	N/A	N/A	2E-01
			gamma-Chlordane	3E-06	N/A	N/A	3E-06	Liver	1E-01	N/A	N/A	1E-01
			4,4'-DDD	2E-06	N/A	N/A	2E-06	--	NA	N/A	N/A	--
			4,4'-DDE	2E-06	N/A	N/A	2E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-05	N/A	N/A	2E-05	Liver	9E-01	N/A	N/A	9E-01
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	6E-03	N/A	N/A	6E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+02	N/A	N/A	4E+02
			Aluminum	NA	N/A	N/A	--	Neurological	3E-02	N/A	N/A	3E-02
			Copper	NA	N/A	N/A	--	GI tract	1E-02	N/A	N/A	1E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	5E-02	N/A	N/A	5E-02
			Selenium	NA	N/A	N/A	--	Whole body	5E-02	N/A	N/A	5E-02
			Chemical Total	7E-03	--	--	7E-03		6E+02	--	--	6E+02
		Exposure Point Total					7E-03					6E+02
	Exposure Medium Total						7E-03					6E+02
Medium Total							7E-03					6E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							7E-03				Receptor HI Total	6E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+02
Kidney HI Across All Media =	5E-02
Liver HI Across All Media =	4E+02
Developmental HI Across All Media =	6E-02
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	4E+02
Musculoskeletal HI Across All Media =	3E-02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	7E-02
Endocrine HI Across All Media =	4E+02
GI tract HI Across All Media =	7E-02
Whole body HI Across All Media =	5E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB5	Total PCB Aroclors	2E-05	N/A	N/A	2E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	2E-05	N/A	N/A	2E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	4E-05	--	--	4E-05		4E+00	--	--	4E+00
		Exposure Point Total					4E-05					4E+00
	Exposure Medium Total						4E-05					4E+00
Medium Total							4E-05					4E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							3E-04				Receptor HI Total	9E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	5E-02
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	6E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	3E-02
Eye HI Across All Media =	7E+00
Immunological HI Across All Media =	7E+00
Hair, Skin, Nails HI Across All Media =	7E+00
Cardiovascular HI Across All Media =	7E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	6E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB5	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	6E-06	N/A	N/A	6E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		2E+00	--	--	2E+00
		Exposure Point Total					2E-05					2E+00
	Exposure Medium Total						2E-05					2E+00
Medium Total							2E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							3E-04				Receptor HI Total	7E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E-03
Kidney HI Across All Media =	5E-02
Liver HI Across All Media =	2E-01
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	2E-01
Musculoskeletal HI Across All Media =	3E-02
Eye HI Across All Media =	6E+00
Immunological HI Across All Media =	6E+00
Hair, Skin, Nails HI Across All Media =	6E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	4E-02
GI tract HI Across All Media =	6E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU BB5	cis-1,2-Dichloroethene	NA	N/A	--	--	Kidney	4E-03	N/A	--	4E-03
			Vinyl chloride	8E-09	N/A	--	8E-09	Liver	3E-05	N/A	--	3E-05
			Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	5E-05	N/A	6E-05	1E-04	Neurological; Liver	1E-03	N/A	9E-04	2E-03
			Benzo(a)anthracene	2E-08	N/A	3E-08	5E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-07	N/A	4E-07	6E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-08	N/A	5E-08	8E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	1E-09	N/A	2E-09	3E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	7E-08	N/A	5E-08	1E-07	Liver	2E-03	N/A	1E-03	3E-03
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	3E-08	N/A	5E-08	8E-08	--	NA	N/A	NA	--
			1,3-Dichlorobenzene	NA	N/A	NA	--	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	N/A	2E-08	3E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	3E-07	N/A	--	3E-07	Liver; Neurological	3E-03	N/A	--	3E-03
			4,4'-DDT	8E-09	N/A	2E-09	1E-08	Liver	4E-04	N/A	8E-05	5E-04
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	9E-08	N/A	--	9E-08	Liver	6E-03	N/A	--	6E-03
			Total PCB Aroclors	2E-06	N/A	2E-06	4E-06	Eye; Nails; Immunological	4E-01	N/A	4E-01	8E-01
			Aluminum	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Antimony	NA	N/A	--	--	Blood	1E-03	N/A	--	1E-03
			Arsenic	5E-07	N/A	1E-07	6E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-03	N/A	2E-03	1E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	7E-03	N/A	2E-03	9E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	8E-03	N/A	--	8E-03
			Iron	NA	N/A	--	--	GI tract	1E-02	N/A	--	1E-02
			Manganese	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Vanadium	NA	N/A	--	--	Hair	2E-03	N/A	--	2E-03
			Chemical Total	5E-05	--	6E-05	1E-04		5E-01	--	4E-01	9E-01
		Exposure Point Total					1E-04					9E-01
	Exposure Medium Total						1E-04					9E-01
Medium Total							1E-04					9E-01

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB5	cis-1,2-Dichloroethene	NA	NA	NA	--	Kidney	3E-03	--	--	3E-03
			Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	4E-08	6E-13	6E-09	5E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	4E-07	6E-12	6E-08	5E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	6E-08	8E-13	8E-09	7E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-09	3E-13	3E-10	3E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	3E-08	9E-14	3E-09	4E-08	Liver	1E-03	NA	1E-04	1E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	7E-13	7E-09	6E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	4E-13	4E-09	3E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Dieldrin	6E-06	--	--	6E-06	Liver; Neurological	6E-02	--	--	6E-02
			4,4'-DDE	7E-07	3E-12	2E-08	7E-07	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Heptachlor epoxide	6E-07	--	--	6E-07	Liver	4E-02	--	--	4E-02
			Total PCB Aroclors	3E-06	2E-12	4E-07	3E-06	Eye; Nails; Immunological	6E-01	NA	8E-02	7E-01
			Aluminum	NA	NA	NA	--	Neurological	5E-03	--	--	5E-03
			Antimony	NA	NA	NA	--	Blood	3E-03	--	--	3E-03
			Arsenic	1E-06	5E-11	3E-08	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	6E-06	6E-04	2E-02
			Cadmium	NA	1E-11	NA	1E-11	Kidney; Respiratory; Musculoskeletal	4E-03	3E-06	2E-04	4E-03
			Cobalt	NA	7E-11	NA	7E-11	Endocrine; Lung	1E-02	--	--	1E-02
			Copper	NA	NA	NA	--	GI tract	2E-03	--	--	2E-03
			Iron	NA	NA	NA	--	GI tract	1E-02	--	--	1E-02
			Lead	NA	NA	NA	--	--	NA	NA	--	--
			Manganese	NA	NA	NA	--	Neurological	6E-03	--	--	6E-03
			Vanadium	NA	NA	NA	--	Hair	3E-03	NA	--	3E-03
			Chemical Total	1E-05	1E-10	5E-07	1E-05		7E-01	9E-06	8E-02	8E-01
		Exposure Point Total					1E-05					8E-01
	Exposure Medium Total						1E-05					8E-01
Medium Total							1E-05					8E-01
Receptor Total - Abiotic Media Only							1E-04				Receptor HI Total	2E+00

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB5	4,4'-DDD	2E-08	N/A	N/A	2E-08	--	NA	N/A	N/A	--
			4,4'-DDE	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	9E-06	N/A	N/A	9E-06	Liver	6E-01	N/A	N/A	6E-01
			Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	4E+01	N/A	N/A	4E+01
			TCDD TEQ (PCBs)	5E-04	N/A	N/A	5E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	5E+01	N/A	N/A	5E+01
			Aluminum	NA	N/A	N/A	--	Neurological	4E-03	N/A	N/A	4E-03
			Arsenic	8E-06	N/A	N/A	8E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	9E-02	N/A	N/A	9E-02
			Selenium	NA	N/A	N/A	--	Whole body	7E-02	N/A	N/A	7E-02
			Chemical Total	8E-04	--	--	8E-04		9E+01	--	--	9E+01
		Exposure Point Total					8E-04					9E+01
	Exposure Medium Total						8E-04					9E+01
Medium Total							8E-04					9E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							9E-04				Receptor HI Total	9E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	5E+01
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	5E+01
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	5E+01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	5E+01
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	7E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB5	alpha-Chlordane	3E-06	N/A	N/A	3E-06	Liver	1E-01	N/A	N/A	1E-01
			gamma-Chlordane	2E-06	N/A	N/A	2E-06	Liver	7E-02	N/A	N/A	7E-02
			4,4'-DDD	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	8E-06	N/A	N/A	8E-06	Liver	5E-01	N/A	N/A	5E-01
			Total PCB Aroclors	8E-04	N/A	N/A	8E-04	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	3E-03	N/A	N/A	3E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+02	N/A	N/A	3E+02
			Aluminum	NA	N/A	N/A	--	Neurological	3E-02	N/A	N/A	3E-02
			Copper	NA	N/A	N/A	--	GI tract	1E-02	N/A	N/A	1E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	5E-02	N/A	N/A	5E-02
			Selenium	NA	N/A	N/A	--	Whole body	5E-02	N/A	N/A	5E-02
			Chemical Total	4E-03	--	--	4E-03		4E+02	--	--	4E+02
		Exposure Point Total					4E-03					4E+02
	Exposure Medium Total						4E-03					4E+02
Medium Total							4E-03					4E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							4E-03				Receptor HI Total	4E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+02
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	3E+02
Developmental HI Across All Media =	3E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	3E+02
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	3E+02
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	5E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB5	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E-01	N/A	N/A	9E-01
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							1E-04				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E-01
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	3E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	9E-01
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	3E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB5	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	1E+00	N/A	N/A	1E+00
			Arsenic	4E-06	N/A	N/A	4E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							1E-04				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	5E-03
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	1E-01
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	3E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU BB6	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	8E-05	N/A	1E-04	2E-04	Neurological; Liver	2E-03	N/A	2E-03	4E-03
			Benzo(a)anthracene	8E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	9E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-08	N/A	3E-08	5E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-08	N/A	2E-08	4E-08	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	7E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Total PCB Aroclors	9E-08	N/A	2E-07	2E-07	Eye; Nails; Immunological	1E-02	N/A	2E-02	4E-02
			Arsenic	6E-07	N/A	2E-07	8E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-03	N/A	3E-03	1E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	1E-02	N/A	5E-03	2E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Iron	NA	N/A	--	--	GI tract	1E-02	N/A	--	1E-02
			Manganese	NA	N/A	--	--	Neurological	8E-03	N/A	--	8E-03
			Thallium	NA	N/A	--	--	NOAEL	4E-03	N/A	--	4E-03
			Vanadium	NA	N/A	--	--	Hair	3E-03	N/A	--	3E-03
			Chemical Total	8E-05	--	1E-04	2E-04		8E-02	--	3E-02	1E-01
		Exposure Point Total					2E-04					1E-01
	Exposure Medium Total						2E-04					1E-01
Medium Total							2E-04					1E-01

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB6	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	5E-08	8E-13	3E-08	8E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-07	5E-12	2E-07	4E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	6E-08	1E-12	4E-08	9E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	9E-13	3E-08	8E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	4E-08	6E-13	2E-08	6E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	1E-05	9E-12	8E-06	2E-05	Eye; Nails; Immunological	2E+00	NA	1E+00	3E+00
			Aluminum	NA	NA	NA	--	Neurological	9E-03	--	--	9E-03
			Arsenic	4E-07	2E-11	5E-08	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	1E-06	7E-04	5E-03
			Cadmium	NA	2E-11	NA	2E-11	Kidney; Respiratory; Musculoskeletal	3E-03	3E-06	7E-04	4E-03
			Cobalt	NA	9E-11	NA	9E-11	Endocrine; Lung	1E-02	--	--	1E-02
			Cyanide	NA	NA	NA	--	Whole body; Endocrine	3E-03	NA	--	3E-03
			Iron	NA	NA	NA	--	GI tract	2E-02	--	--	2E-02
			Manganese	NA	NA	NA	--	Neurological	1E-02	--	--	1E-02
			Chemical Total	1E-05	1E-10	9E-06	2E-05		2E+00	4E-06	1E+00	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Abiotic Media Only							2E-04				Receptor HI Total	3E+00

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB6	Total PCB Aroclors	2E-05	N/A	N/A	2E-05	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	2E-05	N/A	N/A	2E-05		1E+00	N/A	N/A	1E+00
			Chemical Total	4E-05	--	--	4E-05		5E+00	--	--	5E+00
		Exposure Point Total					4E-05					5E+00
	Exposure Medium Total						4E-05					5E+00
Medium Total							4E-05					5E+00
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							2E-04	Receptor HI Total				8E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	6E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	2E-02
Eye HI Across All Media =	7E+00
Immunological HI Across All Media =	7E+00
Hair, Skin, Nails HI Across All Media =	7E+00
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	4E-03

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB6	alpha-Chlordane	9E-07	N/A	N/A	9E-07	Liver	3E-02	N/A	N/A	3E-02
			gamma-Chlordane	4E-07	N/A	N/A	4E-07	Liver	1E-02	N/A	N/A	1E-02
			4,4'-DDD	7E-08	N/A	N/A	7E-08	--	NA	N/A	N/A	--
			4,4'-DDE	6E-07	N/A	N/A	6E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	5E-01	N/A	N/A	5E-01
			Total PCB Aroclors	6E-04	N/A	N/A	6E-04	Eye; Nails; Immunological	9E+01	N/A	N/A	9E+01
			TCDD TEQ (PCBs)	5E-05	N/A	N/A	5E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+00	N/A	N/A	4E+00
			Aluminum	NA	N/A	N/A	--	Neurological	2E-03	N/A	N/A	2E-03
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	7E-02	N/A	N/A	7E-02
			Selenium	NA	N/A	N/A	--	Whole body	2E-02	N/A	N/A	2E-02
			Chemical Total	7E-04	--	--	7E-04		1E+02	--	--	1E+02
		Exposure Point Total					7E-04					1E+02
	Exposure Medium Total						7E-04					1E+02
Medium Total							7E-04					1E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							9E-04				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+00
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	4E+00
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	4E+00
Musculoskeletal HI Across All Media =	2E-02
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	4E+00
GI tract HI Across All Media =	5E-02
Whole body HI Across All Media =	2E-02

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB6	Total PCB Aroclors	9E-07	N/A	N/A	9E-07	Eye; Nails; Immunological	1E-01	N/A	N/A	1E-01
			TCDD TEQ (PCBs)	2E-06	N/A	N/A	2E-06	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E-01	N/A	N/A	1E-01
			Chemical Total	3E-06	--	--	3E-06		2E-01	--	--	2E-01
		Exposure Point Total					3E-06					2E-01
	Exposure Medium Total						3E-06					2E-01
Medium Total							3E-06					2E-01
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	4E+00

Notes
N/A = Not Applicable
NA = Not Available

Biota	Crayfish	EU BB6	Total PCB Aroclors	2E-05	N/A	N/A	2E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							2E-04				Receptor HI Total	6E+00

Notes
N/A = Not Applicable
NA = Not Available

Kidney HI Across All Media =	2E-02
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	6E-02
Respiratory, Lung HI Across All Media =	6E-02
Musculoskeletal HI Across All Media =	2E-02
Eye HI Across All Media =	6E+00
Immunological HI Across All Media =	6E+00
Hair, Skin, Nails HI Across All Media =	6E+00
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	3E-02
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	4E-03

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU BB6	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-05	N/A	5E-05	8E-05	Neurological; Liver	9E-04	N/A	7E-04	2E-03
			Benzo(a)anthracene	3E-09	N/A	6E-09	9E-09	--	NA	N/A	NA	--
			Benzo(a)pyrene	4E-08	N/A	7E-08	1E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	9E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	7E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	3E-09	N/A	5E-09	8E-09	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Total PCB Aroclors	3E-08	N/A	3E-08	7E-08	Eye; Nails; Immunological	6E-03	N/A	7E-03	1E-02
			Arsenic	2E-07	N/A	5E-08	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-03	N/A	9E-04	5E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	5E-03	N/A	2E-03	7E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	7E-03	N/A	--	7E-03
			Iron	NA	N/A	--	--	GI tract	6E-03	N/A	--	6E-03
			Manganese	NA	N/A	--	--	Neurological	4E-03	N/A	--	4E-03
			Thallium	NA	N/A	--	--	NOAEL	2E-03	N/A	--	2E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	4E-05	--	5E-05	8E-05		4E-02	--	1E-02	5E-02
		Exposure Point Total					8E-05					5E-02
	Exposure Medium Total						8E-05					5E-02
Medium Total							8E-05					5E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB6	Acenaphthylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(a)anthracene	2E-08	3E-13	3E-09	3E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-07	2E-12	2E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	4E-13	3E-09	3E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	3E-13	3E-09	3E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	2E-13	2E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	4E-06	3E-12	6E-07	5E-06	Eye; Nails; Immunological	9E-01	NA	1E-01	1E+00
			Aluminum	NA	NA	NA	--	Neurological	5E-03	--	--	5E-03
			Arsenic	1E-07	6E-12	4E-09	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-03	7E-07	7E-05	2E-03
			Cadmium	NA	6E-12	NA	6E-12	Kidney; Respiratory; Musculoskeletal	2E-03	1E-06	7E-05	2E-03
			Cobalt	NA	3E-11	NA	3E-11	Endocrine; Lung	7E-03	--	--	7E-03
			Cyanide	NA	NA	NA	--	Whole body; Endocrine	2E-03	NA	--	2E-03
			Iron	NA	NA	NA	--	GI tract	1E-02	--	--	1E-02
			Manganese	NA	NA	NA	--	Neurological	7E-03	--	--	7E-03
			Chemical Total	5E-06	5E-11	7E-07	5E-06		9E-01	2E-06	1E-01	1E+00
		Exposure Point Total					5E-06					1E+00
	Exposure Medium Total						5E-06					1E+00
Medium Total							5E-06					1E+00
Receptor Total - Abiotic Media Only							9E-05				Receptor HI Total	1E+00

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB6	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	3E-05	--	--	3E-05		4E+00	--	--	4E+00
		Exposure Point Total					3E-05					4E+00
	Exposure Medium Total						3E-05					4E+00
Medium Total							3E-05					4E+00
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							1E-04				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	9E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	7E-03
Neurological HI Across All Media =	3E-02
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	9E-03
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Cardiovascular HI Across All Media =	9E-03
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	2E-03

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB6	alpha-Chlordane	4E-07	N/A	N/A	4E-07	Liver	2E-02	N/A	N/A	2E-02
			gamma-Chlordane	2E-07	N/A	N/A	2E-07	Liver	7E-03	N/A	N/A	7E-03
			4,4'-DDD	3E-08	N/A	N/A	3E-08	--	NA	N/A	N/A	--
			4,4'-DDE	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	5E-06	N/A	N/A	5E-06	Liver	3E-01	N/A	N/A	3E-01
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	8E+01	N/A	N/A	8E+01
			TCDD TEQ (PCBs)	3E-05	N/A	N/A	3E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			Aluminum	NA	N/A	N/A	--	Neurological	2E-03	N/A	N/A	2E-03
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	7E-02	N/A	N/A	7E-02
			Selenium	NA	N/A	N/A	--	Whole body	2E-02	N/A	N/A	2E-02
			Chemical Total	4E-04	--	--	4E-04		8E+01	--	--	8E+01
		Exposure Point Total					4E-04					8E+01
	Exposure Medium Total						4E-04					8E+01
Medium Total							4E-04					8E+01
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							5E-04				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+00
Kidney HI Across All Media =	9E-03
Liver HI Across All Media =	3E+00
Developmental HI Across All Media =	7E-03
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	3E+00
Musculoskeletal HI Across All Media =	9E-03
Eye HI Across All Media =	8E+01
Immunological HI Across All Media =	8E+01
Hair, Skin, Nails HI Across All Media =	8E+01
Cardiovascular HI Across All Media =	9E-03
Endocrine HI Across All Media =	3E+00
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	2E-02

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB6	Total PCB Aroclors	6E-07	N/A	N/A	6E-07	Eye; Nails; Immunological	1E-01	N/A	N/A	1E-01
			TCDD TEQ (PCBs)	1E-06	N/A	N/A	1E-06	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E-02	N/A	N/A	9E-02
			Chemical Total	2E-06	--	--	2E-06		2E-01	--	--	2E-01
		Exposure Point Total					2E-06					2E-01
	Exposure Medium Total						2E-06					2E-01
Medium Total							2E-06					2E-01
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							9E-05				Receptor HI Total	1E+00

Notes
N/A = Not Applicable
NA = Not Available

Biota	Crayfish	EU BB6	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							1E-04				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Kidney HI Across All Media =	9E-03
Developmental HI Across All Media =	7E-03
Neurological HI Across All Media =	3E-02
Respiratory, Lung HI Across All Media =	3E-02
Musculoskeletal HI Across All Media =	9E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	9E-03
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	2E-03

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	1E-03	1E-03
			Trichloroethene	N/A	N/A	5E-09	5E-09	Cardiovascular; Immunological	N/A	N/A	4E-03	4E-03
			Total PCB Congeners	N/A	N/A	2E-06	2E-06	Eye; Nails; Immunological	N/A	N/A	3E-01	3E-01
			Arsenic	N/A	N/A	3E-08	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	4E-04	4E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	5E-04	5E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	6E-03	6E-03
			Chemical Total	--	--	2E-06	2E-06		--	--	3E-01	3E-01
		Exposure Point Total					2E-06					3E-01
	Exposure Medium Total						2E-06					3E-01
Medium Total							2E-06					3E-01
Sediment	Surface Sediment	EU SL	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(a)anthracene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-06	N/A	2E-06	4E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	1E-07	N/A	2E-07	3E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	1E-08	N/A	2E-08	3E-08	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	3E-07	N/A	5E-07	8E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	8E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Arsenic	5E-07	N/A	2E-07	7E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	6E-03	N/A	2E-03	8E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-02	N/A	--	1E-02
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Chemical Total	3E-06	--	3E-06	6E-06		5E-02	--	2E-03	5E-02
		Exposure Point Total					6E-06					5E-02
	Exposure Medium Total						6E-06					5E-02
Medium Total							6E-06					5E-02
Receptor Total - Abiotic Media Only							8E-06				Receptor HI Total	4E-01

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU SL	4,4'-DDE	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			Dieldrin	8E-06	N/A	N/A	8E-06	Liver; Neurological	6E-03	N/A	N/A	6E-03
			Heptachlor epoxide	5E-06	N/A	N/A	5E-06	Liver	2E-01	N/A	N/A	2E-01
			Total PCB Aroclors	8E-05	N/A	N/A	8E-05	Eye; Nails; Immunological	1E+01	N/A	N/A	1E+01
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	7E-01	N/A	N/A	7E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Chemical Total	1E-04	--	--	1E-04		1E+01	--	--	1E+01
		Exposure Point Total					1E-04					1E+01
	Exposure Medium Total						1E-04					1E+01
Medium Total							1E-04					1E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							1E-04				Receptor HI Total	1E+01

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	7E-01
Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	9E-03
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	8E-01
Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	1E+01
Hair, Skin, Nails HI Across All Media =	1E+01
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	8E-01
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU SL	alpha-Chlordane	4E-06	N/A	N/A	4E-06	Liver	1E-01	N/A	N/A	1E-01
			gamma-Chlordane	3E-06	N/A	N/A	3E-06	Liver	9E-02	N/A	N/A	9E-02
			4,4'-DDD	9E-07	N/A	N/A	9E-07	--	NA	N/A	N/A	--
			4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Dieldrin	2E-05	N/A	N/A	2E-05	Liver; Neurological	2E-01	N/A	N/A	2E-01
			Heptachlor epoxide	2E-05	N/A	N/A	2E-05	Liver	7E-01	N/A	N/A	7E-01
			Total PCB Aroclors	7E-04	N/A	N/A	7E-04	Eye; Nails; Immunological	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Arsenic	1E-05	N/A	N/A	1E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-01	N/A	N/A	2E-01
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	4E-01	N/A	N/A	4E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Chemical Total	1E-03	--	--	1E-03		1E+02	--	--	1E+02
		Exposure Point Total					1E-03					1E+02
	Exposure Medium Total						1E-03					1E+02
Medium Total							1E-03					1E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	1E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+01
Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	2E+01
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	2E+01
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	2E+01
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU SL	Total PCB Aroclors	2E-05	N/A	N/A	2E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	2E-05	N/A	N/A	2E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Chemical Total	4E-05	--	--	4E-05		4E+00	--	--	4E+00
		Exposure Point Total					4E-05					4E+00
	Exposure Medium Total						4E-05					4E+00
Medium Total							4E-05					4E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							4E-05				Receptor HI Total	4E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	1E+00
Kidney HI Across All Media =	1E-03
Liver HI Across All Media =	1E+00
Developmental HI Across All Media =	9E-03
Neurological HI Across All Media =	3E-02
Respiratory, Lung HI Across All Media =	1E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	1E+00
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU SL	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	6E-06	N/A	N/A	6E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		2E+00	--	--	2E+00
		Exposure Point Total					2E-05					2E+00
	Exposure Medium Total						2E-05					2E+00
Medium Total							2E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							3E-05				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	1E-03
Developmental HI Across All Media =	8E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	9E-02
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	5E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-04	6E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	8E-07	8E-07	Eye; Nails; Immunological	N/A	N/A	2E-01	2E-01
			Arsenic	N/A	N/A	1E-08	1E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	8E-07	8E-07		--	--	2E-01	2E-01
		Exposure Point Total					8E-07					2E-01
	Exposure Medium Total						8E-07					2E-01
Medium Total							8E-07					2E-01
Sediment	Surface Sediment	EU SL	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(a)anthracene	4E-08	N/A	7E-08	1E-07	--	NA	N/A	NA	--
			Benzo(a)pyrene	7E-07	N/A	1E-06	2E-06	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	6E-08	N/A	1E-07	2E-07	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	6E-09	N/A	1E-08	2E-08	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	1E-07	N/A	2E-07	4E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	4E-08	N/A	6E-08	1E-07	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Arsenic	2E-07	N/A	4E-08	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-03	N/A	7E-04	4E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	7E-03	N/A	--	7E-03
			Iron	NA	N/A	--	--	GI tract	8E-03	N/A	--	8E-03
			Manganese	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Chemical Total	1E-06	--	2E-06	3E-06		2E-02	--	7E-04	2E-02
		Exposure Point Total					3E-06					2E-02
	Exposure Medium Total						3E-06					2E-02
Medium Total							3E-06					2E-02
Receptor Total - Abiotic Media Only							4E-06				Receptor HI Total	2E-01

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU SL	4,4'-DDE	1E-07	N/A	N/A	1E-07	--	NA	N/A	N/A	--
			Dieldrin	4E-06	N/A	N/A	4E-06	Liver; Neurological	4E-03	N/A	N/A	4E-03
			Heptachlor epoxide	2E-06	N/A	N/A	2E-06	Liver	1E-01	N/A	N/A	1E-01
			Total PCB Aroclors	5E-05	N/A	N/A	5E-05	Eye; Nails; Immunological	1E+01	N/A	N/A	1E+01
			TCDD TEQ (PCBs)	7E-06	N/A	N/A	7E-06	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	6E-01	N/A	N/A	6E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Chemical Total	6E-05	--	--	6E-05		1E+01	--	--	1E+01
		Exposure Point Total					6E-05					1E+01
	Exposure Medium Total						6E-05					1E+01
Medium Total							6E-05					1E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							7E-05				Receptor HI Total	1E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	6E-01
Kidney HI Across All Media =	6E-04
Liver HI Across All Media =	7E-01
Developmental HI Across All Media =	4E-03
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	6E-01
Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	1E+01
Hair, Skin, Nails HI Across All Media =	1E+01
Cardiovascular HI Across All Media =	6E-03
Endocrine HI Across All Media =	6E-01
GI tract HI Across All Media =	8E-03
Whole body HI Across All Media =	3E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU SL	alpha-Chlordane	2E-06	N/A	N/A	2E-06	Liver	9E-02	N/A	N/A	9E-02
			gamma-Chlordane	1E-06	N/A	N/A	1E-06	Liver	6E-02	N/A	N/A	6E-02
			4,4'-DDD	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Dieldrin	1E-05	N/A	N/A	1E-05	Liver; Neurological	1E-01	N/A	N/A	1E-01
			Heptachlor epoxide	7E-06	N/A	N/A	7E-06	Liver	5E-01	N/A	N/A	5E-01
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	8E+01	N/A	N/A	8E+01
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Arsenic	9E-06	N/A	N/A	9E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-01	N/A	N/A	2E-01
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	4E-01	N/A	N/A	4E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Chemical Total	6E-04	--	--	6E-04		9E+01	--	--	9E+01
		Exposure Point Total					6E-04					9E+01
	Exposure Medium Total						6E-04					9E+01
Medium Total							6E-04					9E+01
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							6E-04				Receptor HI Total	9E+01

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+01
Kidney HI Across All Media =	6E-04
Liver HI Across All Media =	2E+01
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	2E+01
Eye HI Across All Media =	8E+01
Immunological HI Across All Media =	8E+01
Hair, Skin, Nails HI Across All Media =	8E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	2E+01
GI tract HI Across All Media =	8E-03
Whole body HI Across All Media =	3E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU SL	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E-01	N/A	N/A	9E-01
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							2E-05				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E-01
Kidney HI Across All Media =	6E-04
Liver HI Across All Media =	9E-01
Developmental HI Across All Media =	4E-03
Neurological HI Across All Media =	1E-02
Respiratory, Lung HI Across All Media =	9E-01
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	6E-03
Endocrine HI Across All Media =	9E-01
GI tract HI Across All Media =	8E-03
Whole body HI Across All Media =	3E-04

TABLE 9.4.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU SL	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	1E+00	N/A	N/A	1E+00
			Arsenic	4E-06	N/A	N/A	4E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	N/A	N/A	8E-02
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		2E+00	--	--	2E+00
		Exposure Point Total					1E-05					2E+00
	Exposure Medium Total						1E-05					2E+00
Medium Total							1E-05					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							2E-05				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Kidney HI Across All Media =	6E-04
Developmental HI Across All Media =	8E-02
Neurological HI Across All Media =	9E-02
Respiratory, Lung HI Across All Media =	9E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	8E-02
Endocrine HI Across All Media =	8E-03
GI tract HI Across All Media =	8E-03
Whole body HI Across All Media =	3E-04

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU GB	4,4'-DDD	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			4,4'-DDE	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	4E-06	N/A	N/A	4E-06	Liver	4E-01	N/A	N/A	4E-01
			Total PCB Aroclors	1E-04	N/A	N/A	1E-04	Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			Aluminum	NA	N/A	N/A	--	Neurological	4E-03	N/A	N/A	4E-03
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	7E-01	N/A	N/A	7E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	3E-01	N/A	N/A	3E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	1E-04	--	--	1E-04		3E+01	--	--	3E+01
		Exposure Point Total					1E-04					3E+01
	Exposure Medium Total						1E-04					3E+01
Medium Total							1E-04					3E+01
Receptor Total - Angler Child, Predatory Fish Fillet							1E-04				Receptor HI Total	3E+01

Notes

N/A = Not Applicable

NA = Not Available

Liver HI Across All Media =	4E-01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	7E-01
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Endocrine HI Across All Media =	7E-01
Whole body HI Across All Media =	4E-02

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU GB	alpha-Chlordane	7E-07	N/A	N/A	7E-07	Liver	5E-02	N/A	N/A	5E-02
			gamma-Chlordane	3E-07	N/A	N/A	3E-07	Liver	2E-02	N/A	N/A	2E-02
			4,4'-DDD	4E-08	N/A	N/A	4E-08	--	NA	N/A	N/A	--
			4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Total PCB Aroclors	2E-03	N/A	N/A	2E-03	Eye; Nails; Immunological	4E+02	N/A	N/A	4E+02
			Aluminum	NA	N/A	N/A	--	Neurological	4E-02	N/A	N/A	4E-02
			Copper	NA	N/A	N/A	--	GI tract	4E-02	N/A	N/A	4E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	2E-03	--	--	2E-03		4E+02	--	--	4E+02
		Exposure Point Total					2E-03					4E+02
	Exposure Medium Total						2E-03					4E+02
Medium Total							2E-03					4E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	4E+02

Notes

N/A = Not Applicable

NA = Not Available

Liver HI Across All Media =	7E-02
Neurological HI Across All Media =	1E-01
Eye HI Across All Media =	4E+02
Immunological HI Across All Media =	4E+02
Hair, Skin, Nails HI Across All Media =	4E+02
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	4E-02

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU GB	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	3E-05	--	--	3E-05		6E+00	--	--	6E+00
		Exposure Point Total					3E-05					6E+00
	Exposure Medium Total						3E-05					6E+00
Medium Total							3E-05					6E+00
Receptor Total - Angler Child, Asiatic Clams							3E-05				Receptor HI Total	6E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU GB	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Child, Crayfish							2E-05				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU GB	4,4'-DDD	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			4,4'-DDE	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-06	N/A	N/A	2E-06	Liver	2E-01	N/A	N/A	2E-01
			Total PCB Aroclors	8E-05	N/A	N/A	8E-05	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Aluminum	NA	N/A	N/A	--	Neurological	4E-03	N/A	N/A	4E-03
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	7E-01	N/A	N/A	7E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	3E-01	N/A	N/A	3E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	8E-05	--	--	8E-05		3E+01	--	--	3E+01
		Exposure Point Total					8E-05					3E+01
	Exposure Medium Total						8E-05					3E+01
Medium Total							8E-05					3E+01
Receptor Total - Angler Child, Predatory Fish Fillet							8E-05				Receptor HI Total	3E+01

Notes

N/A = Not Applicable

NA = Not Available

Liver HI Across All Media =	2E-01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	7E-01
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Endocrine HI Across All Media =	7E-01
Whole body HI Across All Media =	4E-02

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU GB	alpha-Chlordane	4E-07	N/A	N/A	4E-07	Liver	3E-02	N/A	N/A	3E-02
			gamma-Chlordane	2E-07	N/A	N/A	2E-07	Liver	1E-02	N/A	N/A	1E-02
			4,4'-DDD	2E-08	N/A	N/A	2E-08	--	NA	N/A	N/A	--
			4,4'-DDE	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	4E+02	N/A	N/A	4E+02
			Aluminum	NA	N/A	N/A	--	Neurological	4E-02	N/A	N/A	4E-02
			Copper	NA	N/A	N/A	--	GI tract	4E-02	N/A	N/A	4E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	1E-03	--	--	1E-03		4E+02	--	--	4E+02
		Exposure Point Total					1E-03					4E+02
	Exposure Medium Total						1E-03					4E+02
Medium Total							1E-03					4E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	4E+02

Notes

N/A = Not Applicable

NA = Not Available

Liver HI Across All Media =	4E-02
Neurological HI Across All Media =	1E-01
Eye HI Across All Media =	4E+02
Immunological HI Across All Media =	4E+02
Hair, Skin, Nails HI Across All Media =	4E+02
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	4E-02

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU GB	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05		2E+00	N/A	N/A	2E+00
			Chemical Total	2E-05	--	--	2E-05		5E+00	--	--	5E+00
		Exposure Point Total					2E-05					5E+00
	Exposure Medium Total						2E-05					5E+00
Medium Total							2E-05					5E+00
Receptor Total - Angler Child, Asiatic Clams							2E-05				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU GB	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		3E+00	--	--	3E+00
		Exposure Point Total					1E-05					3E+00
	Exposure Medium Total						1E-05					3E+00
Medium Total							1E-05					3E+00
Receptor Total - Angler Child, Crayfish							1E-05				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB1	4,4'-DDD	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			4,4'-DDE	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	4E-06	N/A	N/A	4E-06	Liver	4E-01	N/A	N/A	4E-01
			Total PCB Aroclors	1E-04	N/A	N/A	1E-04	Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			Aluminum	NA	N/A	N/A	--	Neurological	4E-03	N/A	N/A	4E-03
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	7E-01	N/A	N/A	7E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	3E-01	N/A	N/A	3E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	1E-04	--	--	1E-04		3E+01	--	--	3E+01
		Exposure Point Total					1E-04					3E+01
	Exposure Medium Total						1E-04					3E+01
Medium Total							1E-04					3E+01
Receptor Total - Angler Child, Predatory Fish Fillet							1E-04				Receptor HI Total	3E+01

Notes

N/A = Not Applicable

NA = Not Available

Liver HI Across All Media =	4E-01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	7E-01
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Endocrine HI Across All Media =	7E-01
Whole body HI Across All Media =	4E-02

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB1	alpha-Chlordane	7E-07	N/A	N/A	7E-07	Liver	5E-02	N/A	N/A	5E-02
			gamma-Chlordane	3E-07	N/A	N/A	3E-07	Liver	2E-02	N/A	N/A	2E-02
			4,4'-DDD	4E-08	N/A	N/A	4E-08	--	NA	N/A	N/A	--
			4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Total PCB Aroclors	2E-03	N/A	N/A	2E-03	Eye; Nails; Immunological	4E+02	N/A	N/A	4E+02
			Aluminum	NA	N/A	N/A	--	Neurological	4E-02	N/A	N/A	4E-02
			Copper	NA	N/A	N/A	--	GI tract	4E-02	N/A	N/A	4E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	2E-03	--	--	2E-03		4E+02	--	--	4E+02
		Exposure Point Total					2E-03					4E+02
	Exposure Medium Total						2E-03					4E+02
Medium Total							2E-03					4E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	4E+02

Notes

N/A = Not Applicable

NA = Not Available

Liver HI Across All Media =	7E-02
Neurological HI Across All Media =	1E-01
Eye HI Across All Media =	4E+02
Immunological HI Across All Media =	4E+02
Hair, Skin, Nails HI Across All Media =	4E+02
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	4E-02

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB1	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	3E-05	--	--	3E-05		6E+00	--	--	6E+00
		Exposure Point Total					3E-05					6E+00
	Exposure Medium Total						3E-05					6E+00
Medium Total							3E-05					6E+00
Receptor Total - Angler Child, Asiatic Clams							3E-05				Receptor HI Total	6E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB1	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Child, Crayfish							2E-05				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB1	4,4'-DDD	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			4,4'-DDE	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-06	N/A	N/A	2E-06	Liver	2E-01	N/A	N/A	2E-01
			Total PCB Aroclors	8E-05	N/A	N/A	8E-05	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Aluminum	NA	N/A	N/A	--	Neurological	4E-03	N/A	N/A	4E-03
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	7E-01	N/A	N/A	7E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	3E-01	N/A	N/A	3E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	8E-05	--	--	8E-05		3E+01	--	--	3E+01
		Exposure Point Total					8E-05					3E+01
	Exposure Medium Total						8E-05					3E+01
Medium Total							8E-05					3E+01
Receptor Total - Angler Child, Predatory Fish Fillet							8E-05				Receptor HI Total	3E+01

Notes

N/A = Not Applicable

NA = Not Available

Liver HI Across All Media =	2E-01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	7E-01
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Endocrine HI Across All Media =	7E-01
Whole body HI Across All Media =	4E-02

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB1	alpha-Chlordane	4E-07	N/A	N/A	4E-07	Liver	3E-02	N/A	N/A	3E-02
			gamma-Chlordane	2E-07	N/A	N/A	2E-07	Liver	1E-02	N/A	N/A	1E-02
			4,4'-DDD	2E-08	N/A	N/A	2E-08	--	NA	N/A	N/A	--
			4,4'-DDE	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	4E+02	N/A	N/A	4E+02
			Aluminum	NA	N/A	N/A	--	Neurological	4E-02	N/A	N/A	4E-02
			Copper	NA	N/A	N/A	--	GI tract	4E-02	N/A	N/A	4E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	1E-03	--	--	1E-03		4E+02	--	--	4E+02
		Exposure Point Total					1E-03					4E+02
	Exposure Medium Total						1E-03					4E+02
Medium Total							1E-03					4E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	4E+02

Notes

N/A = Not Applicable

NA = Not Available

Liver HI Across All Media =	4E-02
Neurological HI Across All Media =	1E-01
Eye HI Across All Media =	4E+02
Immunological HI Across All Media =	4E+02
Hair, Skin, Nails HI Across All Media =	4E+02
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	4E-02

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB1	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05		2E+00	N/A	N/A	2E+00
			Chemical Total	2E-05	--	--	2E-05		5E+00	--	--	5E+00
		Exposure Point Total					2E-05					5E+00
	Exposure Medium Total						2E-05					5E+00
Medium Total							2E-05					5E+00
Receptor Total - Angler Child, Asiatic Clams							2E-05				Receptor HI Total	5E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB1	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		3E+00	--	--	3E+00
		Exposure Point Total					1E-05					3E+00
	Exposure Medium Total						1E-05					3E+00
Medium Total							1E-05					3E+00
Receptor Total - Angler Child, Crayfish							1E-05				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB2	4,4'-DDD	1E-07	N/A	N/A	1E-07	--	NA	N/A	N/A	--
			4,4'-DDE	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			Endrin aldehyde	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Heptachlor epoxide	5E-06	N/A	N/A	5E-06	Liver	5E-01	N/A	N/A	5E-01
			Total PCB Aroclors	1E-04	N/A	N/A	1E-04	Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			TCDD TEQ (PCBs)	5E-05	N/A	N/A	5E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	6E+00	N/A	N/A	6E+00
			Aluminum	NA	N/A	N/A	--	Neurological	4E-02	N/A	N/A	4E-02
			Arsenic	9E-06	N/A	N/A	9E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-01	N/A	N/A	2E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	5E-02	N/A	N/A	5E-02
			Chemical Total	2E-04	--	--	2E-04		4E+01	--	--	4E+01
		Exposure Point Total					2E-04					4E+01
	Exposure Medium Total						2E-04					4E+01
Medium Total							2E-04					4E+01
Receptor Total - Angler Child, Predatory Fish Fillet							2E-04				Receptor HI Total	4E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	6E+00
Liver HI Across All Media =	7E+00
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	5E-01
Respiratory, Lung HI Across All Media =	6E+00
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	6E+00
Whole body HI Across All Media =	5E-02

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB2	4,4'-DDE	2E-06	N/A	N/A	2E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	3E-05	N/A	N/A	3E-05	Liver	3E+00	N/A	N/A	3E+00
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			TCDD TEQ (PCBs)	1E-03	N/A	N/A	1E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+02	N/A	N/A	1E+02
			Aluminum	NA	N/A	N/A	--	Neurological	5E-03	N/A	N/A	5E-03
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	6E-02	N/A	N/A	6E-02
			Chemical Total	2E-03	--	--	2E-03		4E+02	--	--	4E+02
		Exposure Point Total					2E-03					4E+02
	Exposure Medium Total						2E-03					4E+02
Medium Total							2E-03					4E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	4E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+02
Liver HI Across All Media =	2E+02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E+02
Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02
Endocrine HI Across All Media =	1E+02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	6E-02

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB2	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	3E-05	--	--	3E-05		6E+00	--	--	6E+00
		Exposure Point Total					3E-05					6E+00
	Exposure Medium Total						3E-05					6E+00
Medium Total							3E-05					6E+00
Receptor Total - Angler Child, Asiatic Clams							3E-05				Receptor HI Total	6E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB2	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Child, Crayfish							2E-05				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB2	4,4'-DDD	6E-08	N/A	N/A	6E-08	--	NA	N/A	N/A	--
			4,4'-DDE	1E-07	N/A	N/A	1E-07	--	NA	N/A	N/A	--
			Endrin aldehyde	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Heptachlor epoxide	3E-06	N/A	N/A	3E-06	Liver	3E-01	N/A	N/A	3E-01
			Total PCB Aroclors	9E-05	N/A	N/A	9E-05	Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			TCDD TEQ (PCBs)	4E-05	N/A	N/A	4E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	5E+00	N/A	N/A	5E+00
			Aluminum	NA	N/A	N/A	--	Neurological	4E-02	N/A	N/A	4E-02
			Arsenic	9E-06	N/A	N/A	9E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-01	N/A	N/A	2E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	5E-02	N/A	N/A	5E-02
			Chemical Total	1E-04	--	--	1E-04		3E+01	--	--	3E+01
		Exposure Point Total					1E-04					3E+01
	Exposure Medium Total						1E-04					3E+01
Medium Total							1E-04					3E+01
Receptor Total - Angler Child, Predatory Fish Fillet							1E-04				Receptor HI Total	3E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	5E+00
Liver HI Across All Media =	5E+00
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	5E-01
Respiratory, Lung HI Across All Media =	5E+00
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	5E+00
Whole body HI Across All Media =	5E-02

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB2	4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-05	N/A	N/A	2E-05	Liver	2E+00	N/A	N/A	2E+00
			Total PCB Aroclors	8E-04	N/A	N/A	8E-04	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	9E-04	N/A	N/A	9E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+02	N/A	N/A	1E+02
			Aluminum	NA	N/A	N/A	--	Neurological	5E-03	N/A	N/A	5E-03
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	6E-02	N/A	N/A	6E-02
			Chemical Total	2E-03	--	--	2E-03		4E+02	--	--	4E+02
		Exposure Point Total					2E-03					4E+02
	Exposure Medium Total						2E-03					4E+02
Medium Total							2E-03					4E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	4E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+02
Liver HI Across All Media =	1E+02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E+02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	1E+02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	6E-02

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB2	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05		2E+00	N/A	N/A	2E+00
			Chemical Total	2E-05	--	--	2E-05		5E+00	--	--	5E+00
		Exposure Point Total					2E-05					5E+00
	Exposure Medium Total						2E-05					5E+00
Medium Total							2E-05					5E+00
Receptor Total - Angler Child, Asiatic Clams							2E-05				Receptor HI Total	5E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB2	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological Skin; Developmental; Cardiovascular; Neurological; Lung --	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06		1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--		NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		3E+00	--	--	3E+00
		Exposure Point Total					1E-05					3E+00
	Exposure Medium Total						1E-05					3E+00
Medium Total							1E-05					3E+00
Receptor Total - Angler Child, Crayfish							1E-05				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB3	4,4'-DDE	6E-07	N/A	N/A	6E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	6E+01	N/A	N/A	6E+01
			TCDD TEQ (PCBs)	1E-04	N/A	N/A	1E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Aluminum	NA	N/A	N/A	--	Neurological	2E-03	N/A	N/A	2E-03
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	6E-02	N/A	N/A	6E-02
			Chemical Total	4E-04	--	--	4E-04		8E+01	--	--	8E+01
		Exposure Point Total					4E-04					8E+01
	Exposure Medium Total						4E-04					8E+01
Medium Total							4E-04					8E+01
Receptor Total - Angler Child, Predatory Fish Fillet							4E-04				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+01
Liver HI Across All Media =	2E+01
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	2E+01
Eye HI Across All Media =	6E+01
Immunological HI Across All Media =	6E+01
Hair, Skin, Nails HI Across All Media =	6E+01
Endocrine HI Across All Media =	2E+01
Whole body HI Across All Media =	6E-02

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB3	4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-05	N/A	N/A	2E-05	Liver	2E+00	N/A	N/A	2E+00
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	4E-04	N/A	N/A	4E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	5E+01	N/A	N/A	5E+01
			Aluminum	NA	N/A	N/A	--	Neurological	2E-03	N/A	N/A	2E-03
			Copper	NA	N/A	N/A	--	GI tract	4E-02	N/A	N/A	4E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	3E-01	N/A	N/A	3E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	8E-04	--	--	8E-04		2E+02	--	--	2E+02
		Exposure Point Total					8E-04					2E+02
	Exposure Medium Total						8E-04					2E+02
Medium Total							8E-04					2E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							8E-04				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	5E+01
Liver HI Across All Media =	6E+01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	5E+01
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Endocrine HI Across All Media =	5E+01
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	4E-02

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB3	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	3E-05	--	--	3E-05		6E+00	--	--	6E+00
		Exposure Point Total					3E-05					6E+00
	Exposure Medium Total						3E-05					6E+00
Medium Total							3E-05					6E+00
Receptor Total - Angler Child, Asiatic Clams							3E-05				Receptor HI Total	6E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB3	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Child, Crayfish							2E-05				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB3	4,4'-DDE	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	6E-06	N/A	N/A	6E-06	Liver	6E-01	N/A	N/A	6E-01
			Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	1E-04	N/A	N/A	1E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+01	N/A	N/A	1E+01
			Aluminum	NA	N/A	N/A	--	Neurological	2E-03	N/A	N/A	2E-03
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	6E-02	N/A	N/A	6E-02
			Chemical Total	3E-04	--	--	3E-04		6E+01	--	--	6E+01
		Exposure Point Total					3E-04					6E+01
	Exposure Medium Total						3E-04					6E+01
Medium Total							3E-04					6E+01
Receptor Total - Angler Child, Predatory Fish Fillet							3E-04				Receptor HI Total	6E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+01
Liver HI Across All Media =	1E+01
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	1E+01
Eye HI Across All Media =	5E+01
Immunological HI Across All Media =	5E+01
Hair, Skin, Nails HI Across All Media =	5E+01
Endocrine HI Across All Media =	1E+01
Whole body HI Across All Media =	6E-02

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB3	4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological	9E+01	N/A	N/A	9E+01
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+01	N/A	N/A	4E+01
			Aluminum	NA	N/A	N/A	--	Neurological	2E-03	N/A	N/A	2E-03
			Copper	NA	N/A	N/A	--	GI tract	4E-02	N/A	N/A	4E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	3E-01	N/A	N/A	3E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	6E-04	--	--	6E-04		1E+02	--	--	1E+02
		Exposure Point Total					6E-04					1E+02
	Exposure Medium Total						6E-04					1E+02
Medium Total							6E-04					1E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							6E-04				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+01
Liver HI Across All Media =	4E+01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	4E+01
Eye HI Across All Media =	9E+01
Immunological HI Across All Media =	9E+01
Hair, Skin, Nails HI Across All Media =	9E+01
Endocrine HI Across All Media =	4E+01
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	4E-02

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB3	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05		2E+00	N/A	N/A	2E+00
			Chemical Total	2E-05	--	--	2E-05		5E+00	--	--	5E+00
		Exposure Point Total					2E-05					5E+00
	Exposure Medium Total						2E-05					5E+00
Medium Total							2E-05					5E+00
Receptor Total - Angler Child, Asiatic Clams							2E-05				Receptor HI Total	5E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB3	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological Skin; Developmental; Cardiovascular; Neurological; Lung	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06		1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		3E+00	--	--	3E+00
		Exposure Point Total					1E-05					3E+00
	Exposure Medium Total						1E-05					3E+00
Medium Total							1E-05					3E+00
Receptor Total - Angler Child, Crayfish							1E-05				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB4	4,4'-DDE	6E-07	N/A	N/A	6E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	6E+01	N/A	N/A	6E+01
			TCDD TEQ (PCBs)	1E-04	N/A	N/A	1E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Aluminum	NA	N/A	N/A	--	Neurological	2E-03	N/A	N/A	2E-03
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	6E-02	N/A	N/A	6E-02
			Chemical Total	4E-04	--	--	4E-04		8E+01	--	--	8E+01
		Exposure Point Total					4E-04					8E+01
	Exposure Medium Total						4E-04					8E+01
Medium Total							4E-04					8E+01
Receptor Total - Angler Child, Predatory Fish Fillet							4E-04				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+01
Liver HI Across All Media =	2E+01
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	2E+01
Eye HI Across All Media =	6E+01
Immunological HI Across All Media =	6E+01
Hair, Skin, Nails HI Across All Media =	6E+01
Endocrine HI Across All Media =	2E+01
Whole body HI Across All Media =	6E-02

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB4	4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-05	N/A	N/A	2E-05	Liver	2E+00	N/A	N/A	2E+00
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	4E-04	N/A	N/A	4E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	5E+01	N/A	N/A	5E+01
			Aluminum	NA	N/A	N/A	--	Neurological	2E-03	N/A	N/A	2E-03
			Copper	NA	N/A	N/A	--	GI tract	4E-02	N/A	N/A	4E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	3E-01	N/A	N/A	3E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	8E-04	--	--	8E-04		2E+02	--	--	2E+02
		Exposure Point Total					8E-04					2E+02
	Exposure Medium Total						8E-04					2E+02
Medium Total							8E-04					2E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							8E-04				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	5E+01
Liver HI Across All Media =	6E+01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	5E+01
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Endocrine HI Across All Media =	5E+01
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	4E-02

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB4	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	3E-05	--	--	3E-05		6E+00	--	--	6E+00
		Exposure Point Total					3E-05					6E+00
	Exposure Medium Total						3E-05					6E+00
Medium Total							3E-05					6E+00
Receptor Total - Angler Child, Asiatic Clams							3E-05				Receptor HI Total	6E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB4	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Child, Crayfish							2E-05				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB4	4,4'-DDE	4E-07	N/A	N/A	4E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	6E-06	N/A	N/A	6E-06	Liver	6E-01	N/A	N/A	6E-01
			Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	1E-04	N/A	N/A	1E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+01	N/A	N/A	1E+01
			Aluminum	NA	N/A	N/A	--	Neurological	2E-03	N/A	N/A	2E-03
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Selenium	NA	N/A	N/A	--	Whole body	6E-02	N/A	N/A	6E-02
			Chemical Total	3E-04	--	--	3E-04		6E+01	--	--	6E+01
		Exposure Point Total					3E-04					6E+01
	Exposure Medium Total						3E-04					6E+01
Medium Total							3E-04					6E+01
Receptor Total - Angler Child, Predatory Fish Fillet							3E-04				Receptor HI Total	6E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+01
Liver HI Across All Media =	1E+01
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	1E+01
Eye HI Across All Media =	5E+01
Immunological HI Across All Media =	5E+01
Hair, Skin, Nails HI Across All Media =	5E+01
Endocrine HI Across All Media =	1E+01
Whole body HI Across All Media =	6E-02

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB4	4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological	9E+01	N/A	N/A	9E+01
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+01	N/A	N/A	4E+01
			Aluminum	NA	N/A	N/A	--	Neurological	2E-03	N/A	N/A	2E-03
			Copper	NA	N/A	N/A	--	GI tract	4E-02	N/A	N/A	4E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	3E-01	N/A	N/A	3E-01
			Selenium	NA	N/A	N/A	--	Whole body	4E-02	N/A	N/A	4E-02
			Chemical Total	6E-04	--	--	6E-04		1E+02	--	--	1E+02
		Exposure Point Total					6E-04					1E+02
	Exposure Medium Total						6E-04					1E+02
Medium Total							6E-04					1E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							6E-04				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+01
Liver HI Across All Media =	4E+01
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	4E+01
Eye HI Across All Media =	9E+01
Immunological HI Across All Media =	9E+01
Hair, Skin, Nails HI Across All Media =	9E+01
Endocrine HI Across All Media =	4E+01
GI tract HI Across All Media =	4E-02
Whole body HI Across All Media =	4E-02

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB4	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	2E-05	--	--	2E-05		5E+00	--	--	5E+00
		Exposure Point Total					2E-05					5E+00
	Exposure Medium Total						2E-05					5E+00
Medium Total							2E-05					5E+00
Receptor Total - Angler Child, Asiatic Clams							2E-05				Receptor HI Total	5E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB4	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		3E+00	--	--	3E+00
		Exposure Point Total					1E-05					3E+00
	Exposure Medium Total						1E-05					3E+00
Medium Total							1E-05					3E+00
Receptor Total - Angler Child, Crayfish							1E-05				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB5	4,4'-DDD	4E-08	N/A	N/A	4E-08	--	NA	N/A	N/A	--
			4,4'-DDE	8E-07	N/A	N/A	8E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	2E-05	N/A	N/A	2E-05	Liver	2E+00	N/A	N/A	2E+00
			Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological	8E+01	N/A	N/A	8E+01
			TCDD TEQ (PCBs)	7E-04	N/A	N/A	7E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E+01	N/A	N/A	9E+01
			Aluminum	NA	N/A	N/A	--	Neurological	6E-03	N/A	N/A	6E-03
			Arsenic	8E-06	N/A	N/A	8E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-01	N/A	N/A	2E-01
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	1E-01	N/A	N/A	1E-01
			Chemical Total	1E-03	--	--	1E-03		2E+02	--	--	2E+02
		Exposure Point Total					1E-03					2E+02
	Exposure Medium Total						1E-03					2E+02
Medium Total							1E-03					2E+02
Receptor Total - Angler Child, Predatory Fish Fillet							1E-03				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E+01
Liver HI Across All Media =	9E+01
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	4E-01
Respiratory, Lung HI Across All Media =	9E+01
Eye HI Across All Media =	8E+01
Immunological HI Across All Media =	8E+01
Hair, Skin, Nails HI Across All Media =	8E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	9E+01
Whole body HI Across All Media =	1E-01

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB5	alpha-Chlordane	5E-06	N/A	N/A	5E-06	Liver	3E-01	N/A	N/A	3E-01
			gamma-Chlordane	3E-06	N/A	N/A	3E-06	Liver	2E-01	N/A	N/A	2E-01
			4,4'-DDD	2E-06	N/A	N/A	2E-06	--	NA	N/A	N/A	--
			4,4'-DDE	2E-06	N/A	N/A	2E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			TCDD TEQ (PCBs)	5E-03	N/A	N/A	5E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	6E+02	N/A	N/A	6E+02
			Aluminum	NA	N/A	N/A	--	Neurological	6E-02	N/A	N/A	6E-02
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	8E-02	N/A	N/A	8E-02
			Selenium	NA	N/A	N/A	--	Whole body	7E-02	N/A	N/A	7E-02
			Chemical Total	6E-03	--	--	6E-03		9E+02	--	--	9E+02
		Exposure Point Total					6E-03					9E+02
	Exposure Medium Total						6E-03					9E+02
Medium Total							6E-03					9E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							6E-03				Receptor HI Total	9E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	6E+02
Liver HI Across All Media =	6E+02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	6E+02
Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02
Endocrine HI Across All Media =	6E+02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	7E-02

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB5	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	3E-05	--	--	3E-05		6E+00	--	--	6E+00
		Exposure Point Total					3E-05					6E+00
	Exposure Medium Total						3E-05					6E+00
Medium Total							3E-05					6E+00
Receptor Total - Angler Child, Asiatic Clams							3E-05				Receptor HI Total	6E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB5	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Child, Crayfish							2E-05				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB5	4,4'-DDD	2E-08	N/A	N/A	2E-08	--	NA	N/A	N/A	--
			4,4'-DDE	5E-07	N/A	N/A	5E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	9E-06	N/A	N/A	9E-06	Liver	9E-01	N/A	N/A	9E-01
			Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	7E+01	N/A	N/A	7E+01
			TCDD TEQ (PCBs)	6E-04	N/A	N/A	6E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	7E+01	N/A	N/A	7E+01
			Aluminum	NA	N/A	N/A	--	Neurological	6E-03	N/A	N/A	6E-03
			Arsenic	8E-06	N/A	N/A	8E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-01	N/A	N/A	2E-01
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	1E-01	N/A	N/A	1E-01
			Chemical Total	8E-04	--	--	8E-04		1E+02	--	--	1E+02
		Exposure Point Total					8E-04					1E+02
	Exposure Medium Total						8E-04					1E+02
Medium Total							8E-04					1E+02
Receptor Total - Angler Child, Predatory Fish Fillet							8E-04				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	7E+01
Liver HI Across All Media =	7E+01
Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	4E-01
Respiratory, Lung HI Across All Media =	7E+01
Eye HI Across All Media =	7E+01
Immunological HI Across All Media =	7E+01
Hair, Skin, Nails HI Across All Media =	7E+01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	7E+01
Whole body HI Across All Media =	1E-01

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB5	alpha-Chlordane	3E-06	N/A	N/A	3E-06	Liver	2E-01	N/A	N/A	2E-01
			gamma-Chlordane	2E-06	N/A	N/A	2E-06	Liver	1E-01	N/A	N/A	1E-01
			4,4'-DDD	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Heptachlor epoxide	9E-06	N/A	N/A	9E-06	Liver	9E-01	N/A	N/A	9E-01
			Total PCB Aroclors	9E-04	N/A	N/A	9E-04	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			TCDD TEQ (PCBs)	4E-03	N/A	N/A	4E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	5E+02	N/A	N/A	5E+02
			Aluminum	NA	N/A	N/A	--	Neurological	6E-02	N/A	N/A	6E-02
			Copper	NA	N/A	N/A	--	GI tract	2E-02	N/A	N/A	2E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	8E-02	N/A	N/A	8E-02
			Selenium	NA	N/A	N/A	--	Whole body	7E-02	N/A	N/A	7E-02
			Chemical Total	5E-03	--	--	5E-03		7E+02	--	--	7E+02
		Exposure Point Total					5E-03					7E+02
	Exposure Medium Total						5E-03					7E+02
Medium Total							5E-03					7E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							5E-03				Receptor HI Total	7E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	5E+02
Liver HI Across All Media =	5E+02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	5E+02
Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02
Endocrine HI Across All Media =	5E+02
GI tract HI Across All Media =	2E-02
Whole body HI Across All Media =	7E-02

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB5	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05		2E+00	N/A	N/A	2E+00
			Chemical Total	2E-05	--	--	2E-05		5E+00	--	--	5E+00
		Exposure Point Total					2E-05					5E+00
	Exposure Medium Total						2E-05					5E+00
Medium Total							2E-05					5E+00
Receptor Total - Angler Child, Asiatic Clams							2E-05				Receptor HI Total	5E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB5	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological Skin; Developmental; Cardiovascular; Neurological; Lung --	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06		1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--		NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		3E+00	--	--	3E+00
		Exposure Point Total					1E-05					3E+00
	Exposure Medium Total						1E-05					3E+00
Medium Total							1E-05					3E+00
Receptor Total - Angler Child, Crayfish							1E-05				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB6	Total PCB Aroclors	2E-05	N/A	N/A	2E-05	Eye; Nails; Immunological	6E+00	N/A	N/A	6E+00
			TCDD TEQ (PCBs)	2E-05	N/A	N/A	2E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	4E-05	--	--	4E-05		8E+00	--	--	8E+00
		Exposure Point Total					4E-05					8E+00
	Exposure Medium Total						4E-05					8E+00
Medium Total							4E-05					8E+00
Receptor Total - Angler Child, Predatory Fish Fillet							4E-05				Receptor HI Total	8E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	6E+00
Immunological HI Across All Media =	6E+00
Hair, Skin, Nails HI Across All Media =	6E+00
Endocrine HI Across All Media =	2E+00

Biota	Bottom-Feeding Fish Fillet	EU BB6	alpha-Chlordane	7E-07	N/A	N/A	7E-07	Liver	5E-02	N/A	N/A	5E-02
			gamma-Chlordane	3E-07	N/A	N/A	3E-07	Liver	2E-02	N/A	N/A	2E-02
			4,4'-DDD	6E-08	N/A	N/A	6E-08	--	NA	N/A	N/A	--
			4,4'-DDE	5E-07	N/A	N/A	5E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	9E-06	N/A	N/A	9E-06	Liver	9E-01	N/A	N/A	9E-01
			Total PCB Aroclors	5E-04	N/A	N/A	5E-04	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	4E-05	N/A	N/A	4E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	6E+00	N/A	N/A	6E+00
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Copper	NA	N/A	N/A	--	GI tract	3E-02	N/A	N/A	3E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	6E-04	--	--	6E-04		2E+02	--	--	2E+02
		Exposure Point Total					6E-04					2E+02
	Exposure Medium Total						6E-04					2E+02
Medium Total							6E-04					2E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							6E-04				Receptor HI Total	2E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	6E+00
Liver HI Across All Media =	7E+00
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	6E+00
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	6E+00
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	3E-02

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB6	Total PCB Aroclors	8E-07	N/A	N/A	8E-07	Eye; Nails; Immunological	2E-01	N/A	N/A	2E-01
			TCDD TEQ (PCBs)	1E-06	N/A	N/A	1E-06	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E-01	N/A	N/A	2E-01
			Chemical Total	2E-06	--	--	2E-06		4E-01	--	--	4E-01
		Exposure Point Total					2E-06					4E-01
	Exposure Medium Total						2E-06					4E-01
Medium Total							2E-06					4E-01
Receptor Total - Angler Child, Asiatic Clams							2E-06				Receptor HI Total	4E-01

Notes
N/A = Not Applicable
NA = Not Available

Biota	Crayfish	EU BB6	Total PCB Aroclors	2E-05	N/A	N/A	2E-05	Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		4E+00	--	--	4E+00
		Exposure Point Total					2E-05					4E+00
	Exposure Medium Total						2E-05					4E+00
Medium Total							2E-05					4E+00
Receptor Total - Angler Child, Crayfish							2E-05				Receptor HI Total	4E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB6	Total PCB Aroclors	2E-05	N/A	N/A	2E-05	Eye; Nails; Immunological	5E+00	N/A	N/A	5E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	3E-05	--	--	3E-05		6E+00	--	--	6E+00
		Exposure Point Total					3E-05					6E+00
	Exposure Medium Total						3E-05					6E+00
Medium Total							3E-05					6E+00
Receptor Total - Angler Child, Predatory Fish Fillet							3E-05				Receptor HI Total	6E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	5E+00
Immunological HI Across All Media =	5E+00
Hair, Skin, Nails HI Across All Media =	5E+00
Endocrine HI Across All Media =	2E+00

Biota	Bottom-Feeding Fish Fillet	EU BB6	alpha-Chlordane	5E-07	N/A	N/A	5E-07	Liver	3E-02	N/A	N/A	3E-02
			gamma-Chlordane	2E-07	N/A	N/A	2E-07	Liver	1E-02	N/A	N/A	1E-02
			4,4'-DDD	4E-08	N/A	N/A	4E-08	--	NA	N/A	N/A	--
			4,4'-DDE	3E-07	N/A	N/A	3E-07	--	NA	N/A	N/A	--
			Heptachlor epoxide	5E-06	N/A	N/A	5E-06	Liver	5E-01	N/A	N/A	5E-01
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	4E-05	N/A	N/A	4E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Bloo	5E+00	N/A	N/A	5E+00
			Aluminum	NA	N/A	N/A	--	Neurological	3E-03	N/A	N/A	3E-03
			Copper	NA	N/A	N/A	--	GI tract	3E-02	N/A	N/A	3E-02
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	1E-01	N/A	N/A	1E-01
			Selenium	NA	N/A	N/A	--	Whole body	3E-02	N/A	N/A	3E-02
			Chemical Total	5E-04	--	--	5E-04		1E+02	--	--	1E+02
		Exposure Point Total					5E-04					1E+02
	Exposure Medium Total						5E-04					1E+02
Medium Total							5E-04					1E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							5E-04				Receptor HI Total	1E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	5E+00
Liver HI Across All Media =	5E+00
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	5E+00
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Endocrine HI Across All Media =	5E+00
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	3E-02

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB6	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		4E+00	--	--	4E+00
		Exposure Point Total					1E-05					4E+00
	Exposure Medium Total						1E-05					4E+00
Medium Total							1E-05					4E+00
Receptor Total - Angler Child, Crayfish							1E-05				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU SL	4,4'-DDE	2E-07	N/A	N/A	2E-07	--	NA	N/A	N/A	--
			Dieldrin	7E-06	N/A	N/A	7E-06	Liver; Neurological	1E-02	N/A	N/A	1E-02
			Heptachlor epoxide	4E-06	N/A	N/A	4E-06	Liver	4E-01	N/A	N/A	4E-01
			Total PCB Aroclors	7E-05	N/A	N/A	7E-05	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			TCDD TEQ (PCBs)	9E-06	N/A	N/A	9E-06	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	4E-01	N/A	N/A	4E-01
			Chemical Total	9E-05	--	--	9E-05		2E+01	--	--	2E+01
		Exposure Point Total					9E-05					2E+01
	Exposure Medium Total						9E-05					2E+01
Medium Total							9E-05					2E+01
Receptor Total - Angler Child, Predatory Fish Fillet							9E-05				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Liver HI Across All Media =	2E+00
Neurological HI Across All Media =	4E-01
Respiratory, Lung HI Across All Media =	1E+00
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Endocrine HI Across All Media =	1E+00

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU SL	alpha-Chlordane	3E-06	N/A	N/A	3E-06	Liver	2E-01	N/A	N/A	2E-01
			gamma-Chlordane	2E-06	N/A	N/A	2E-06	Liver	1E-01	N/A	N/A	1E-01
			4,4'-DDD	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			4,4'-DDE	1E-06	N/A	N/A	1E-06	--	NA	N/A	N/A	--
			Dieldrin	2E-05	N/A	N/A	2E-05	Liver; Neurological	3E-01	N/A	N/A	3E-01
			Heptachlor epoxide	1E-05	N/A	N/A	1E-05	Liver	1E+00	N/A	N/A	1E+00
			Total PCB Aroclors	5E-04	N/A	N/A	5E-04	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Arsenic	1E-05	N/A	N/A	1E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-01	N/A	N/A	3E-01
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	6E-01	N/A	N/A	6E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Chemical Total	8E-04	--	--	8E-04		2E+02	--	--	2E+02
		Exposure Point Total					8E-04					2E+02
	Exposure Medium Total						8E-04					2E+02
Medium Total							8E-04					2E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							8E-04				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Liver HI Across All Media =	3E+01
Developmental HI Across All Media =	3E-01
Neurological HI Across All Media =	5E-01
Respiratory, Lung HI Across All Media =	3E+01
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Cardiovascular HI Across All Media =	3E-01
Endocrine HI Across All Media =	3E+01

TABLE 9.5.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU SL	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	3E-05	--	--	3E-05		6E+00	--	--	6E+00
		Exposure Point Total					3E-05					6E+00
	Exposure Medium Total						3E-05					6E+00
Medium Total							3E-05					6E+00
Receptor Total - Angler Child, Asiatic Clams							3E-05				Receptor HI Total	6E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU SL	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	2E-05	--	--	2E-05		3E+00	--	--	3E+00
		Exposure Point Total					2E-05					3E+00
	Exposure Medium Total						2E-05					3E+00
Medium Total							2E-05					3E+00
Receptor Total - Angler Child, Crayfish							2E-05				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU SL	4,4'-DDE	1E-07	N/A	N/A	1E-07	--	NA	N/A	N/A	--
			Dieldrin	4E-06	N/A	N/A	4E-06	Liver; Neurological	6E-03	N/A	N/A	6E-03
			Heptachlor epoxide	2E-06	N/A	N/A	2E-06	Liver	2E-01	N/A	N/A	2E-01
			Total PCB Aroclors	6E-05	N/A	N/A	6E-05	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			TCDD TEQ (PCBs)	8E-06	N/A	N/A	8E-06	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+00	N/A	N/A	1E+00
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	4E-01	N/A	N/A	4E-01
			Chemical Total	7E-05	--	--	7E-05		2E+01	--	--	2E+01
		Exposure Point Total					7E-05					2E+01
	Exposure Medium Total						7E-05					2E+01
Medium Total							7E-05					2E+01
Receptor Total - Angler Child, Predatory Fish Fillet							7E-05				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+00
Liver HI Across All Media =	1E+00
Neurological HI Across All Media =	4E-01
Respiratory, Lung HI Across All Media =	1E+00
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Endocrine HI Across All Media =	1E+00

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU SL	alpha-Chlordane	2E-06	N/A	N/A	2E-06	Liver	1E-01	N/A	N/A	1E-01
			gamma-Chlordane	1E-06	N/A	N/A	1E-06	Liver	9E-02	N/A	N/A	9E-02
			4,4'-DDD	5E-07	N/A	N/A	5E-07	--	NA	N/A	N/A	--
			4,4'-DDE	7E-07	N/A	N/A	7E-07	--	NA	N/A	N/A	--
			Dieldrin	1E-05	N/A	N/A	1E-05	Liver; Neurological	2E-01	N/A	N/A	2E-01
			Heptachlor epoxide	8E-06	N/A	N/A	8E-06	Liver	7E-01	N/A	N/A	7E-01
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Arsenic	1E-05	N/A	N/A	1E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-01	N/A	N/A	3E-01
			Cobalt	NA	N/A	N/A	--	Endocrine; Lung	6E-01	N/A	N/A	6E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Mercury	NA	N/A	N/A	--	Immunological; Neurological	2E-01	N/A	N/A	2E-01
			Chemical Total	7E-04	--	--	7E-04		2E+02	--	--	2E+02
		Exposure Point Total					7E-04					2E+02
	Exposure Medium Total						7E-04					2E+02
Medium Total							7E-04					2E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							7E-04				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+01
Liver HI Across All Media =	3E+01
Developmental HI Across All Media =	3E-01
Neurological HI Across All Media =	5E-01
Respiratory, Lung HI Across All Media =	3E+01
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Cardiovascular HI Across All Media =	3E-01
Endocrine HI Across All Media =	3E+01

TABLE 9.5.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU SL	Total PCB Aroclors	1E-05	N/A	N/A	1E-05	Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)	1E-05	N/A	N/A	1E-05	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	2E-05	--	--	2E-05		5E+00	--	--	5E+00
		Exposure Point Total					2E-05					5E+00
	Exposure Medium Total						2E-05					5E+00
Medium Total							2E-05					5E+00
Receptor Total - Angler Child, Asiatic Clams							2E-05				Receptor HI Total	5E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU SL	Total PCB Aroclors	8E-06	N/A	N/A	8E-06	Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Arsenic	5E-06	N/A	N/A	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	N/A	N/A	1E-01
			Lead	NA	N/A	N/A	--	--	NA	N/A	N/A	--
			Chemical Total	1E-05	--	--	1E-05		3E+00	--	--	3E+00
		Exposure Point Total					1E-05					3E+00
	Exposure Medium Total						1E-05					3E+00
Medium Total							1E-05					3E+00
Receptor Total - Angler Child, Crayfish							1E-05				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	1E-01

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	2E-04	2E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	6E-03	6E-03
			Total PCB Congeners	N/A	N/A	2E-07	2E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	5E-09	5E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	8E-04	8E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	1E-03	1E-03
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	1E-02	1E-02
			Chemical Total	--	--	2E-07	2E-07		--	--	1E-01	1E-01
		Exposure Point Total					2E-07					1E-01
	Exposure Medium Total						2E-07					1E-01
Medium Total							2E-07					1E-01
Sediment	All Sediment	EU GB	Benzo(a)anthracene	4E-09	N/A	3E-09	6E-09	--	NA	N/A	NA	--
			Benzo(a)pyrene	3E-08	N/A	2E-08	6E-08	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	5E-09	N/A	3E-09	9E-09	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-08	N/A	1E-08	3E-08	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-09	N/A	1E-09	4E-09	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Total PCB Aroclors	4E-09	N/A	2E-09	6E-09	Eye; Nails; Immunological	2E-03	N/A	1E-03	4E-03
			Aluminum	NA	N/A	--	0E+00	Neurological	7E-03	N/A	--	7E-03
			Arsenic	4E-08	N/A	5E-09	4E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	6E-03	N/A	9E-04	7E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-03	N/A	--	2E-03
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	5E-03	N/A	--	5E-03
			Vanadium	NA	N/A	--	--	Hair	3E-03	N/A	--	3E-03
			Chemical Total	1E-07	--	5E-08	2E-07		4E-02	--	2E-03	4E-02
		Exposure Point Total					2E-07					4E-02
	Exposure Medium Total						2E-07					4E-02
Medium Total							2E-07					4E-02

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU GB	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	6E-09	5E-14	2E-09	8E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	6E-08	5E-13	2E-08	9E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	9E-09	7E-14	4E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	3E-08	2E-13	1E-08	4E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	4E-09	3E-14	2E-09	5E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Total PCB Aroclors	1E-09	3E-15	5E-10	2E-09	Eye; Nails; Immunological	7E-04	NA	3E-04	1E-03
			Aluminum	NA	NA	--	--	Neurological	2E-02	8E-04	--	2E-02
			Arsenic	9E-08	1E-11	9E-09	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	7E-05	1E-03	2E-02
			Cobalt	NA	6E-11	--	6E-11	Endocrine; Lung	3E-03	4E-04	--	3E-03
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Manganese	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Mercury	NA	NA	--	--	Immunological; Neurological	6E-03	1E-05	--	6E-03
			Vanadium	NA	NA	--	--	Hair	7E-03	NA	--	7E-03
			Chemical Total	2E-07	8E-11	5E-08	3E-07		1E-01	3E-03	2E-03	1E-01
		Exposure Point Total					3E-07					1E-01
	Exposure Medium Total						3E-07					1E-01
Medium Total							3E-07					1E-01
Receptor Total							6E-07				Receptor HI Total	3E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	2E-04	2E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	6E-03	6E-03
			Total PCB Congeners	N/A	N/A	2E-07	2E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	5E-09	5E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	8E-04	8E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	1E-03	1E-03
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	1E-02	1E-02
			Chemical Total	--	--	2E-07	2E-07		--	--	1E-01	1E-01
		Exposure Point Total					2E-07					1E-01
	Exposure Medium Total						2E-07					1E-01
Medium Total							2E-07					1E-01
Sediment	All Sediment	EU BB1	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-05	N/A	2E-05	6E-05	Neurological; Liver	4E-03	N/A	2E-03	6E-03
			Benzo(a)anthracene	2E-08	N/A	1E-08	3E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-07	N/A	1E-07	3E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-08	N/A	2E-08	4E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	2E-09	N/A	1E-09	3E-09	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-08	N/A	2E-08	4E-08	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	N/A	8E-09	2E-08	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	5E-08	N/A	4E-08	9E-08	Eye; Nails; Immunological	3E-02	N/A	2E-02	5E-02
			Aluminum	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Arsenic	9E-08	N/A	1E-08	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	N/A	2E-03	2E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	2E-03	N/A	4E-04	2E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	9E-03	N/A	--	9E-03
			Copper	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Iron	NA	N/A	--	--	GI tract	5E-02	N/A	--	5E-02
			Manganese	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Vanadium	NA	N/A	--	--	Hair	3E-03	N/A	--	3E-03
			Chemical Total	4E-05	--	2E-05	6E-05		2E-01	--	3E-02	2E-01
		Exposure Point Total					6E-05					2E-01
	Exposure Medium Total						6E-05					2E-01
Medium Total							6E-05					2E-01

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB1	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	8E-09	7E-14	3E-09	1E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	9E-08	7E-13	4E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-08	8E-14	4E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	9E-10	7E-14	3E-10	1E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	2E-13	7E-09	2E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	5E-09	4E-14	2E-09	6E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	1E-08	3E-14	5E-09	2E-08	Eye; Nails; Immunological	7E-03	NA	3E-03	1E-02
			Aluminum	NA	NA	--	--	Neurological	1E-02	5E-04	--	1E-02
			Arsenic	1E-07	2E-11	1E-08	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	1E-04	2E-03	2E-02
			Cobalt	NA	6E-11	--	6E-11	Endocrine; Lung	3E-03	3E-04	--	3E-03
			Iron	NA	NA	--	--	GI tract	2E-02	NA	--	2E-02
			Manganese	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Vanadium	NA	NA	--	--	Hair	7E-03	NA	--	7E-03
			Chemical Total	3E-07	8E-11	7E-08	4E-07		9E-02	3E-03	5E-03	1E-01
		Exposure Point Total					4E-07					1E-01
	Exposure Medium Total						4E-07					1E-01
Medium Total							4E-07					1E-01
Receptor Total							6E-05				Receptor HI Total	4E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	2E-04	2E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	6E-03	6E-03
			Total PCB Congeners	N/A	N/A	2E-07	2E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	5E-09	5E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	8E-04	8E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	1E-03	1E-03
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	1E-02	1E-02
			Chemical Total	--	--	2E-07	2E-07		--	--	1E-01	1E-01
		Exposure Point Total					2E-07					1E-01
	Exposure Medium Total						2E-07					1E-01
Medium Total							2E-07					1E-01
Sediment	All Sediment	EU BB2	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	5E-05	N/A	2E-05	7E-05	Neurological; Liver	5E-03	N/A	2E-03	7E-03
			Benzo(a)anthracene	2E-08	N/A	1E-08	3E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-07	N/A	7E-08	2E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	3E-08	N/A	2E-08	6E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	2E-09	N/A	1E-09	4E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	3E-09	N/A	2E-09	5E-09	Liver	8E-05	N/A	4E-05	1E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-08	N/A	1E-08	3E-08	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	2E-08	N/A	1E-08	3E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	2E-08	N/A	--	2E-08	Liver; Neurological	7E-04	N/A	--	7E-04
			Total PCB Aroclors	1E-07	N/A	7E-08	2E-07	Eye; Nails; Immunological	6E-02	N/A	4E-02	9E-02
			Aluminum	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Arsenic	6E-08	N/A	9E-09	7E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	9E-03	N/A	1E-03	1E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	2E-02	N/A	3E-03	2E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-03	N/A	--	2E-03
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Vanadium	NA	N/A	--	--	Hair	4E-03	N/A	--	4E-03
			Chemical Total	5E-05	--	2E-05	7E-05		1E-01	--	5E-02	2E-01
		Exposure Point Total					7E-05					2E-01
	Exposure Medium Total						7E-05					2E-01
Medium Total							7E-05					2E-01

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB2	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-09	2E-14	9E-10	3E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-08	2E-13	1E-08	4E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-09	3E-14	1E-09	5E-09	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	6E-09	5E-14	2E-09	9E-09	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-09	1E-14	7E-10	3E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	2E-08	4E-14	7E-09	2E-08	Eye; Nails; Immunological	1E-02	NA	4E-03	1E-02
			Aluminum	NA	NA	--	--	Neurological	1E-02	5E-04	--	1E-02
			Arsenic	2E-07	3E-11	2E-08	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-02	1E-04	3E-03	3E-02
			Cobalt	NA	3E-11	--	3E-11	Endocrine; Lung	1E-03	2E-04	--	2E-03
			Iron	NA	NA	--	--	GI tract	2E-02	NA	--	2E-02
			Manganese	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Chemical Total	3E-07	6E-11	4E-08	3E-07		9E-02	3E-03	7E-03	1E-01
		Exposure Point Total					3E-07					1E-01
	Exposure Medium Total						3E-07					1E-01
Medium Total							3E-07					1E-01
Receptor Total							7E-05	Receptor HI Total				4E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	2E-04	2E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	6E-03	6E-03
			Total PCB Congeners	N/A	N/A	2E-07	2E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	5E-09	5E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	8E-04	8E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	1E-03	1E-03
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	1E-02	1E-02
			Chemical Total	--	--	2E-07	2E-07		--	--	1E-01	1E-01
		Exposure Point Total					2E-07					1E-01
	Exposure Medium Total						2E-07					1E-01
Medium Total							2E-07					1E-01
Sediment	All Sediment	EU BB3	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	1E-04	N/A	6E-05	2E-04	Neurological; Liver	1E-02	N/A	6E-03	2E-02
			Benzo(a)anthracene	3E-08	N/A	2E-08	5E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	3E-07	N/A	2E-07	5E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	5E-08	N/A	3E-08	8E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	1E-09	N/A	7E-10	2E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	9E-10	N/A	5E-10	1E-09	Liver	2E-05	N/A	1E-05	3E-05
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	3E-08	N/A	2E-08	4E-08	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	N/A	2E-08	4E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			alpha-BHC	2E-09	N/A	--	2E-09	Liver	2E-06	N/A	--	2E-06
			Dieldrin	9E-08	N/A	--	9E-08	Liver; Neurological	4E-03	N/A	--	4E-03
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	1E-07	N/A	--	1E-07	Liver	7E-02	N/A	--	7E-02
			Total PCB Aroclors	2E-07	N/A	1E-07	3E-07	Eye; Nails; Immunological	9E-02	N/A	7E-02	2E-01
			Aluminum	NA	N/A	--	--	Neurological	8E-03	N/A	--	8E-03
			Arsenic	8E-08	N/A	1E-08	9E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	N/A	2E-03	1E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	4E-03	N/A	8E-04	5E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	3E-03	N/A	--	3E-03
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Vanadium	NA	N/A	--	--	Hair	4E-03	N/A	--	4E-03
			Chemical Total	1E-04	--	6E-05	2E-04		2E-01	--	7E-02	3E-01
		Exposure Point Total					2E-04					3E-01
	Exposure Medium Total						2E-04					3E-01
Medium Total							2E-04					3E-01

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-08	2E-13	8E-09	3E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-07	2E-12	1E-07	4E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	2E-13	1E-08	4E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-09	2E-13	1E-09	3E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	1E-07	1E-12	4E-08	2E-07	Liver	3E-03	NA	1E-03	4E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	4E-13	2E-08	7E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	1E-13	6E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	1E-07	3E-13	5E-08	2E-07	Eye; Nails; Immunological	6E-02	NA	3E-02	9E-02
			Aluminum	NA	NA	--	--	Neurological	9E-03	4E-04	--	9E-03
			Antimony	NA	NA	--	--	Blood	2E-01	NA	--	2E-01
			Arsenic	3E-07	4E-11	3E-08	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-02	2E-04	4E-03	5E-02
			Cadmium	NA	5E-12	NA	5E-12	Kidney; Respiratory; Musculoskeletal	4E-03	4E-05	5E-04	4E-03
			Cobalt	NA	6E-11	--	6E-11	Endocrine; Lung	3E-03	4E-04	--	4E-03
			Iron	NA	NA	--	--	GI tract	1E-01	NA	--	1E-01
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-02	2E-03	--	3E-02
			Mercury	NA	NA	--	--	Immunological; Neurological	6E-03	1E-05	--	6E-03
			Nickel	NA	2E-11	--	2E-11	Whole body; Respiratory	4E-03	1E-04	--	4E-03
			Thallium	NA	NA	--	--	NOAEL	1E-01	NA	--	1E-01
			Vanadium	NA	NA	--	--	Hair	4E-03	NA	--	4E-03
			Zinc	NA	NA	--	--	Blood	3E-03	NA	--	3E-03
			Chemical Total	9E-07	1E-10	3E-07	1E-06		6E-01	4E-03	3E-02	7E-01
		Exposure Point Total					1E-06					7E-01
	Exposure Medium Total						1E-06					7E-01
Medium Total							1E-06					7E-01
Receptor Total							2E-04				Receptor HI Total	1E+00

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.6CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-05	6E-05
			Trichloroethene	N/A	N/A	5E-10	5E-10	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	6E-08	6E-08	Eye; Nails; Immunological	N/A	N/A	3E-02	3E-02
			Arsenic	N/A	N/A	1E-09	1E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	6E-08	6E-08		--	--	4E-02	4E-02
		Exposure Point Total					6E-08					4E-02
	Exposure Medium Total						6E-08					4E-02
Medium Total							6E-08					4E-02
Sediment	All Sediment	EU BB3	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	4E-05	N/A	2E-05	6E-05	Neurological; Liver	4E-03	N/A	2E-03	6E-03
			Benzo(a)anthracene	1E-08	N/A	7E-09	2E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-07	N/A	7E-08	2E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-08	N/A	1E-08	3E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	4E-10	N/A	2E-10	6E-10	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	3E-10	N/A	2E-10	5E-10	Liver	8E-06	N/A	4E-06	1E-05
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	8E-09	N/A	5E-09	1E-08	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	9E-09	N/A	6E-09	1E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			alpha-BHC	5E-10	N/A	--	5E-10	Liver	7E-07	N/A	--	7E-07
			Dieldrin	3E-08	N/A	--	3E-08	Liver; Neurological	1E-03	N/A	--	1E-03
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	4E-08	N/A	--	4E-08	Liver	2E-02	N/A	--	2E-02
			Total PCB Aroclors	5E-08	N/A	4E-08	9E-08	Eye; Nails; Immunological	3E-02	N/A	2E-02	5E-02
			Aluminum	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Arsenic	3E-08	N/A	4E-09	3E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-03	N/A	6E-04	5E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	1E-03	N/A	3E-04	2E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	1E-03	N/A	--	1E-03
			Iron	NA	N/A	--	--	GI tract	6E-03	N/A	--	6E-03
			Manganese	NA	N/A	--	--	Neurological	2E-03	N/A	--	2E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	4E-05	--	2E-05	6E-05		8E-02	--	2E-02	1E-01
		Exposure Point Total					6E-05					1E-01
	Exposure Medium Total						6E-05					1E-01
Medium Total							6E-05					1E-01

TABLE 9.6CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	7E-09	4E-14	9E-10	8E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	9E-08	5E-13	1E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-08	6E-14	1E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	8E-10	5E-14	1E-10	9E-10	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	5E-08	3E-13	5E-09	5E-08	Liver	1E-03	NA	1E-04	1E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	1E-13	2E-09	2E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	5E-09	3E-14	6E-10	5E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	4E-08	7E-14	5E-09	4E-08	Eye; Nails; Immunological	2E-02	NA	3E-03	2E-02
			Aluminum	NA	NA	--	--	Neurological	3E-03	3E-04	--	3E-03
			Antimony	NA	NA	--	--	Blood	7E-02	NA	--	7E-02
			Arsenic	9E-08	1E-11	3E-09	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	2E-04	4E-04	2E-02
			Cadmium	NA	1E-12	NA	1E-12	Kidney; Respiratory; Musculoskeletal	1E-03	4E-05	5E-05	1E-03
			Cobalt	NA	2E-11	--	2E-11	Endocrine; Lung	1E-03	3E-04	--	1E-03
			Iron	NA	NA	--	--	GI tract	4E-02	NA	--	4E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	8E-03	2E-03	--	1E-02
			Mercury	NA	NA	--	--	Immunological; Neurological	2E-03	1E-05	--	2E-03
			Nickel	NA	4E-12	--	4E-12	Whole body; Respiratory	1E-03	8E-05	--	1E-03
			Thallium	NA	NA	--	--	NOAEL	3E-02	NA	--	3E-02
			Vanadium	NA	NA	--	--	Hair	1E-03	NA	--	1E-03
			Zinc	NA	NA	--	--	Blood	1E-03	NA	--	1E-03
			Chemical Total	3E-07	3E-11	3E-08	3E-07		2E-01	3E-03	4E-03	2E-01
		Exposure Point Total					3E-07					2E-01
	Exposure Medium Total						3E-07					2E-01
Medium Total							3E-07					2E-01
Receptor Total							6E-05				Receptor HI Total	4E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 4 (BB4)
Receptor Population: Outdoor Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	2E-04	2E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	6E-03	6E-03
			Total PCB Congeners	N/A	N/A	2E-07	2E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	5E-09	5E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	8E-04	8E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	1E-03	1E-03
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	1E-02	1E-02
			Chemical Total	--	--	2E-07	2E-07		--	--	1E-01	1E-01
		Exposure Point Total					2E-07					1E-01
	Exposure Medium Total						2E-07					1E-01
Medium Total							2E-07					1E-01
Sediment	All Sediment	EU BB4	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	5E-05	N/A	3E-05	8E-05	Neurological; Liver	5E-03	N/A	3E-03	8E-03
			Benzo(a)anthracene	1E-08	N/A	7E-09	2E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-07	N/A	6E-08	2E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-08	N/A	1E-08	3E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	1E-08	N/A	9E-09	2E-08	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	N/A	6E-09	2E-08	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dieldrin	1E-08	N/A	--	1E-08	Liver; Neurological	5E-04	N/A	--	5E-04
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	8E-09	N/A	--	8E-09	Liver	5E-03	N/A	--	5E-03
			Total PCB Aroclors	2E-07	N/A	1E-07	3E-07	Eye; Nails; Immunological	9E-02	N/A	6E-02	2E-01
			Aluminum	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Arsenic	7E-08	N/A	1E-08	8E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	N/A	2E-03	1E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	4E-03	N/A	7E-04	4E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-03	N/A	--	2E-03
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	3E-02	N/A	--	3E-02
			Vanadium	NA	N/A	--	--	Hair	3E-03	N/A	--	3E-03
			Chemical Total	5E-05	--	3E-05	8E-05		2E-01	--	7E-02	2E-01
		Exposure Point Total					8E-05					2E-01
	Exposure Medium Total						8E-05					2E-01
Medium Total							8E-05					2E-01

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 4 (BB4)
Receptor Population: Outdoor Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	4E-09	3E-14	2E-09	6E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	5E-08	4E-13	2E-08	7E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	8E-09	6E-14	3E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	4E-10	3E-14	2E-10	5E-10	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	1E-12	5E-08	2E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	4E-09	3E-14	1E-09	5E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Aldrin	2E-09	4E-14	--	2E-09	Liver	3E-04	NA	--	3E-04
			delta-BHC	NA	NA	--	--	--	NA	NA	--	--
			Dieldrin	4E-08	6E-13	--	4E-08	Liver; Neurological	2E-03	NA	--	2E-03
			4,4'-DDT	9E-10	1E-14	8E-11	9E-10	Liver	4E-04	NA	3E-05	4E-04
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	5E-07	1E-12	2E-07	7E-07	Eye; Nails; Immunological	3E-01	NA	1E-01	4E-01
			Aluminum	NA	NA	--	--	Neurological	7E-03	3E-04	--	8E-03
			Antimony	NA	NA	--	--	Blood	2E-02	NA	--	2E-02
			Arsenic	2E-07	4E-11	2E-08	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-02	2E-04	3E-03	4E-02
			Cadmium	NA	6E-12	NA	6E-12	Kidney; Respiratory; Musculoskeletal	4E-03	5E-05	5E-04	5E-03
			Cobalt	NA	4E-11	--	4E-11	Endocrine; Lung	2E-03	2E-04	--	2E-03
			Copper	NA	NA	--	--	GI tract	2E-03	NA	--	2E-03
			Iron	NA	NA	--	--	GI tract	2E-02	NA	--	2E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Silver	NA	NA	--	--	Skin	7E-04	NA	--	7E-04
			Vanadium	NA	NA	--	--	Hair	5E-03	NA	--	5E-03
			Zinc	NA	NA	--	--	Blood	7E-04	NA	--	7E-04
			Chemical Total	9E-07	8E-11	3E-07	1E-06		4E-01	3E-03	1E-01	5E-01
		Exposure Point Total					1E-06					5E-01
	Exposure Medium Total						1E-06					5E-01
Medium Total							1E-06					5E-01
Receptor Total							8E-05				Receptor HI Total	9E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	2E-04	2E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	6E-03	6E-03
			Total PCB Congeners	N/A	N/A	2E-07	2E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	5E-09	5E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	8E-04	8E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	1E-03	1E-03
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	1E-02	1E-02
			Chemical Total	--	--	2E-07	2E-07		--	--	1E-01	1E-01
		Exposure Point Total					2E-07					1E-01
	Exposure Medium Total						2E-07					1E-01
Medium Total							2E-07					1E-01

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	All Sediment	EU BB5	cis-1,2-Dichloroethene	NA	N/A	--	--	Kidney	9E-04	N/A	--	9E-04
			Vinyl chloride	6E-09	N/A	--	6E-09	Liver	9E-05	N/A	--	9E-05
			Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	3E-05	N/A	2E-05	5E-05	Neurological; Liver	3E-03	N/A	2E-03	5E-03
			Benzo(a)anthracene	1E-08	N/A	9E-09	2E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	1E-07	N/A	8E-08	2E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	2E-08	N/A	1E-08	4E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	8E-10	N/A	5E-10	1E-09	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	3E-08	N/A	1E-08	4E-08	Liver	6E-04	N/A	3E-04	9E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	2E-08	N/A	1E-08	3E-08	--	NA	N/A	NA	--
			1,3-Dichlorobenzene	NA	N/A	NA	--	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	N/A	7E-09	2E-08	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			gamma-BHC	1E-08	N/A	--	1E-08	Liver; Kidney	2E-04	N/A	--	2E-04
			Dieldrin	1E-07	N/A	--	1E-07	Liver; Neurological	6E-03	N/A	--	6E-03
			4,4'-DDE	3E-09	N/A	4E-10	3E-09	--	NA	N/A	NA	--
			4,4'-DDT	2E-09	N/A	3E-10	2E-09	Liver	8E-04	N/A	1E-04	1E-03
			Endrin	NA	N/A	--	--	Liver; Neurological	8E-04	N/A	--	8E-04
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	4E-08	N/A	--	4E-08	Liver	2E-02	N/A	--	2E-02
			Total PCB Aroclors	5E-07	N/A	4E-07	9E-07	Eye; Nails; Immunological	3E-01	N/A	2E-01	5E-01
			Aluminum	NA	N/A	--	--	Neurological	8E-03	N/A	--	8E-03
			Antimony	NA	N/A	--	--	Blood	7E-03	N/A	--	7E-03
			Arsenic	1E-07	N/A	2E-08	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	N/A	3E-03	2E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	2E-02	N/A	4E-03	2E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-03	N/A	--	2E-03
			Iron	NA	N/A	--	--	GI tract	4E-02	N/A	--	4E-02
			Manganese	NA	N/A	--	--	Neurological	1E-02	N/A	--	1E-02
			Vanadium	NA	N/A	--	--	Hair	4E-03	N/A	--	4E-03
			Chemical Total	3E-05	--	2E-05	5E-05		5E-01	--	2E-01	7E-01
		Exposure Point Total					5E-05					7E-01
	Exposure Medium Total						5E-05					7E-01
Medium Total							5E-05					7E-01

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	--	Kidney	9E-04	--	--	9E-04
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	1E-08	1E-13	6E-09	2E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	2E-12	8E-08	3E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	2E-13	1E-08	4E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	8E-10	6E-14	3E-10	1E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	8E-09	7E-14	2E-09	1E-08	Liver	2E-04	NA	6E-05	3E-04
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	2E-13	8E-09	3E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	7E-14	4E-09	1E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	1E-06	2E-11	--	1E-06	Liver; Neurological	6E-02	NA	--	6E-02
			4,4'-DDE	2E-07	3E-12	2E-08	2E-07	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Heptachlor epoxide	1E-07	2E-12	--	1E-07	Liver	8E-02	NA	--	8E-02
			Total PCB Aroclors	7E-07	2E-12	3E-07	1E-06	Eye; Nails; Immunological	4E-01	NA	2E-01	6E-01
			Aluminum	NA	NA	--	--	Neurological	1E-02	6E-04	--	1E-02
			Antimony	NA	NA	--	--	Blood	6E-03	NA	--	6E-03
			Arsenic	3E-07	4E-11	2E-08	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-02	2E-04	4E-03	4E-02
			Cadmium	NA	1E-11	NA	1E-11	Kidney; Respiratory; Musculoskeletal	9E-03	1E-04	1E-03	1E-02
			Cobalt	NA	7E-11	--	7E-11	Endocrine; Lung	3E-03	4E-04	--	4E-03
			Copper	NA	NA	--	--	GI tract	3E-03	NA	--	3E-03
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Vanadium	NA	NA	--	--	Hair	7E-03	NA	--	7E-03
			Chemical Total	3E-06	1E-10	5E-07	3E-06		7E-01	3E-03	2E-01	9E-01
		Exposure Point Total					3E-06					9E-01
	Exposure Medium Total						3E-06					9E-01
Medium Total							3E-06					9E-01
Receptor Total							5E-05				Receptor HI Total	2E+00

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E-02
Kidney HI Across All Media =	4E-02
Liver HI Across All Media =	2E-01
Developmental HI Across All Media =	7E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	3E-02
Eye HI Across All Media =	1E+00
Immunological HI Across All Media =	1E+00
Hair, Skin, Nails HI Across All Media =	1E+00
Cardiovascular HI Across All Media =	7E-02
Endocrine HI Across All Media =	7E-03
GI tract HI Across All Media =	7E-02
Whole body HI Across All Media =	1E-03

TABLE 9.6CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	6E-05	6E-05
			Trichloroethene	N/A	N/A	5E-10	5E-10	Cardiovascular; Immunological	N/A	N/A	2E-03	2E-03
			Total PCB Congeners	N/A	N/A	6E-08	6E-08	Eye; Nails; Immunological	N/A	N/A	3E-02	3E-02
			Arsenic	N/A	N/A	1E-09	1E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	2E-04	2E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	3E-04	3E-04
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	3E-03	3E-03
			Chemical Total	--	--	6E-08	6E-08		--	--	4E-02	4E-02
		Exposure Point Total					6E-08					4E-02
	Exposure Medium Total						6E-08					4E-02
Medium Total							6E-08					4E-02

TABLE 9.6CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	All Sediment	EU BB5	cis-1,2-Dichloroethene	NA	N/A	--	--	Kidney	3E-04	N/A	--	3E-04
			Vinyl chloride	2E-09	N/A	--	2E-09	Liver	3E-05	N/A	--	3E-05
			Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	1E-05	N/A	6E-06	2E-05	Neurological; Liver	1E-03	N/A	6E-04	2E-03
			Benzo(a)anthracene	5E-09	N/A	3E-09	8E-09	--	NA	N/A	NA	--
			Benzo(a)pyrene	4E-08	N/A	3E-08	7E-08	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	7E-09	N/A	5E-09	1E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	3E-10	N/A	2E-10	4E-10	--	NA	N/A	NA	--
			bis(2-Ethylhexyl) phthalate	8E-09	N/A	4E-09	1E-08	Liver	2E-04	N/A	1E-04	3E-04
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	6E-09	N/A	4E-09	9E-09	--	NA	N/A	NA	--
			1,3-Dichlorobenzene	NA	N/A	NA	--	--	NA	N/A	NA	--
			di-n-Octyl phthalate	NA	N/A	NA	--	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	4E-09	N/A	2E-09	6E-09	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			gamma-BHC	3E-09	N/A	--	3E-09	Liver; Kidney	7E-05	N/A	--	7E-05
			Dieldrin	4E-08	N/A	--	4E-08	Liver; Neurological	2E-03	N/A	--	2E-03
			4,4'-DDE	9E-10	N/A	1E-10	1E-09	--	NA	N/A	NA	--
			4,4'-DDT	7E-10	N/A	1E-10	8E-10	Liver	3E-04	N/A	4E-05	3E-04
			Endrin	NA	N/A	--	--	Liver; Neurological	3E-04	N/A	--	3E-04
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Endrin ketone	NA	N/A	--	--	--	NA	N/A	--	--
			Heptachlor epoxide	1E-08	N/A	--	1E-08	Liver	7E-03	N/A	--	7E-03
			Total PCB Aroclors	2E-07	N/A	1E-07	3E-07	Eye; Nails; Immunological	1E-01	N/A	7E-02	2E-01
			Aluminum	NA	N/A	--	--	Neurological	3E-03	N/A	--	3E-03
			Antimony	NA	N/A	--	--	Blood	2E-03	N/A	--	2E-03
			Arsenic	4E-08	N/A	6E-09	5E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	6E-03	N/A	9E-04	7E-03
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	7E-03	N/A	1E-03	8E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	7E-04	N/A	--	7E-04
			Iron	NA	N/A	--	--	GI tract	1E-02	N/A	--	1E-02
			Manganese	NA	N/A	--	--	Neurological	4E-03	N/A	--	4E-03
			Vanadium	NA	N/A	--	--	Hair	1E-03	N/A	--	1E-03
			Chemical Total	1E-05	--	6E-06	2E-05		2E-01	--	8E-02	2E-01
		Exposure Point Total					2E-05					2E-01
	Exposure Medium Total						2E-05					2E-01
Medium Total							2E-05					2E-01

TABLE 9.6CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	--	Kidney	3E-04	--	--	3E-04
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	5E-09	3E-14	6E-10	6E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	7E-08	4E-13	9E-09	8E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-08	6E-14	1E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-10	2E-14	4E-11	3E-10	--	NA	NA	NA	--
			bis(2-Ethylhexyl) phthalate	3E-09	2E-14	3E-10	3E-09	Liver	7E-05	NA	7E-06	8E-05
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	7E-09	5E-14	9E-10	8E-09	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-09	2E-14	4E-10	4E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	4E-07	5E-12	--	4E-07	Liver; Neurological	2E-02	NA	--	2E-02
			4,4'-DDE	7E-08	8E-13	2E-09	7E-08	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	NA	--	--	NA	NA	NA	--
			Endrin aldehyde	NA	NA	NA	--	--	NA	NA	NA	--
			Heptachlor epoxide	5E-08	5E-13	--	5E-08	Liver	3E-02	NA	--	3E-02
			Total PCB Aroclors	2E-07	5E-13	3E-08	3E-07	Eye; Nails; Immunological	1E-01	NA	2E-02	2E-01
			Aluminum	NA	NA	--	--	Neurological	4E-03	4E-04	--	5E-03
			Antimony	NA	NA	--	--	Blood	2E-03	NA	--	2E-03
			Arsenic	8E-08	9E-12	3E-09	9E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	1E-04	4E-04	1E-02
			Cadmium	NA	3E-12	NA	3E-12	Kidney; Respiratory; Musculoskeletal	3E-03	8E-05	1E-04	3E-03
			Cobalt	NA	2E-11	--	2E-11	Endocrine; Lung	1E-03	3E-04	--	1E-03
			Copper	NA	NA	--	--	GI tract	1E-03	NA	--	1E-03
			Iron	NA	NA	--	--	GI tract	1E-02	NA	--	1E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	6E-03	1E-03	--	7E-03
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	1E-06	4E-11	5E-08	1E-06		2E-01	2E-03	2E-02	3E-01
		Exposure Point Total					1E-06					3E-01
	Exposure Medium Total						1E-06					3E-01
Medium Total							1E-06					3E-01
Receptor Total							2E-05				Receptor HI Total	5E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	2E-04	2E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	6E-03	6E-03
			Total PCB Congeners	N/A	N/A	2E-07	2E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	5E-09	5E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	8E-04	8E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	1E-03	1E-03
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	1E-02	1E-02
			Chemical Total	--	--	2E-07	2E-07		--	--	1E-01	1E-01
		Exposure Point Total					2E-07					1E-01
	Exposure Medium Total						2E-07					1E-01
Medium Total							2E-07					1E-01
Sediment	All Sediment	EU BB6	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzidine	3E-05	N/A	1E-05	4E-05	Neurological; Liver	3E-03	N/A	1E-03	4E-03
			Benzo(a)anthracene	2E-09	N/A	1E-09	3E-09	--	NA	N/A	NA	--
			Benzo(a)pyrene	2E-08	N/A	1E-08	3E-08	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	4E-09	N/A	2E-09	6E-09	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	3E-08	N/A	2E-08	5E-08	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	1E-09	N/A	9E-10	2E-09	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Endrin aldehyde	NA	N/A	--	--	--	NA	N/A	--	--
			Total PCB Aroclors	2E-08	N/A	1E-08	3E-08	Eye; Nails; Immunological	1E-02	N/A	7E-03	2E-02
			Aluminum	NA	N/A	--	--	Neurological	6E-03	N/A	--	6E-03
			Arsenic	6E-08	N/A	1E-08	7E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	N/A	2E-03	1E-02
			Cadmium	NA	N/A	NA	--	Kidney; Respiratory; Musculoskeletal	7E-03	N/A	1E-03	8E-03
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-03	N/A	--	2E-03
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	7E-03	N/A	--	7E-03
			Thallium	NA	N/A	--	--	NOAEL	1E-03	N/A	--	1E-03
			Vanadium	NA	N/A	--	--	Hair	3E-03	N/A	--	3E-03
			Chemical Total	3E-05	--	1E-05	4E-05		7E-02	--	1E-02	8E-02
		Exposure Point Total					4E-05					8E-02
	Exposure Medium Total						4E-05					8E-02
Medium Total							4E-05					8E-02

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-08	1E-13	7E-09	3E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-07	1E-12	5E-08	2E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-08	2E-13	8E-09	3E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-09	1E-13	6E-10	2E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	1E-13	6E-09	2E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	8E-14	4E-09	1E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	NA	--	--	NA	NA	NA	--
			Total PCB Aroclors	1E-06	4E-12	6E-07	2E-06	Eye; Nails; Immunological	8E-01	NA	3E-01	1E+00
			Aluminum	NA	NA	--	--	Neurological	1E-02	5E-04	--	1E-02
			Arsenic	5E-08	7E-12	4E-09	5E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-03	3E-05	7E-04	8E-03
			Cadmium	NA	4E-12	NA	4E-12	Kidney; Respiratory; Musculoskeletal	3E-03	4E-05	4E-04	4E-03
			Cobalt	NA	4E-11	--	4E-11	Endocrine; Lung	2E-03	2E-04	--	2E-03
			Cyanide	NA	NA	--	--	Whole body; Endocrine	2E-03	NA	--	2E-03
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Chemical Total	2E-06	5E-11	7E-07	2E-06		9E-01	3E-03	3E-01	1E+00
		Exposure Point Total					2E-06					1E+00
	Exposure Medium Total						2E-06					1E+00
Medium Total							2E-06					1E+00
Receptor Total							4E-05				Receptor HI Total	1E+00

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.6RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	OU4 Bound Brook Study Area	cis-1,2-Dichloroethene	N/A	N/A	--	--	Kidney	N/A	N/A	2E-04	2E-04
			Trichloroethene	N/A	N/A	2E-09	2E-09	Cardiovascular; Immunological	N/A	N/A	6E-03	6E-03
			Total PCB Congeners	N/A	N/A	2E-07	2E-07	Eye; Nails; Immunological	N/A	N/A	1E-01	1E-01
			Arsenic	N/A	N/A	5E-09	5E-09	Skin; Developmental; Cardiovascular; Neurological; Lung	N/A	N/A	8E-04	8E-04
			Cyanide	N/A	N/A	--	--	Whole body; Endocrine	N/A	N/A	1E-03	1E-03
			Manganese	N/A	N/A	--	--	Neurological	N/A	N/A	1E-02	1E-02
			Chemical Total	--	--	2E-07	2E-07		--	--	1E-01	1E-01
		Exposure Point Total					2E-07					1E-01
	Exposure Medium Total						2E-07					1E-01
Medium Total							2E-07					1E-01
Sediment	All Sediment	EU SL	Acenaphthylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(a)anthracene	3E-08	N/A	2E-08	5E-08	--	NA	N/A	NA	--
			Benzo(a)pyrene	5E-07	N/A	3E-07	8E-07	--	NA	N/A	NA	--
			Benzo(b)fluoranthene	4E-08	N/A	3E-08	7E-08	--	NA	N/A	NA	--
			Benzo(g,h,i)perylene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Benzo(k)fluoranthene	4E-09	N/A	3E-09	7E-09	--	NA	N/A	NA	--
			Carbazole	NA	N/A	NA	--	--	NA	N/A	NA	--
			Dibenzo(a,h)anthracene	1E-07	N/A	7E-08	2E-07	--	NA	N/A	NA	--
			Indeno(1,2,3-cd)pyrene	3E-08	N/A	2E-08	4E-08	--	NA	N/A	NA	--
			p-Isopropyltoluene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Phenanthrene	NA	N/A	NA	--	--	NA	N/A	NA	--
			Aluminum	NA	N/A	--	--	Neurological	8E-03	N/A	--	8E-03
			Arsenic	5E-08	N/A	8E-09	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	9E-03	N/A	1E-03	1E-02
			Cobalt	NA	N/A	--	--	Endocrine; Lung	2E-03	N/A	--	2E-03
			Iron	NA	N/A	--	--	GI tract	2E-02	N/A	--	2E-02
			Manganese	NA	N/A	--	--	Neurological	7E-03	N/A	--	7E-03
			Chemical Total	7E-07	--	4E-07	1E-06		5E-02	--	1E-03	5E-02
		Exposure Point Total					1E-06					5E-02
	Exposure Medium Total						1E-06					5E-02
Medium Total							1E-06					5E-02
Receptor Total							1E-06				Receptor HI Total	2E-01

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.7.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU GB	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-06	5E-11	6E-07	3E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-05	5E-10	6E-06	3E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-06	7E-11	9E-07	4E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	9E-06	2E-10	2E-06	1E-05	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-06	3E-11	4E-07	2E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Total PCB Aroclors	2E-07	2E-12	7E-08	2E-07	Eye; Nails; Immunological	4E-03	NA	2E-03	6E-03
			Aluminum	NA	NA	--	--	Neurological	3E-02	3E-03	--	3E-02
			Arsenic	1E-05	7E-09	1E-06	1E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-02	3E-04	3E-03	3E-02
			Cobalt	NA	3E-08	--	3E-08	Endocrine; Lung	5E-02	1E-03	--	6E-02
			Iron	NA	NA	--	--	GI tract	6E-02	NA	--	6E-02
			Manganese	NA	NA	--	--	Neurological	4E-02	9E-03	--	5E-02
			Mercury	NA	NA	--	--	Immunological; Neurological	1E-02	5E-05	--	1E-02
			Vanadium	NA	NA	--	--	Hair	1E-02	NA	--	1E-02
			Chemical Total	5.2E-05	4E-08	1E-05	6E-05		2E-01	1E-02	5E-03	3E-01
		Exposure Point Total					6E-05					3E-01
	Exposure Medium Total						6E-05					3E-01
Medium Total							6E-05					3E-01
Receptor Total							6E-05				Receptor HI Total	3E-01

Notes

NA - Not Available

TABLE 9.7.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB1	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	3E-06	6E-11	8E-07	4E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-05	7E-10	9E-06	4E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	4E-06	8E-11	1E-06	4E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-07	6E-11	8E-08	4E-07	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	6E-06	1E-10	2E-06	8E-06	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-06	3E-11	4E-07	2E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-06	2E-11	8E-07	2E-06	Eye; Nails; Immunological	4E-02	NA	2E-02	6E-02
			Aluminum	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Arsenic	2E-05	1E-08	2E-06	2E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-02	4E-04	5E-03	4E-02
			Cobalt	NA	3E-08	--	3E-08	Endocrine; Lung	5E-02	1E-03	--	5E-02
			Iron	NA	NA	--	--	GI tract	4E-02	NA	--	4E-02
			Manganese	NA	NA	--	--	Neurological	3E-02	8E-03	--	4E-02
			Vanadium	NA	NA	--	--	Hair	1E-02	NA	--	1E-02
			Chemical Total	6.9E-05	4E-08	2E-05	8E-05		2E-01	1E-02	3E-02	3E-01
		Exposure Point Total					8E-05					3E-01
	Exposure Medium Total						8E-05					3E-01
Medium Total							8E-05					3E-01
Receptor Total							8E-05				Receptor HI Total	3E-01

Notes

NA - Not Available

TABLE 9.7.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB2	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	8E-07	2E-11	2E-07	1E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	9E-06	2E-10	3E-06	1E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-06	3E-11	3E-07	1E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-06	5E-11	6E-07	3E-06	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	7E-07	1E-11	2E-07	8E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-06	2E-11	1E-06	3E-06	Eye; Nails; Immunological	5E-02	NA	3E-02	8E-02
			Aluminum	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Arsenic	3E-05	2E-08	3E-06	3E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-02	6E-04	7E-03	6E-02
			Cobalt	NA	2E-08	--	2E-08	Endocrine; Lung	3E-02	6E-04	--	3E-02
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Manganese	NA	NA	--	--	Neurological	3E-02	7E-03	--	3E-02
			Chemical Total	4.5E-05	3E-08	8E-06	5E-05		2E-01	1E-02	4E-02	3E-01
		Exposure Point Total					5E-05					3E-01
	Exposure Medium Total						5E-05					3E-01
Medium Total							5E-05					3E-01
Receptor Total							5E-05				Receptor HI Total	3E-01

Notes

NA - Not Available

TABLE 9.7.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	7E-06	2E-10	2E-06	9E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	9E-05	2E-09	3E-05	1E-04	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-05	2E-10	3E-06	1E-05	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	9E-07	2E-10	2E-07	1E-06	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	2E-05	6E-10	6E-06	3E-05	Liver	6E-02	NA	2E-02	8E-02
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-05	4E-10	5E-06	2E-05	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	5E-06	1E-10	1E-06	6E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-05	1E-10	7E-06	2E-05	Eye; Nails; Immunological	3E-01	NA	2E-01	5E-01
			Aluminum	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Antimony	NA	NA	--	--	Blood	4E-01	NA	--	4E-01
			Arsenic	4E-05	2E-08	4E-06	4E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	8E-04	9E-03	9E-02
			Cadmium	NA	3E-09	NA	3E-09	Kidney; Respiratory; Musculoskeletal	7E-03	2E-04	1E-03	8E-03
			Cobalt	NA	3E-08	--	3E-08	Endocrine; Lung	6E-02	1E-03	--	6E-02
			Copper	NA	NA	--	--	GI tract	6E-02	NA	--	6E-02
			Iron	NA	NA	--	--	GI tract	2E-01	NA	--	2E-01
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	4E-02	1E-02	--	5E-02
			Mercury	NA	NA	--	--	Immunological; Neurological	1E-02	6E-05	--	1E-02
			Nickel	NA	8E-09	--	8E-09	Whole body; Respiratory	7E-03	8E-04	--	8E-03
			Thallium	NA	NA	--	--	NOAEL	5E-01	NA	--	5E-01
			Vanadium	NA	NA	--	--	Hair	8E-03	NA	--	8E-03
			Zinc	NA	NA	--	--	Blood	6E-03	NA	--	6E-03
			Chemical Total	2.1E-04	7E-08	5E-05	3E-04		2E+00	1E-02	2E-01	2E+00
		Exposure Point Total					3E-04					2E+00
	Exposure Medium Total						3E-04					2E+00
Medium Total							3E-04					2E+00
Receptor Total							3E-04				Receptor HI Total	2E+00

Notes

NA - Not Available

Blood HI Across All Media =	4E-01
Kidney HI Across All Media =	8E-03
Liver HI Across All Media =	8E-02
Developmental HI Across All Media =	9E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	2E-01
Musculoskeletal HI Across All Media =	8E-03
Eye HI Across All Media =	5E-01
Immunological HI Across All Media =	5E-01
Hair, Skin, Nails HI Across All Media =	6E-01
Cardiovascular HI Across All Media =	9E-02
Endocrine HI Across All Media =	6E-02
GI tract HI Across All Media =	2E-01
Whole body HI Across All Media =	8E-03

TABLE 9.7.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	3E-07	3E-11	2E-08	4E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	4E-06	3E-10	3E-07	5E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	5E-07	3E-11	3E-08	5E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	4E-08	3E-11	3E-09	4E-08	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	2E-06	2E-10	1E-07	2E-06	Liver	6E-02	NA	3E-03	6E-02
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	8E-07	7E-11	6E-08	9E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-07	2E-11	2E-08	2E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-06	4E-11	1E-07	2E-06	Eye; Nails; Immunological	3E-01	NA	3E-02	4E-01
			Aluminum	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Antimony	NA	NA	--	--	Blood	4E-01	NA	--	4E-01
			Arsenic	5E-06	7E-09	8E-08	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-02	8E-04	1E-03	8E-02
			Cadmium	NA	8E-10	NA	8E-10	Kidney; Respiratory; Musculoskeletal	7E-03	2E-04	2E-04	7E-03
			Cobalt	NA	1E-08	--	1E-08	Endocrine; Lung	6E-02	1E-03	--	6E-02
			Copper	NA	NA	--	--	GI tract	6E-02	NA	--	6E-02
			Iron	NA	NA	--	--	GI tract	2E-01	NA	--	2E-01
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	4E-02	1E-02	--	5E-02
			Mercury	NA	NA	--	--	Immunological; Neurological	1E-02	6E-05	--	1E-02
			Nickel	NA	3E-09	--	3E-09	Whole body; Respiratory	7E-03	8E-04	--	8E-03
			Thallium	NA	NA	--	--	NOAEL	5E-01	NA	--	5E-01
			Vanadium	NA	NA	--	--	Hair	8E-03	NA	--	8E-03
			Zinc	NA	NA	--	--	Blood	6E-03	NA	--	6E-03
			Chemical Total	1.5E-05	2E-08	8E-07	2E-05		2E+00	1E-02	3E-02	2E+00
		Exposure Point Total					2E-05					2E+00
	Exposure Medium Total						2E-05					2E+00
Medium Total							2E-05					2E+00
Receptor Total							2E-05				Receptor HI Total	2E+00

Notes

NA - Not Available

Blood HI Across All Media =	4E-01
Kidney HI Across All Media =	7E-03
Liver HI Across All Media =	6E-02
Developmental HI Across All Media =	8E-02
Neurological HI Across All Media =	2E-01
Respiratory, Lung HI Across All Media =	2E-01
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	4E-01
Immunological HI Across All Media =	4E-01
Hair, Skin, Nails HI Across All Media =	5E-01
Cardiovascular HI Across All Media =	8E-02
Endocrine HI Across All Media =	6E-02
GI tract HI Across All Media =	2E-01
Whole body HI Across All Media =	8E-03

TABLE 9.7.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-06	3E-11	4E-07	2E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-05	4E-10	5E-06	2E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-06	6E-11	7E-07	3E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-07	3E-11	4E-08	2E-07	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-05	1E-09	1E-05	6E-05	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-06	3E-11	3E-07	2E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Aldrin	3E-07	2E-11	--	3E-07	Liver	6E-04	NA	--	6E-04
			delta-BHC	NA	NA	--	--	--	NA	NA	--	--
			Dieldrin	6E-06	3E-10	--	6E-06	Liver; Neurological	6E-03	NA	--	6E-03
			4,4'-DDT	1E-07	7E-12	1E-08	1E-07	Liver	6E-04	NA	8E-05	7E-04
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	7E-05	6E-10	3E-05	9E-05	Eye; Nails; Immunological	1E+00	NA	8E-01	2E+00
			Aluminum	NA	NA	--	--	Neurological	1E-02	1E-03	--	1E-02
			Antimony	NA	NA	--	--	Blood	4E-02	NA	--	4E-02
			Arsenic	4E-05	2E-08	3E-06	4E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-02	7E-04	8E-03	8E-02
			Cadmium	NA	3E-09	NA	3E-09	Kidney; Respiratory; Musculoskeletal	7E-03	2E-04	1E-03	9E-03
			Cobalt	NA	2E-08	--	2E-08	Endocrine; Lung	3E-02	8E-04	--	3E-02
			Copper	NA	NA	--	--	GI tract	3E-03	NA	--	3E-03
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-02	7E-03	--	4E-02
			Silver	NA	NA	--	--	Skin	1E-03	NA	--	1E-03
			Vanadium	NA	NA	--	--	Hair	9E-03	NA	--	9E-03
			Zinc	NA	NA	--	--	Blood	1E-03	NA	--	1E-03
			Chemical Total	1.7E-04	4E-08	5E-05	2E-04		2E+00	1E-02	8E-01	2E+00
		Exposure Point Total					2E-04					2E+00
	Exposure Medium Total						2E-04					2E+00
Medium Total							2E-04					2E+00
Receptor Total							2E-04				Receptor HI Total	2E+00

Notes

NA - Not Available

Blood HI Across All Media =	4E-02
Kidney HI Across All Media =	9E-03
Liver HI Across All Media =	7E-03
Developmental HI Across All Media =	8E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	9E-03
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	8E-02
Endocrine HI Across All Media =	3E-02
GI tract HI Across All Media =	3E-02

TABLE 9.7.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	7E-08	5E-12	5E-09	7E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	8E-07	6E-11	6E-08	8E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-07	9E-12	9E-09	1E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	6E-09	5E-12	5E-10	7E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-06	2E-10	2E-07	2E-06	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	6E-08	4E-12	4E-09	6E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Aldrin	4E-08	6E-12	--	4E-08	Liver	6E-04	NA	--	6E-04
			delta-BHC	NA	NA	--	--	--	NA	NA	--	--
			Dieldrin	6E-07	9E-11	--	6E-07	Liver; Neurological	6E-03	NA	--	6E-03
			4,4'-DDT	1E-08	2E-12	2E-10	1E-08	Liver	6E-04	NA	1E-05	6E-04
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	7E-06	2E-10	6E-07	8E-06	Eye; Nails; Immunological	1E+00	NA	1E-01	2E+00
			Aluminum	NA	NA	--	--	Neurological	1E-02	1E-03	--	1E-02
			Antimony	NA	NA	--	--	Blood	4E-02	NA	--	4E-02
			Arsenic	4E-06	6E-09	7E-08	4E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-02	7E-04	1E-03	7E-02
			Cadmium	NA	9E-10	NA	9E-10	Kidney; Respiratory; Musculoskeletal	7E-03	2E-04	2E-04	8E-03
			Cobalt	NA	6E-09	--	6E-09	Endocrine; Lung	3E-02	8E-04	--	3E-02
			Copper	NA	NA	--	--	GI tract	3E-03	NA	--	3E-03
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-02	7E-03	--	4E-02
			Silver	NA	NA	--	--	Skin	1E-03	NA	--	1E-03
			Vanadium	NA	NA	--	--	Hair	9E-03	NA	--	9E-03
			Zinc	NA	NA	--	--	Blood	1E-03	NA	--	1E-03
			Chemical Total	1.5E-05	1E-08	9E-07	2E-05		2E+00	1E-02	1E-01	2E+00
		Exposure Point Total					2E-05					2E+00
	Exposure Medium Total						2E-05					2E+00
Medium Total							2E-05					2E+00
Receptor Total							2E-05				Receptor HI Total	2E+00

Notes

NA - Not Available

Blood HI Across All Media =	4E-02
Kidney HI Across All Media =	8E-03
Liver HI Across All Media =	7E-03
Developmental HI Across All Media =	7E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	8E-03
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	7E-02
Endocrine HI Across All Media =	3E-02
GI tract HI Across All Media =	3E-02

TABLE 9.7.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	--	Kidney	2E-02	--	--	2E-02
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	5E-06	1E-10	1E-06	7E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	8E-05	2E-09	2E-05	1E-04	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-05	2E-10	3E-06	1E-05	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-07	6E-11	8E-08	4E-07	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	1E-06	4E-11	4E-07	2E-06	Liver	4E-03	NA	1E-03	5E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	8E-06	2E-10	2E-06	1E-05	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-06	7E-11	9E-07	4E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	2E-04	1E-08	--	2E-04	Liver; Neurological	2E-01	NA	--	2E-01
			4,4'-DDE	3E-05	2E-09	3E-06	3E-05	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Heptachlor epoxide	2E-05	1E-09	--	2E-05	Liver	1E-01	NA	--	1E-01
			Total PCB Aroclors	1E-04	1E-09	5E-05	2E-04	Eye; Nails; Immunological	2E+00	NA	1E+00	4E+00
			Aluminum	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Antimony	NA	NA	--	--	Blood	1E-02	NA	--	1E-02
			Arsenic	4E-05	2E-08	3E-06	4E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-02	7E-04	8E-03	8E-02
			Cadmium	NA	6E-09	NA	6E-09	Kidney; Respiratory; Musculoskeletal	2E-02	4E-04	3E-03	2E-02
			Cobalt	NA	3E-08	--	3E-08	Endocrine; Lung	6E-02	2E-03	--	6E-02
			Copper	NA	NA	--	--	GI tract	6E-03	NA	--	6E-03
			Iron	NA	NA	--	--	GI tract	6E-02	NA	--	6E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-02	7E-03	--	4E-02
			Vanadium	NA	NA	--	--	Hair	1E-02	NA	--	1E-02
			Chemical Total	4.8E-04	8E-08	8E-05	6E-04		3E+00	1E-02	1E+00	4E+00
		Exposure Point Total					6E-04					4E+00
	Exposure Medium Total						6E-04					4E+00
Medium Total							6E-04					4E+00
Receptor Total							6E-04				Receptor HI Total	4E+00

Notes

NA - Not Available

Blood HI Across All Media =	1E-02
Kidney HI Across All Media =	3E-02
Liver HI Across All Media =	3E-01
Developmental HI Across All Media =	8E-02
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	2E-01
Musculoskeletal HI Across All Media =	2E-02
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Cardiovascular HI Across All Media =	8E-02
Endocrine HI Across All Media =	6E-02
GI tract HI Across All Media =	6E-02

TABLE 9.7.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	--	Kidney	2E-02	--	--	2E-02
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-07	2E-11	2E-08	3E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-06	3E-10	3E-07	4E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	5E-07	4E-11	4E-08	5E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-08	1E-11	1E-09	1E-08	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	1E-07	1E-11	7E-09	1E-07	Liver	4E-03	NA	2E-04	4E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	3E-07	3E-11	3E-08	4E-07	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-07	1E-11	1E-08	2E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	2E-05	3E-09	--	2E-05	Liver; Neurological	2E-01	NA	--	2E-01
			4,4'-DDE	3E-06	5E-10	6E-08	3E-06	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Heptachlor epoxide	2E-06	3E-10	--	2E-06	Liver	1E-01	NA	--	1E-01
			Total PCB Aroclors	1E-05	3E-10	9E-07	1E-05	Eye; Nails; Immunological	2E+00	NA	2E-01	2E+00
			Aluminum	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Antimony	NA	NA	--	--	Blood	1E-02	NA	--	1E-02
			Arsenic	4E-06	6E-09	7E-08	4E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-02	7E-04	1E-03	7E-02
			Cadmium	NA	2E-09	NA	2E-09	Kidney; Respiratory; Musculoskeletal	2E-02	4E-04	4E-04	2E-02
			Cobalt	NA	1E-08	--	1E-08	Endocrine; Lung	6E-02	2E-03	--	6E-02
			Copper	NA	NA	--	--	GI tract	6E-03	NA	--	6E-03
			Iron	NA	NA	--	--	GI tract	6E-02	NA	--	6E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-02	7E-03	--	4E-02
			Vanadium	NA	NA	--	--	Hair	1E-02	NA	--	1E-02
			Chemical Total	4.7E-05	2E-08	1E-06	5E-05		3E+00	1E-02	2E-01	3E+00
		Exposure Point Total					5E-05					3E+00
	Exposure Medium Total						5E-05					3E+00
Medium Total							5E-05					3E+00
Receptor Total							5E-05				Receptor HI Total	3E+00

Notes

NA - Not Available

Blood HI Across All Media =	1E-02
Kidney HI Across All Media =	3E-02
Liver HI Across All Media =	3E-01
Developmental HI Across All Media =	7E-02
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	2E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	7E-02
Endocrine HI Across All Media =	6E-02
GI tract HI Across All Media =	6E-02

TABLE 9.7.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	6E-06	1E-10	2E-06	8E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	5E-05	1E-09	1E-05	6E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	7E-06	2E-10	2E-06	9E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	6E-07	1E-10	2E-07	7E-07	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	6E-06	1E-10	2E-06	7E-06	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-06	7E-11	9E-07	4E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-04	2E-09	9E-05	3E-04	Eye; Nails; Immunological	4E+00	NA	2E+00	7E+00
			Aluminum	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Arsenic	7E-06	4E-09	7E-07	8E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	1E-04	2E-03	2E-02
			Cadmium	NA	2E-09	NA	2E-09	Kidney; Respiratory; Musculoskeletal	5E-03	1E-04	9E-04	7E-03
			Cobalt	NA	2E-08	--	2E-08	Endocrine; Lung	3E-02	8E-04	--	3E-02
			Cyanide	NA	NA	--	--	Whole body; Endocrine	4E-03	NA	--	4E-03
			Iron	NA	NA	--	--	GI tract	6E-02	NA	--	6E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-02	8E-03	--	4E-02
			Chemical Total	2.7E-04	3E-08	1E-04	4E-04		4E+00	1E-02	2E+00	7E+00
		Exposure Point Total					4E-04					7E+00
	Exposure Medium Total						4E-04					7E+00
Medium Total							4E-04					7E+00
Receptor Total							4E-04				Receptor HI Total	7E+00

Notes

NA - Not Available

Kidney HI Across All Media =	7E-03
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	8E-02
Respiratory, Lung HI Across All Media =	6E-02
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	7E+00
Immunological HI Across All Media =	7E+00
Hair, Skin, Nails HI Across All Media =	7E+00
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	3E-02
GI tract HI Across All Media =	6E-02
Whole body HI Across All Media =	4E-03

TABLE 9.7.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	3E-07	2E-11	2E-08	3E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-06	2E-10	2E-07	2E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-07	2E-11	2E-08	3E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-08	2E-11	2E-09	3E-08	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	3E-07	2E-11	2E-08	3E-07	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-07	1E-11	1E-08	2E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-05	6E-10	2E-06	2E-05	Eye; Nails; Immunological	4E+00	NA	3E-01	5E+00
			Aluminum	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Arsenic	8E-07	1E-09	1E-08	8E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	1E-04	2E-04	1E-02
			Cadmium	NA	6E-10	NA	6E-10	Kidney; Respiratory; Musculoskeletal	5E-03	1E-04	1E-04	6E-03
			Cobalt	NA	6E-09	--	6E-09	Endocrine; Lung	3E-02	8E-04	--	3E-02
			Cyanide	NA	NA	--	--	Whole body; Endocrine	4E-03	NA	--	4E-03
			Iron	NA	NA	--	--	GI tract	6E-02	NA	--	6E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-02	8E-03	--	4E-02
			Chemical Total	2.6E-05	8E-09	2E-06	3E-05		4E+00	1E-02	3E-01	5E+00
		Exposure Point Total					3E-05					5E+00
	Exposure Medium Total						3E-05					5E+00
Medium Total							3E-05					5E+00
Receptor Total							3E-05				Receptor HI Total	5E+00

Notes

NA - Not Available

Kidney HI Across All Media =	6E-03
Developmental HI Across All Media =	1E-02
Neurological HI Across All Media =	8E-02
Respiratory, Lung HI Across All Media =	5E-02
Musculoskeletal HI Across All Media =	6E-03
Eye HI Across All Media =	5E+00
Immunological HI Across All Media =	5E+00
Hair, Skin, Nails HI Across All Media =	5E+00
Cardiovascular HI Across All Media =	1E-02
Endocrine HI Across All Media =	3E-02
GI tract HI Across All Media =	6E-02
Whole body HI Across All Media =	4E-03

TABLE 9.8.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU GB	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-06	3E-11	4E-07	2E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-05	3E-10	5E-06	2E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-06	4E-11	7E-07	4E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	8E-06	1E-10	2E-06	1E-05	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-06	2E-11	3E-07	1E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Total PCB Aroclors	1E-07	3E-13	5E-08	2E-07	Eye; Nails; Immunological	3E-02	NA	1E-02	5E-02
			Aluminum	NA	NA	--	--	Neurological	3E-01	3E-03	--	3E-01
			Arsenic	9E-06	1E-09	8E-07	1E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-01	3E-04	2E-02	3E-01
			Cobalt	NA	6E-09	--	6E-09	Endocrine; Lung	5E-01	1E-03	--	5E-01
			Iron	NA	NA	--	--	GI tract	5E-01	NA	--	5E-01
			Manganese	NA	NA	--	--	Neurological	3E-01	9E-03	--	4E-01
			Mercury	NA	NA	--	--	Immunological; Neurological	9E-02	5E-05	--	9E-02
			Vanadium	NA	NA	--	--	Hair	1E-01	NA	--	1E-01
			Chemical Total	4.3E-05	8E-09	9E-06	5E-05		2E+00	1E-02	3E-02	2E+00
		Exposure Point Total					5E-05					2E+00
	Exposure Medium Total						5E-05					2E+00
Medium Total							5E-05					2E+00
Receptor Total							5E-05				Receptor HI Total	2E+00

Notes

NA - Not Available

Developmental HI Across All Media =	3E-01
Neurological HI Across All Media =	1E+00
Respiratory, Lung HI Across All Media =	8E-01
Eye HI Across All Media =	5E-02
Immunological HI Across All Media =	1E-01
Hair, Skin, Nails HI Across All Media =	4E-01
Cardiovascular HI Across All Media =	3E-01
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	5E-01

TABLE 9.8.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU GB	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-06	3E-11	9E-08	2E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-05	3E-10	9E-07	2E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-06	4E-11	1E-07	3E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	8E-06	1E-10	4E-07	8E-06	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-06	2E-11	6E-08	1E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Total PCB Aroclors	1E-07	3E-13	9E-09	1E-07	Eye; Nails; Immunological	3E-02	NA	3E-03	4E-02
			Aluminum	NA	NA	--	--	Neurological	3E-01	3E-03	--	3E-01
			Arsenic	9E-06	1E-09	2E-07	1E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-01	3E-04	4E-03	2E-01
			Cobalt	NA	6E-09	--	6E-09	Endocrine; Lung	5E-01	1E-03	--	5E-01
			Iron	NA	NA	--	--	GI tract	5E-01	NA	--	5E-01
			Manganese	NA	NA	--	--	Neurological	3E-01	9E-03	--	4E-01
			Mercury	NA	NA	--	--	Immunological; Neurological	9E-02	5E-05	--	9E-02
			Vanadium	NA	NA	--	--	Hair	1E-01	NA	--	1E-01
			Chemical Total	4.3E-05	8E-09	2E-06	4E-05		2E+00	1E-02	7E-03	2E+00
		Exposure Point Total					4E-05					2E+00
	Exposure Medium Total						4E-05					2E+00
Medium Total							4E-05					2E+00
Receptor Total							4E-05				Receptor HI Total	2E+00

Notes

NA - Not Available

Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	1E+00
Respiratory, Lung HI Across All Media =	8E-01
Eye HI Across All Media =	4E-02
Immunological HI Across All Media =	1E-01
Hair, Skin, Nails HI Across All Media =	4E-01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	5E-01

TABLE 9.8.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB1	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	3E-06	4E-11	6E-07	3E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-05	4E-10	7E-06	3E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-06	4E-11	7E-07	4E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-07	4E-11	6E-08	3E-07	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	6E-06	8E-11	1E-06	7E-06	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-06	2E-11	3E-07	2E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-06	3E-12	5E-07	2E-06	Eye; Nails; Immunological	4E-01	NA	1E-01	5E-01
			Aluminum	NA	NA	--	--	Neurological	2E-01	2E-03	--	2E-01
			Arsenic	1E-05	2E-09	1E-06	2E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-01	4E-04	3E-02	4E-01
			Cobalt	NA	6E-09	--	6E-09	Endocrine; Lung	5E-01	1E-03	--	5E-01
			Iron	NA	NA	--	--	GI tract	4E-01	NA	--	4E-01
			Manganese	NA	NA	--	--	Neurological	3E-01	8E-03	--	3E-01
			Vanadium	NA	NA	--	--	Hair	1E-01	NA	--	1E-01
			Chemical Total	5.6E-05	9E-09	1E-05	7E-05		2E+00	1E-02	2E-01	2E+00
		Exposure Point Total					7E-05					2E+00
	Exposure Medium Total						7E-05					2E+00
Medium Total							7E-05					2E+00
Receptor Total							7E-05				Receptor HI Total	2E+00

Notes

NA - Not Available

Developmental HI Across All Media =	4E-01
Neurological HI Across All Media =	9E-01
Respiratory, Lung HI Across All Media =	9E-01
Eye HI Across All Media =	5E-01
Immunological HI Across All Media =	5E-01
Hair, Skin, Nails HI Across All Media =	1E+00
Cardiovascular HI Across All Media =	4E-01
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	4E-01

TABLE 9.8.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB1	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	3E-06	4E-11	1E-07	3E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-05	4E-10	1E-06	3E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-06	4E-11	1E-07	3E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-07	4E-11	1E-08	3E-07	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	6E-06	8E-11	3E-07	6E-06	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-06	2E-11	7E-08	1E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-06	3E-12	9E-08	1E-06	Eye; Nails; Immunological	4E-01	NA	3E-02	4E-01
			Aluminum	NA	NA	--	--	Neurological	2E-01	2E-03	--	2E-01
			Arsenic	1E-05	2E-09	2E-07	1E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-01	4E-04	6E-03	4E-01
			Cobalt	NA	6E-09	--	6E-09	Endocrine; Lung	5E-01	1E-03	--	5E-01
			Iron	NA	NA	--	--	GI tract	4E-01	NA	--	4E-01
			Manganese	NA	NA	--	--	Neurological	3E-01	8E-03	--	3E-01
			Vanadium	NA	NA	--	--	Hair	1E-01	NA	--	1E-01
			Chemical Total	5.6E-05	9E-09	2E-06	6E-05		2E+00	1E-02	3E-02	2E+00
		Exposure Point Total					6E-05					2E+00
	Exposure Medium Total						6E-05					2E+00
Medium Total							6E-05					2E+00
Receptor Total							6E-05				Receptor HI Total	2E+00

Notes

NA - Not Available

Developmental HI Across All Media =	4E-01
Neurological HI Across All Media =	8E-01
Respiratory, Lung HI Across All Media =	9E-01
Eye HI Across All Media =	4E-01
Immunological HI Across All Media =	4E-01
Hair, Skin, Nails HI Across All Media =	9E-01
Cardiovascular HI Across All Media =	4E-01
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	4E-01

TABLE 9.8.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB2	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	7E-07	1E-11	2E-07	9E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	8E-06	1E-10	2E-06	1E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-06	1E-11	2E-07	1E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-06	3E-11	5E-07	2E-06	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	6E-07	8E-12	1E-07	7E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-06	4E-12	6E-07	2E-06	Eye; Nails; Immunological	5E-01	NA	2E-01	7E-01
			Aluminum	NA	NA	--	--	Neurological	2E-01	2E-03	--	2E-01
			Arsenic	2E-05	3E-09	2E-06	2E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-01	6E-04	4E-02	6E-01
			Cobalt	NA	3E-09	--	3E-09	Endocrine; Lung	2E-01	6E-04	--	2E-01
			Iron	NA	NA	--	--	GI tract	3E-01	NA	--	3E-01
			Manganese	NA	NA	--	--	Neurological	3E-01	7E-03	--	3E-01
			Chemical Total	3.4E-05	6E-09	5E-06	4E-05		2E+00	1E-02	2E-01	2E+00
		Exposure Point Total					4E-05					2E+00
	Exposure Medium Total						4E-05					2E+00
Medium Total							4E-05					2E+00
Receptor Total							4E-05				Receptor HI Total	2E+00

Notes

NA - Not Available

Developmental HI Across All Media =	6E-01
Neurological HI Across All Media =	1E+00
Respiratory, Lung HI Across All Media =	8E-01
Eye HI Across All Media =	7E-01
Immunological HI Across All Media =	7E-01
Hair, Skin, Nails HI Across All Media =	1E+00
Cardiovascular HI Across All Media =	6E-01
Endocrine HI Across All Media =	2E-01
GI tract HI Across All Media =	3E-01

TABLE 9.8.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB2	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	7E-07	1E-11	3E-08	8E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	8E-06	1E-10	4E-07	9E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-06	1E-11	5E-08	1E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-06	3E-11	9E-08	2E-06	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	6E-07	8E-12	3E-08	6E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-06	4E-12	1E-07	2E-06	Eye; Nails; Immunological	5E-01	NA	4E-02	5E-01
			Aluminum	NA	NA	--	--	Neurological	2E-01	2E-03	--	2E-01
			Arsenic	2E-05	3E-09	3E-07	2E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-01	6E-04	9E-03	5E-01
			Cobalt	NA	3E-09	--	3E-09	Endocrine; Lung	2E-01	6E-04	--	2E-01
			Iron	NA	NA	--	--	GI tract	3E-01	NA	--	3E-01
			Manganese	NA	NA	--	--	Neurological	3E-01	7E-03	--	3E-01
			Chemical Total	3.4E-05	6E-09	1E-06	3E-05		2E+00	1E-02	5E-02	2E+00
		Exposure Point Total					3E-05					2E+00
	Exposure Medium Total						3E-05					2E+00
Medium Total							3E-05					2E+00
Receptor Total							3E-05				Receptor HI Total	2E+00

Notes

NA - Not Available

Developmental HI Across All Media =	5E-01
Neurological HI Across All Media =	1E+00
Respiratory, Lung HI Across All Media =	8E-01
Eye HI Across All Media =	5E-01
Immunological HI Across All Media =	5E-01
Hair, Skin, Nails HI Across All Media =	1E+00
Cardiovascular HI Across All Media =	5E-01
Endocrine HI Across All Media =	2E-01
GI tract HI Across All Media =	3E-01

TABLE 9.8.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	7E-06	9E-11	2E-06	8E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	8E-05	1E-09	2E-05	1E-04	--	NA	NA	NA	--
			Benzo(b)fluoranthene	9E-06	1E-10	2E-06	1E-05	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	8E-07	1E-10	2E-07	1E-06	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	1E-05	1E-10	4E-06	2E-05	Liver	6E-01	NA	2E-01	7E-01
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-05	2E-10	4E-06	2E-05	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	4E-06	6E-11	1E-06	5E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-05	3E-11	4E-06	2E-05	Eye; Nails; Immunological	3E+00	NA	1E+00	4E+00
			Aluminum	NA	NA	--	--	Neurological	1E-01	2E-03	--	1E-01
			Antimony	NA	NA	--	--	Blood	4E+00	NA	--	4E+00
			Arsenic	3E-05	4E-09	2E-06	3E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-01	8E-04	6E-02	8E-01
			Cadmium	NA	5E-10	NA	5E-10	Kidney; Respiratory; Musculoskeletal	6E-02	2E-04	7E-03	7E-02
			Cobalt	NA	7E-09	--	7E-09	Endocrine; Lung	5E-01	1E-03	--	5E-01
			Copper	NA	NA	--	--	GI tract	6E-01	NA	--	6E-01
			Iron	NA	NA	--	--	GI tract	2E+00	NA	--	2E+00
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	4E-01	1E-02	--	4E-01
			Mercury	NA	NA	--	--	Immunological; Neurological	1E-01	6E-05	--	1E-01
			Nickel	NA	2E-09	--	2E-09	Whole body; Respiratory	7E-02	8E-04	--	7E-02
			Thallium	NA	NA	--	--	NOAEL	5E+00	NA	--	5E+00
			Vanadium	NA	NA	--	--	Hair	7E-02	NA	--	7E-02
			Zinc	NA	NA	--	--	Blood	6E-02	NA	--	6E-02
			Chemical Total	1.7E-04	2E-08	4E-05	2E-04		2E+01	1E-02	1E+00	2E+01
		Exposure Point Total					2E-04					2E+01
	Exposure Medium Total						2E-04					2E+01
Medium Total							2E-04					2E+01
Receptor Total							2E-04	Receptor HI Total				2E+01

Notes

NA - Not Available

Blood HI Across All Media =	4E+00
Kidney HI Across All Media =	7E-02
Liver HI Across All Media =	7E-01
Developmental HI Across All Media =	8E-01
Neurological HI Across All Media =	1E+00
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	7E-02
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	5E+00
Hair, Skin, Nails HI Across All Media =	5E+00
Cardiovascular HI Across All Media =	8E-01
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	2E+00
Whole body HI Across All Media =	7E-02

TABLE 9.8.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	7E-06	9E-11	3E-07	7E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	8E-05	1E-09	4E-06	9E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	9E-06	1E-10	4E-07	9E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	8E-07	1E-10	4E-08	8E-07	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	1E-05	1E-10	8E-07	1E-05	Liver	6E-01	NA	3E-02	6E-01
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-05	2E-10	8E-07	2E-05	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	4E-06	6E-11	2E-07	5E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-05	3E-11	9E-07	1E-05	Eye; Nails; Immunological	3E+00	NA	3E-01	3E+00
			Aluminum	NA	NA	--	--	Neurological	1E-01	2E-03	--	1E-01
			Antimony	NA	NA	--	--	Blood	4E+00	NA	--	4E+00
			Arsenic	3E-05	4E-09	5E-07	3E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-01	8E-04	1E-02	7E-01
			Cadmium	NA	5E-10	NA	5E-10	Kidney; Respiratory; Musculoskeletal	6E-02	2E-04	1E-03	7E-02
			Cobalt	NA	7E-09	--	7E-09	Endocrine; Lung	5E-01	1E-03	--	5E-01
			Copper	NA	NA	--	--	GI tract	6E-01	NA	--	6E-01
			Iron	NA	NA	--	--	GI tract	2E+00	NA	--	2E+00
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	4E-01	1E-02	--	4E-01
			Mercury	NA	NA	--	--	Immunological; Neurological	1E-01	6E-05	--	1E-01
			Nickel	NA	2E-09	--	2E-09	Whole body; Respiratory	7E-02	8E-04	--	7E-02
			Thallium	NA	NA	--	--	NOAEL	5E+00	NA	--	5E+00
			Vanadium	NA	NA	--	--	Hair	7E-02	NA	--	7E-02
			Zinc	NA	NA	--	--	Blood	6E-02	NA	--	6E-02
			Chemical Total	1.7E-04	2E-08	8E-06	2E-04		2E+01	1E-02	3E-01	2E+01
		Exposure Point Total					2E-04					2E+01
	Exposure Medium Total						2E-04					2E+01
Medium Total							2E-04					2E+01
Receptor Total							2E-04	Receptor HI Total				2E+01

Notes

NA - Not Available

Blood HI Across All Media =	4E+00
Kidney HI Across All Media =	7E-02
Liver HI Across All Media =	6E-01
Developmental HI Across All Media =	7E-01
Neurological HI Across All Media =	1E+00
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	7E-02
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Cardiovascular HI Across All Media =	7E-01
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	2E+00
Whole body HI Across All Media =	7E-02

TABLE 9.8.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	1E-06	2E-11	3E-07	2E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-05	2E-10	4E-06	2E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-06	3E-11	5E-07	3E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-07	2E-11	3E-08	1E-07	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	4E-05	6E-10	9E-06	5E-05	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-06	2E-11	3E-07	1E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Aldrin	2E-07	4E-12	--	2E-07	Liver	6E-03	NA	--	6E-03
			delta-BHC	NA	NA	--	--	--	NA	NA	--	--
			Dieldrin	4E-06	6E-11	--	4E-06	Liver; Neurological	6E-02	NA	--	6E-02
			4,4'-DDT	9E-08	1E-12	7E-09	9E-08	Liver	6E-03	NA	5E-04	6E-03
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	5E-05	1E-10	2E-05	6E-05	Eye; Nails; Immunological	1E+01	NA	5E+00	2E+01
			Aluminum	NA	NA	--	--	Neurological	1E-01	1E-03	--	1E-01
			Antimony	NA	NA	--	--	Blood	4E-01	NA	--	4E-01
			Arsenic	2E-05	4E-09	2E-06	3E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	6E-01	7E-04	5E-02	7E-01
			Cadmium	NA	6E-10	NA	6E-10	Kidney; Respiratory; Musculoskeletal	7E-02	2E-04	8E-03	8E-02
			Cobalt	NA	4E-09	--	4E-09	Endocrine; Lung	3E-01	8E-04	--	3E-01
			Copper	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Iron	NA	NA	--	--	GI tract	3E-01	NA	--	3E-01
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-01	7E-03	--	3E-01
			Silver	NA	NA	--	--	Skin	1E-02	NA	--	1E-02
			Vanadium	NA	NA	--	--	Hair	8E-02	NA	--	8E-02
			Zinc	NA	NA	--	--	Blood	1E-02	NA	--	1E-02
			Chemical Total	1.3E-04	9E-09	3E-05	2E-04		2E+01	1E-02	5E+00	2E+01
		Exposure Point Total					2E-04					2E+01
	Exposure Medium Total						2E-04					2E+01
Medium Total							2E-04					2E+01
Receptor Total							2E-04	Receptor HI Total				2E+01

Notes

NA - Not Available

Blood HI Across All Media =	4E-01
Kidney HI Across All Media =	8E-02
Liver HI Across All Media =	7E-02
Developmental HI Across All Media =	7E-01
Neurological HI Across All Media =	1E+00
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	8E-02
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	7E-01
Endocrine HI Across All Media =	3E-01
GI tract HI Across All Media =	3E-01

TABLE 9.8.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	1E-06	2E-11	6E-08	1E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-05	2E-10	7E-07	2E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-06	3E-11	1E-07	2E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-07	2E-11	6E-09	1E-07	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	4E-05	6E-10	2E-06	4E-05	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-06	2E-11	5E-08	1E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Aldrin	2E-07	4E-12	--	2E-07	Liver	6E-03	NA	--	6E-03
			delta-BHC	NA	NA	--	--	--	NA	NA	--	--
			Dieldrin	4E-06	6E-11	--	4E-06	Liver; Neurological	6E-02	NA	--	6E-02
			4,4'-DDT	9E-08	1E-12	1E-09	9E-08	Liver	6E-03	NA	1E-04	6E-03
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	5E-05	1E-10	4E-06	5E-05	Eye; Nails; Immunological	1E+01	NA	1E+00	1E+01
			Aluminum	NA	NA	--	--	Neurological	1E-01	1E-03	--	1E-01
			Antimony	NA	NA	--	--	Blood	4E-01	NA	--	4E-01
			Arsenic	2E-05	4E-09	4E-07	3E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	6E-01	7E-04	1E-02	7E-01
			Cadmium	NA	6E-10	NA	6E-10	Kidney; Respiratory; Musculoskeletal	7E-02	2E-04	2E-03	7E-02
			Cobalt	NA	4E-09	--	4E-09	Endocrine; Lung	3E-01	8E-04	--	3E-01
			Copper	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Iron	NA	NA	--	--	GI tract	3E-01	NA	--	3E-01
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-01	7E-03	--	3E-01
			Silver	NA	NA	--	--	Skin	1E-02	NA	--	1E-02
			Vanadium	NA	NA	--	--	Hair	8E-02	NA	--	8E-02
			Zinc	NA	NA	--	--	Blood	1E-02	NA	--	1E-02
			Chemical Total	1.3E-04	9E-09	7E-06	1E-04		2E+01	1E-02	1E+00	2E+01
		Exposure Point Total					1E-04					2E+01
	Exposure Medium Total						1E-04					2E+01
Medium Total							1E-04					2E+01
Receptor Total							1E-04	Receptor HI Total				2E+01

Notes

NA - Not Available

Blood HI Across All Media =	4E-01
Kidney HI Across All Media =	7E-02
Liver HI Across All Media =	7E-02
Developmental HI Across All Media =	7E-01
Neurological HI Across All Media =	1E+00
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	7E-02
Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	1E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	7E-01
Endocrine HI Across All Media =	3E-01
GI tract HI Across All Media =	3E-01

TABLE 9.8.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	--	Kidney	1E-01	--	--	1E-01
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	5E-06	6E-11	1E-06	6E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	7E-05	9E-10	2E-05	8E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-05	1E-10	2E-06	1E-05	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-07	4E-11	6E-08	3E-07	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	8E-07	8E-12	2E-07	1E-06	Liver	3E-02	NA	9E-03	4E-02
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	7E-06	1E-10	2E-06	8E-06	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-06	4E-11	7E-07	4E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	1E-04	2E-09	--	1E-04	Liver; Neurological	2E+00	NA	--	2E+00
			4,4'-DDE	2E-05	3E-10	2E-06	2E-05	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Heptachlor epoxide	1E-05	2E-10	--	1E-05	Liver	1E+00	NA	--	1E+00
			Total PCB Aroclors	7E-05	2E-10	3E-05	1E-04	Eye; Nails; Immunological	2E+01	NA	8E+00	3E+01
			Aluminum	NA	NA	--	--	Neurological	2E-01	2E-03	--	2E-01
			Antimony	NA	NA	--	--	Blood	9E-02	NA	--	9E-02
			Arsenic	3E-05	4E-09	2E-06	3E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-01	7E-04	5E-02	7E-01
			Cadmium	NA	1E-09	NA	1E-09	Kidney; Respiratory; Musculoskeletal	1E-01	4E-04	2E-02	2E-01
			Cobalt	NA	7E-09	--	7E-09	Endocrine; Lung	6E-01	2E-03	--	6E-01
			Copper	NA	NA	--	--	GI tract	5E-02	NA	--	5E-02
			Iron	NA	NA	--	--	GI tract	5E-01	NA	--	5E-01
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-01	7E-03	--	3E-01
			Vanadium	NA	NA	--	--	Hair	1E-01	NA	--	1E-01
			Chemical Total	3.5E-04	2E-08	5E-05	4E-04		3E+01	1E-02	8E+00	4E+01
		Exposure Point Total					4E-04					4E+01
	Exposure Medium Total						4E-04					4E+01
Medium Total							4E-04					4E+01
Receptor Total							4E-04				Receptor HI Total	4E+01

Notes

NA - Not Available

Blood HI Across All Media =	9E-02
Kidney HI Across All Media =	3E-01
Liver HI Across All Media =	3E+00
Developmental HI Across All Media =	7E-01
Neurological HI Across All Media =	3E+00
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	2E-01
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Cardiovascular HI Across All Media =	7E-01
Endocrine HI Across All Media =	6E-01
GI tract HI Across All Media =	6E-01

TABLE 9.8.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	--	Kidney	1E-01	--	--	1E-01
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	5E-06	6E-11	2E-07	5E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	7E-05	9E-10	3E-06	7E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-05	1E-10	5E-07	1E-05	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-07	4E-11	1E-08	3E-07	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	8E-07	8E-12	5E-08	9E-07	Liver	3E-02	NA	2E-03	4E-02
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	7E-06	1E-10	3E-07	7E-06	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-06	4E-11	1E-07	3E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	1E-04	2E-09	--	1E-04	Liver; Neurological	2E+00	NA	--	2E+00
			4,4'-DDE	2E-05	3E-10	4E-07	2E-05	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Heptachlor epoxide	1E-05	2E-10	--	1E-05	Liver	1E+00	NA	--	1E+00
			Total PCB Aroclors	7E-05	2E-10	6E-06	8E-05	Eye; Nails; Immunological	2E+01	NA	2E+00	2E+01
			Aluminum	NA	NA	--	--	Neurological	2E-01	2E-03	--	2E-01
			Antimony	NA	NA	--	--	Blood	9E-02	NA	--	9E-02
			Arsenic	3E-05	4E-09	4E-07	3E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-01	7E-04	1E-02	7E-01
			Cadmium	NA	1E-09	NA	1E-09	Kidney; Respiratory; Musculoskeletal	1E-01	4E-04	3E-03	2E-01
			Cobalt	NA	7E-09	--	7E-09	Endocrine; Lung	6E-01	2E-03	--	6E-01
			Copper	NA	NA	--	--	GI tract	5E-02	NA	--	5E-02
			Iron	NA	NA	--	--	GI tract	5E-01	NA	--	5E-01
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-01	7E-03	--	3E-01
			Vanadium	NA	NA	--	--	Hair	1E-01	NA	--	1E-01
			Chemical Total	3.5E-04	2E-08	1E-05	4E-04		3E+01	1E-02	2E+00	3E+01
		Exposure Point Total					4E-04					3E+01
	Exposure Medium Total						4E-04					3E+01
Medium Total							4E-04					3E+01
Receptor Total							4E-04				Receptor HI Total	3E+01

Notes

NA - Not Available

Blood HI Across All Media =	9E-02
Kidney HI Across All Media =	3E-01
Liver HI Across All Media =	3E+00
Developmental HI Across All Media =	7E-01
Neurological HI Across All Media =	3E+00
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal HI Across All Media =	2E-01
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Cardiovascular HI Across All Media =	7E-01
Endocrine HI Across All Media =	6E-01
GI tract HI Across All Media =	6E-01

TABLE 9.8.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	6E-06	8E-11	1E-06	7E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	4E-05	6E-10	9E-06	5E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	6E-06	9E-11	1E-06	8E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-07	7E-11	1E-07	6E-07	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-06	8E-11	1E-06	6E-06	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-06	4E-11	7E-07	4E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-04	4E-10	5E-05	2E-04	Eye; Nails; Immunological	4E+01	NA	2E+01	6E+01
			Aluminum	NA	NA	--	--	Neurological	2E-01	2E-03	--	2E-01
			Arsenic	5E-06	8E-10	4E-07	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	1E-04	1E-02	1E-01
			Cadmium	NA	4E-10	NA	4E-10	Kidney; Respiratory; Musculoskeletal	5E-02	1E-04	6E-03	6E-02
			Cobalt	NA	4E-09	--	4E-09	Endocrine; Lung	3E-01	8E-04	--	3E-01
			Cyanide	NA	NA	--	--	Whole body; Endocrine	4E-02	NA	--	4E-02
			Iron	NA	NA	--	--	GI tract	5E-01	NA	--	5E-01
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-01	8E-03	--	3E-01
			Chemical Total	2.0E-04	6E-09	7E-05	3E-04		4E+01	1E-02	2E+01	6E+01
		Exposure Point Total					3E-04					6E+01
	Exposure Medium Total						3E-04					6E+01
Medium Total							3E-04					6E+01
Receptor Total							3E-04				Receptor HI Total	6E+01

Notes

NA - Not Available

Kidney HI Across All Media =	6E-02
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	6E-01
Respiratory, Lung HI Across All Media =	5E-01
Musculoskeletal HI Across All Media =	6E-02
Eye HI Across All Media =	6E+01
Immunological HI Across All Media =	6E+01
Hair, Skin, Nails HI Across All Media =	6E+01
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	3E-01
GI tract HI Across All Media =	5E-01
Whole body HI Across All Media =	4E-02

TABLE 9.8.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	6E-06	8E-11	3E-07	6E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	4E-05	6E-10	2E-06	4E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	6E-06	9E-11	3E-07	6E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-07	7E-11	2E-08	5E-07	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-06	8E-11	2E-07	5E-06	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-06	4E-11	1E-07	3E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-04	4E-10	1E-05	1E-04	Eye; Nails; Immunological	4E+01	NA	3E+00	4E+01
			Aluminum	NA	NA	--	--	Neurological	2E-01	2E-03	--	2E-01
			Arsenic	5E-06	8E-10	8E-08	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-01	1E-04	2E-03	1E-01
			Cadmium	NA	4E-10	NA	4E-10	Kidney; Respiratory; Musculoskeletal	5E-02	1E-04	1E-03	5E-02
			Cobalt	NA	4E-09	--	4E-09	Endocrine; Lung	3E-01	8E-04	--	3E-01
			Cyanide	NA	NA	--	--	Whole body; Endocrine	4E-02	NA	--	4E-02
			Iron	NA	NA	--	--	GI tract	5E-01	NA	--	5E-01
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-01	8E-03	--	3E-01
			Chemical Total	2.0E-04	6E-09	1E-05	2E-04		4E+01	1E-02	3E+00	4E+01
		Exposure Point Total					2E-04					4E+01
	Exposure Medium Total						2E-04					4E+01
Medium Total							2E-04					4E+01
Receptor Total							2E-04	Receptor HI Total				4E+01

Notes

NA - Not Available

Kidney HI Across All Media =	5E-02
Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	6E-01
Respiratory, Lung HI Across All Media =	5E-01
Musculoskeletal HI Across All Media =	5E-02
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	3E-01
GI tract HI Across All Media =	5E-01
Whole body HI Across All Media =	4E-02

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Green Brook (GB)
Receptor Population: Commercial/Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU GB	Benzo(a)anthracene	2E-07	5E-12	2E-07	4E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-06	5E-11	2E-06	4E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-07	8E-12	3E-07	6E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	4E-07	1E-11	4E-07	8E-07	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-07	3E-12	1E-07	2E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Total PCB Aroclors	5E-08	4E-13	4E-08	9E-08	Eye; Nails; Immunological	3E-03	NA	3E-03	6E-03
			Aluminum	NA	NA	--	--	Neurological	2E-02	7E-04	--	2E-02
			Arsenic	3E-06	2E-09	7E-07	4E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	7E-05	4E-03	3E-02
			Cobalt	NA	6E-09	--	6E-09	Endocrine; Lung	4E-02	3E-04	--	4E-02
			Iron	NA	NA	--	--	GI tract	4E-02	NA	--	4E-02
			Manganese	NA	NA	--	--	Neurological	3E-02	2E-03	--	3E-02
			Mercury	NA	NA	--	--	Immunological; Neurological	4E-03	7E-06	--	4E-03
			Vanadium	NA	NA	--	--	Hair	1E-02	NA	--	1E-02
			Chemical Total	6.7E-06	8E-09	3E-06	1E-05		2E-01	3E-03	7E-03	2E-01
		Exposure Point Total					1E-05					2E-01
	Exposure Medium Total						1E-05					2E-01
Medium Total							1E-05					2E-01
Receptor Total							1E-05				Receptor HI Total	2E-01

Notes

N/A - Not Applicable

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 1 (BB1)
Receptor Population: Commercial/Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB1	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-07	5E-12	2E-07	3E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-06	5E-11	2E-06	4E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-07	6E-12	2E-07	4E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-08	5E-12	2E-08	4E-08	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	4E-07	1E-11	4E-07	8E-07	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-07	3E-12	9E-08	2E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	5E-07	5E-12	5E-07	1E-06	Eye; Nails; Immunological	4E-02	NA	3E-02	7E-02
			Aluminum	NA	NA	--	--	Neurological	1E-02	4E-04	--	1E-02
			Arsenic	4E-06	2E-09	8E-07	5E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	8E-05	5E-03	3E-02
			Cadmium	NA	2E-10	NA	2E-10	Kidney; Respiratory; Musculoskeletal	2E-03	1E-05	4E-04	2E-03
			Cobalt	NA	6E-09	--	6E-09	Endocrine; Lung	4E-02	3E-04	--	4E-02
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Manganese	NA	NA	--	--	Neurological	3E-02	2E-03	--	3E-02
			Vanadium	NA	NA	--	--	Hair	8E-03	NA	--	8E-03
			Chemical Total	7.4E-06	8E-09	4E-06	1E-05		2E-01	3E-03	4E-02	2E-01
		Exposure Point Total					1E-05					2E-01
	Exposure Medium Total						1E-05					2E-01
Medium Total							1E-05					2E-01
Receptor Total							1E-05				Receptor HI Total	2E-01

Notes

N/A - Not Applicable

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB2	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	7E-08	2E-12	6E-08	1E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	8E-07	2E-11	7E-07	1E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	9E-08	2E-12	8E-08	2E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-07	5E-12	2E-07	3E-07	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	5E-08	1E-12	5E-08	1E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	5E-07	4E-12	4E-07	9E-07	Eye; Nails; Immunological	3E-02	NA	3E-02	6E-02
			Aluminum	NA	NA	--	--	Neurological	1E-02	4E-04	--	1E-02
			Arsenic	6E-06	3E-09	1E-06	7E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-02	1E-04	7E-03	4E-02
			Cobalt	NA	3E-09	--	3E-09	Endocrine; Lung	2E-02	1E-04	--	2E-02
			Iron	NA	NA	--	--	GI tract	2E-02	NA	--	2E-02
			Manganese	NA	NA	--	--	Neurological	2E-02	1E-03	--	2E-02
			Chemical Total	7.3E-06	5E-09	3E-06	1E-05		1E-01	2E-03	4E-02	2E-01
		Exposure Point Total					1E-05					2E-01
	Exposure Medium Total						1E-05					2E-01
Medium Total							1E-05					2E-01
Receptor Total							1E-05				Receptor HI Total	2E-01

Notes

N/A - Not Applicable

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 3 (BB3)
Receptor Population: Commercial/Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	5E-07	1E-11	4E-07	9E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	5E-06	1E-10	4E-06	9E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	6E-07	2E-11	5E-07	1E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-08	1E-11	4E-08	9E-08	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	2E-07	7E-12	2E-07	4E-07	Liver	2E-03	NA	2E-03	4E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-06	3E-11	9E-07	2E-06	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-07	8E-12	3E-07	6E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-06	2E-11	2E-06	4E-06	Eye; Nails; Immunological	2E-01	NA	1E-01	3E-01
			Aluminum	NA	NA	--	--	Neurological	9E-03	3E-04	--	1E-02
			Antimony	NA	NA	--	--	Blood	3E-02	NA	--	3E-02
			Arsenic	1E-05	5E-09	2E-06	1E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	6E-02	2E-04	1E-02	7E-02
			Cadmium	NA	5E-10	NA	5E-10	Kidney; Respiratory; Musculoskeletal	5E-03	4E-05	1E-03	6E-03
			Cobalt	NA	6E-09	--	6E-09	Endocrine; Lung	4E-02	3E-04	--	4E-02
			Copper	NA	NA	--	--	GI tract	6E-02	NA	--	6E-02
			Iron	NA	NA	--	--	GI tract	1E-01	NA	--	1E-01
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	3E-02	2E-03	--	3E-02
			Mercury	NA	NA	--	--	Immunological; Neurological	6E-03	1E-05	--	6E-03
			Nickel	NA	1E-09	--	1E-09	Whole body; Respiratory	4E-03	2E-04	--	4E-03
			Thallium	NA	NA	--	--	NOAEL	4E-01	NA	--	4E-01
			Vanadium	NA	NA	--	--	Hair	5E-03	NA	--	5E-03
			Zinc	NA	NA	--	--	Blood	4E-03	NA	--	4E-03
			Chemical Total	2.0E-05	1E-08	1E-05	3E-05		9E-01	3E-03	2E-01	1E+00
		Exposure Point Total					3E-05					1E+00
	Exposure Medium Total						3E-05					1E+00
Medium Total							3E-05					1E+00
Receptor Total							3E-05				Receptor HI Total	1E+00

Notes

N/A - Not Applicable

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB4	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	3E-07	8E-12	3E-07	6E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-06	8E-11	3E-06	6E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	5E-07	1E-11	5E-07	1E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-08	3E-12	1E-08	2E-08	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	4E-06	1E-10	3E-06	7E-06	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-07	5E-12	2E-07	3E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Aldrin	2E-07	1E-11	--	2E-07	Liver	1E-03	NA	--	1E-03
			delta-BHC	NA	NA	--	--	--	NA	NA	--	--
			Dieldrin	2E-06	9E-11	--	2E-06	Liver; Neurological	6E-03	NA	--	6E-03
			4,4'-DDT	6E-08	3E-12	1E-08	7E-08	Liver	9E-04	NA	2E-04	1E-03
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	8E-06	7E-11	8E-06	2E-05	Eye; Nails; Immunological	6E-01	NA	5E-01	1E+00
			Aluminum	NA	NA	--	--	Neurological	1E-02	3E-04	--	1E-02
			Antimony	NA	NA	--	--	Blood	9E-03	NA	--	9E-03
			Arsenic	5E-06	2E-09	1E-06	6E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-02	1E-04	6E-03	4E-02
			Cadmium	NA	9E-10	NA	9E-10	Kidney; Respiratory; Musculoskeletal	8E-03	7E-05	2E-03	1E-02
			Cobalt	NA	4E-09	--	4E-09	Endocrine; Lung	3E-02	2E-04	--	3E-02
			Copper	NA	NA	--	--	GI tract	3E-03	NA	--	3E-03
			Iron	NA	NA	--	--	GI tract	2E-02	NA	--	2E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Silver	NA	NA	--	--	Skin	1E-03	NA	--	1E-03
			Vanadium	NA	NA	--	--	Hair	7E-03	NA	--	7E-03
			Chemical Total	2.3E-05	8E-09	2E-05	4E-05		7E-01	2E-03	5E-01	1E+00
		Exposure Point Total					4E-05					1E+00
	Exposure Medium Total						4E-05					1E+00
Medium Total							4E-05					1E+00
Receptor Total							4E-05				Receptor HI Total	1E+00

Notes

N/A - Not Applicable

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 5 (BB5)
Receptor Population: Commercial/Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	--	Kidney	1E-02	--	--	1E-02
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	9E-07	2E-11	7E-07	2E-06	--	NA	NA	NA	--
			Benzo(a)pyrene	8E-06	2E-10	7E-06	2E-05	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-06	3E-11	1E-06	2E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-08	1E-11	4E-08	9E-08	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	3E-07	9E-12	2E-07	5E-07	Liver	3E-03	NA	2E-03	5E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-06	3E-11	9E-07	2E-06	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	6E-07	1E-11	5E-07	1E-06	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	5E-05	2E-09	--	5E-05	Liver; Neurological	2E-01	NA	--	2E-01
			4,4'-DDE	6E-06	3E-10	1E-06	7E-06	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Heptachlor epoxide	5E-06	2E-10	--	5E-06	Liver	1E-01	NA	--	1E-01
			Total PCB Aroclors	3E-05	2E-10	2E-05	5E-05	Eye; Nails; Immunological	2E+00	NA	2E+00	3E+00
			Aluminum	NA	NA	--	--	Neurological	2E-02	5E-04	--	2E-02
			Antimony	NA	NA	--	--	Blood	1E-02	NA	--	1E-02
			Arsenic	9E-06	5E-09	2E-06	1E-05	Skin; Developmental; Cardiovascular; Neurological; Lung	6E-02	2E-04	1E-02	7E-02
			Cadmium	NA	1E-09	NA	1E-09	Kidney; Respiratory; Musculoskeletal	1E-02	1E-04	3E-03	2E-02
			Cobalt	NA	7E-09	--	7E-09	Endocrine; Lung	4E-02	3E-04	--	4E-02
			Copper	NA	NA	--	--	GI tract	5E-03	NA	--	5E-03
			Iron	NA	NA	--	--	GI tract	4E-02	NA	--	4E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-02	1E-03	--	2E-02
			Vanadium	NA	NA	--	--	Hair	9E-03	NA	--	9E-03
			Chemical Total	1.1E-04	2E-08	4E-05	1E-04		2E+00	3E-03	2E+00	4E+00
		Exposure Point Total					1E-04					4E+00
	Exposure Medium Total						1E-04					4E+00
Medium Total							1E-04					4E+00
Receptor Total							1E-04				Receptor HI Total	4E+00

Notes

N/A - Not Applicable

Blood HI Across All Media =	1E-02
Kidney HI Across All Media =	3E-02
Liver HI Across All Media =	3E-01
Developmental HI Across All Media =	7E-02
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	2E-02
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Cardiovascular HI Across All Media =	7E-02
Endocrine HI Across All Media =	4E-02
GI tract HI Across All Media =	5E-02

TABLE 9.9.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 5 (BB5)
Receptor Population: Commercial/Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	--	Kidney	1E-02	--	--	1E-02
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-07	4E-12	2E-08	3E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-06	4E-11	2E-07	2E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-07	6E-12	3E-08	4E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-08	2E-12	1E-09	1E-08	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	8E-08	2E-12	5E-09	8E-08	Liver	3E-03	NA	2E-04	3E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	3E-07	6E-12	2E-08	3E-07	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-07	3E-12	1E-08	2E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	1E-05	5E-10	--	1E-05	Liver; Neurological	2E-01	NA	--	2E-01
			4,4'-DDE	2E-06	6E-11	3E-08	2E-06	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Heptachlor epoxide	1E-06	5E-11	--	1E-06	Liver	1E-01	NA	--	1E-01
			Total PCB Aroclors	7E-06	4E-11	6E-07	7E-06	Eye; Nails; Immunological	2E+00	NA	2E-01	2E+00
			Aluminum	NA	NA	--	--	Neurological	2E-02	4E-04	--	2E-02
			Antimony	NA	NA	--	--	Blood	1E-02	NA	--	1E-02
			Arsenic	2E-06	9E-10	5E-08	3E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	6E-02	1E-04	1E-03	6E-02
			Cadmium	NA	3E-10	NA	3E-10	Kidney; Respiratory; Musculoskeletal	1E-02	8E-05	3E-04	1E-02
			Cobalt	NA	1E-09	--	1E-09	Endocrine; Lung	4E-02	3E-04	--	4E-02
			Copper	NA	NA	--	--	GI tract	5E-03	NA	--	5E-03
			Iron	NA	NA	--	--	GI tract	4E-02	NA	--	4E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-02	1E-03	--	2E-02
			Vanadium	NA	NA	--	--	Hair	9E-03	NA	--	9E-03
			Chemical Total	2.9E-05	3E-09	1E-06	3E-05		2E+00	2E-03	2E-01	2E+00
		Exposure Point Total					3E-05					2E+00
	Exposure Medium Total						3E-05					2E+00
Medium Total							3E-05					2E+00
Receptor Total							3E-05	Receptor HI Total				2E+00

Notes

N/A - Not Applicable

Blood HI Across All Media =	1E-02
Kidney HI Across All Media =	2E-02
Liver HI Across All Media =	3E-01
Developmental HI Across All Media =	6E-02
Neurological HI Across All Media =	3E-01
Respiratory, Lung HI Across All Media =	1E-01
Musculoskeletal HI Across All Media =	1E-02
Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00
Cardiovascular HI Across All Media =	6E-02
Endocrine HI Across All Media =	4E-02
GI tract HI Across All Media =	5E-02

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	5E-07	1E-11	4E-07	9E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-06	6E-11	2E-06	5E-06	--	NA	NA	NA	--
			Benzo(b)fluoranthene	5E-07	1E-11	5E-07	1E-06	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-07	1E-11	4E-07	9E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-07	8E-12	3E-07	6E-07	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	4E-05	3E-10	4E-05	8E-05	Eye; Nails; Immunological	3E+00	NA	3E+00	5E+00
			Aluminum	NA	NA	--	--	Neurological	1E-02	5E-04	--	1E-02
			Arsenic	1E-06	6E-10	2E-07	1E-06	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-03	2E-05	1E-03	9E-03
			Cadmium	NA	6E-10	NA	6E-10	Kidney; Respiratory; Musculoskeletal	5E-03	5E-05	1E-03	7E-03
			Cobalt	NA	3E-09	--	3E-09	Endocrine; Lung	2E-02	2E-04	--	2E-02
			Cyanide	NA	NA	--	--	Whole body; Endocrine	5E-03	NA	--	5E-03
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Manganese	NA	NA	--	--	Neurological	2E-02	2E-03	--	2E-02
			Chemical Total	4.4E-05	5E-09	4E-05	8E-05		3E+00	3E-03	3E+00	5E+00
		Exposure Point Total					8E-05					5E+00
	Exposure Medium Total						8E-05					5E+00
Medium Total							8E-05					5E+00
Receptor Total							8E-05				Receptor HI Total	5E+00

Notes

N/A - Not Applicable

Kidney HI Across All Media =	7E-03
Developmental HI Across All Media =	9E-03
Neurological HI Across All Media =	5E-02
Respiratory, Lung HI Across All Media =	4E-02
Musculoskeletal HI Across All Media =	7E-03
Eye HI Across All Media =	5E+00
Immunological HI Across All Media =	5E+00
Hair, Skin, Nails HI Across All Media =	5E+00
Cardiovascular HI Across All Media =	9E-03
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	5E-03

TABLE 9.9.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	1E-07	2E-12	1E-08	1E-07	--	NA	NA	NA	--
			Benzo(a)pyrene	7E-07	1E-11	6E-08	7E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-07	3E-12	1E-08	2E-07	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	3E-12	1E-08	1E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	8E-08	2E-12	7E-09	9E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-05	7E-11	1E-06	1E-05	Eye; Nails; Immunological	3E+00	NA	3E-01	3E+00
			Aluminum	NA	NA	--	--	Neurological	1E-02	4E-04	--	1E-02
			Arsenic	3E-07	1E-10	6E-09	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-03	2E-05	1E-04	8E-03
			Cadmium	NA	1E-10	NA	1E-10	Kidney; Respiratory; Musculoskeletal	5E-03	3E-05	1E-04	6E-03
			Cobalt	NA	7E-10	--	7E-10	Endocrine; Lung	2E-02	1E-04	--	2E-02
			Cyanide	NA	NA	--	--	Whole body; Endocrine	5E-03	NA	--	5E-03
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Manganese	NA	NA	--	--	Neurological	2E-02	1E-03	--	2E-02
			Chemical Total	1.2E-05	1E-09	1E-06	1E-05		3E+00	2E-03	3E-01	3E+00
		Exposure Point Total					1E-05					3E+00
	Exposure Medium Total						1E-05					3E+00
Medium Total							1E-05					3E+00
Receptor Total							1E-05				Receptor HI Total	3E+00

Notes

N/A - Not Applicable

Kidney HI Across All Media =	6E-03
Developmental HI Across All Media =	8E-03
Neurological HI Across All Media =	5E-02
Respiratory, Lung HI Across All Media =	3E-02
Musculoskeletal HI Across All Media =	6E-03
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Cardiovascular HI Across All Media =	8E-03
Endocrine HI Across All Media =	2E-02
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	5E-03

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Green Brook (GB)
Receptor Population: Outdoor Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU GB	cis-1,2-Dichloroethene	NA	--	--	0E+00	Kidney	0.0E+00	--	--	0.0E+00
			Acenaphthylene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Benzo(a)anthracene	6E-09	5E-14	2E-09	8E-09	--	NA	NA	NA	0.0E+00
			Benzo(a)pyrene	6E-08	5E-13	2E-08	9E-08	--	NA	NA	NA	0.0E+00
			Benzo(b)fluoranthene	9E-09	7E-14	4E-09	1E-08	--	NA	NA	NA	0.0E+00
			Benzo(g,h,i)perylene	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Benzo(k)fluoranthene	0E+00	0E+00	0E+00	0E+00	--	NA	NA	NA	0.0E+00
			bis(2-Ethylhexyl)phthalate	0E+00	0E+00	0E+00	0E+00	Liver	0.0E+00	NA	0.0E+00	0.0E+00
			Carbazole	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Dibenzo(a,h)anthracene	3E-08	2E-13	1E-08	4E-08	--	NA	NA	NA	0.0E+00
			Dimethyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			di-n-Octyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Indeno(1,2,3-cd)pyrene	4E-09	3E-14	2E-09	5E-09	--	NA	NA	NA	0.0E+00
			Phenanthrene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Aldrin	0E+00	0E+00	--	0E+00	Liver	0.0E+00	NA	--	0.0E+00
			delta-BHC	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Dieldrin	0E+00	0E+00	--	0E+00	Liver; Neurological	0.0E+00	NA	--	0.0E+00
			4,4'-DDE	0E+00	0E+00	0E+00	0E+00	--	NA	NA	NA	0.0E+00
			4,4'-DDT	0E+00	0E+00	0E+00	0E+00	Liver	0.0E+00	NA	0.0E+00	0.0E+00
			Endosulfan sulfate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin aldehyde	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin ketone	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Heptachlor epoxide	0E+00	0E+00	--	0E+00	Liver	0.0E+00	NA	--	0.0E+00
			Total PCB Aroclors	1E-09	3E-15	5E-10	2E-09	Eyes; Nails; Immunological	6.9E-04	NA	2.9E-04	9.7E-04
			Aluminum	NA	NA	--	0E+00	Neurological	1.7E-02	7.6E-04	--	1.8E-02
			Antimony	NA	NA	--	0E+00	Blood	0.0E+00	NA	--	0.0E+00
			Arsenic	9E-08	1E-11	9E-09	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1.5E-02	6.7E-05	1.3E-03	1.6E-02
			Cadmium	NA	0E+00	NA	0E+00	Kidney; Respiratory; Musculoskeletal	0.0E+00	0.0E+00	0.0E+00	0.0E+00
			Cobalt	NA	6E-11	--	6E-11	Endocrine; Lung	3.1E-03	3.5E-04	--	3.4E-03
			Copper	NA	NA	--	0E+00	GI tract	0.0E+00	NA	--	0.0E+00
			Cyanide	NA	NA	--	0E+00	Whole body; Endocrine	0.0E+00	NA	--	0.0E+00
			Iron	NA	NA	--	0E+00	GI tract	3.3E-02	NA	--	3.3E-02
			Lead	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Manganese	NA	NA	--	0E+00	Neurological	2.1E-02	2.3E-03	--	2.3E-02
			Mercury	NA	NA	--	0E+00	Immunological; Neurological	5.7E-03	1.3E-05	--	5.7E-03
			Nickel	NA	0E+00	--	0E+00	Whole body; Respiratory	0.0E+00	0.0E+00	--	0.0E+00
			Silver	NA	NA	--	0E+00	Skin	0.0E+00	NA	--	0.0E+00
			Thallium	NA	NA	--	0E+00	NOAEL	0.0E+00	NA	--	0.0E+00
			Vanadium	NA	NA	--	0E+00	Hair	7.5E-03	NA	--	7.5E-03
			Zinc	NA	NA	--	0E+00	Blood	0.0E+00	NA	--	0.0E+00
			Chemical Total	2.0E-07	8E-11	5E-08	3E-07		1E-01	3E-03	2E-03	1E-01
		Exposure Point Total					3E-07					1E-01
	Exposure Medium Total						3E-07					1E-01
Medium Total							3E-07					1E-01
Receptor Total							3E-07				Receptor HI Total	1E-01

Notes
N/A - Not Applicable

Blood HI Across All Media =	0E+00
Kidney HI Across All Media =	0E+00
Liver HI Across All Media =	0E+00
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	6E-02
Respiratory, Lung HI Across All Media =	2E-02
Musculoskeletal Across All Media =	0E+00
Eye HI Across All Media =	1E-03
Immunological HI Across All Media =	7E-03
Hair, Skin, Nails HI Across All Media =	2E-02
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	3E-03
GI tract HI Across All Media =	3E-02

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 1 (BB1)
Receptor Population: Outdoor Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB1	cis-1,2-Dichloroethene	NA	--	--	0E+00	Kidney	0.0E+00	--	--	0.0E+00
			Acenaphthylene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Benzo(a)anthracene	8E-09	7E-14	3E-09	1E-08	--	NA	NA	NA	0.0E+00
			Benzo(a)pyrene	9E-08	7E-13	4E-08	1E-07	--	NA	NA	NA	0.0E+00
			Benzo(b)fluoranthene	1E-08	8E-14	4E-09	1E-08	--	NA	NA	NA	0.0E+00
			Benzo(g,h,i)perylene	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Benzo(k)fluoranthene	9E-10	7E-14	3E-10	1E-09	--	NA	NA	NA	0.0E+00
			bis(2-Ethylhexyl)phthalate	0E+00	0E+00	0E+00	0E+00	Liver	0.0E+00	NA	0.0E+00	0.0E+00
			Carbazole	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Dibenzo(a,h)anthracene	2E-08	2E-13	7E-09	2E-08	--	NA	NA	NA	0.0E+00
			Dimethyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			di-n-Octyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Indeno(1,2,3-cd)pyrene	5E-09	4E-14	2E-09	6E-09	--	NA	NA	NA	0.0E+00
			Phenanthrene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Aldrin	0E+00	0E+00	--	0E+00	Liver	0.0E+00	NA	--	0.0E+00
			delta-BHC	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Dieldrin	0E+00	0E+00	--	0E+00	Liver; Neurological	0.0E+00	NA	--	0.0E+00
			4,4'-DDE	0E+00	0E+00	0E+00	0E+00	--	NA	NA	NA	0.0E+00
			4,4'-DDT	0E+00	0E+00	0E+00	0E+00	Liver	0.0E+00	NA	0.0E+00	0.0E+00
			Endosulfan sulfate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin aldehyde	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin ketone	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Heptachlor epoxide	0E+00	0E+00	--	0E+00	Liver	0.0E+00	NA	--	0.0E+00
			Total PCB Aroclors	1E-08	3E-14	5E-09	2E-08	Eyes; Nails; Immunological	7.1E-03	NA	3.0E-03	1.0E-02
			Aluminum	NA	NA	--	0E+00	Neurological	1.0E-02	4.7E-04	--	1.1E-02
			Antimony	NA	NA	--	0E+00	Blood	0.0E+00	NA	--	0.0E+00
			Arsenic	1E-07	2E-11	1E-08	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2.2E-02	1.0E-04	2.0E-03	2.4E-02
			Cadmium	NA	0E+00	NA	0E+00	Kidney; Respiratory; Musculoskeletal	0.0E+00	0.0E+00	0.0E+00	0.0E+00
			Cobalt	NA	6E-11	--	6E-11	Endocrine; Lung	3.0E-03	3.4E-04	--	3.4E-03
			Copper	NA	NA	--	0E+00	GI tract	0.0E+00	NA	--	0.0E+00
			Cyanide	NA	NA	--	0E+00	Whole body; Endocrine	0.0E+00	NA	--	0.0E+00
			Iron	NA	NA	--	0E+00	GI tract	2.5E-02	NA	--	2.5E-02
			Lead	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Manganese	NA	NA	--	0E+00	Neurological	1.8E-02	2.0E-03	--	2.0E-02
			Mercury	NA	NA	--	0E+00	Immunological; Neurological	0.0E+00	0.0E+00	--	0.0E+00
			Nickel	NA	0E+00	--	0E+00	Whole body; Respiratory	0.0E+00	0.0E+00	--	0.0E+00
			Silver	NA	NA	--	0E+00	Skin	0.0E+00	NA	--	0.0E+00
			Thallium	NA	NA	--	0E+00	NOAEL	0.0E+00	NA	--	0.0E+00
			Vanadium	NA	NA	--	0E+00	Hair	6.7E-03	NA	--	6.7E-03
			Zinc	NA	NA	--	0E+00	Blood	0.0E+00	NA	--	0.0E+00
			Chemical Total	2.9E-07	8E-11	7E-08	4E-07		9E-02	3E-03	5E-03	1E-01
		Exposure Point Total					4E-07					1E-01
	Exposure Medium Total						4E-07					1E-01
Medium Total							4E-07					1E-01
Receptor Total							4E-07				Receptor HI Total	1E-01

Notes

N/A - Not Applicable

Blood HI Across All Media =	0E+00
Kidney HI Across All Media =	0E+00
Liver HI Across All Media =	0E+00
Developmental HI Across All Media =	2E-02
Neurological HI Across All Media =	6E-02
Respiratory, Lung HI Across All Media =	3E-02
Musculoskeletal Across All Media =	0E+00
Eye HI Across All Media =	1E-02
Immunological HI Across All Media =	1E-02
Hair, Skin, Nails HI Across All Media =	4E-02
Cardiovascular HI Across All Media =	2E-02
Endocrine HI Across All Media =	3E-03
GI tract HI Across All Media =	2E-02

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 2 (BB2)
Receptor Population: Outdoor Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB2	cis-1,2-Dichloroethene	NA	--	--	0E+00	Kidney	0.0E+00	--	--	0.0E+00
			Acenaphthylene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Benzo(a)anthracene	2E-09	2E-14	9E-10	3E-09	--	NA	NA	NA	0.0E+00
			Benzo(a)pyrene	3E-08	2E-13	1E-08	4E-08	--	NA	NA	NA	0.0E+00
			Benzo(b)fluoranthene	3E-09	3E-14	1E-09	5E-09	--	NA	NA	NA	0.0E+00
			Benzo(g,h,i)perylene	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Benzo(k)fluoranthene	0E+00	0E+00	0E+00	0E+00	--	NA	NA	NA	0.0E+00
			bis(2-Ethylhexyl)phthalate	0E+00	0E+00	0E+00	0E+00	Liver	0.0E+00	NA	0.0E+00	0.0E+00
			Carbazole	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Dibenzo(a,h)anthracene	6E-09	5E-14	2E-09	9E-09	--	NA	NA	NA	0.0E+00
			Dimethyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			di-n-Octyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Indeno(1,2,3-cd)pyrene	2E-09	1E-14	7E-10	3E-09	--	NA	NA	NA	0.0E+00
			Phenanthrene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Aldrin	0E+00	0E+00	--	0E+00	Liver	0.0E+00	NA	--	0.0E+00
			delta-BHC	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Dieldrin	0E+00	0E+00	--	0E+00	Liver; Neurological	0.0E+00	NA	--	0.0E+00
			4,4'-DDE	0E+00	0E+00	0E+00	0E+00	--	NA	NA	NA	0.0E+00
			4,4'-DDT	0E+00	0E+00	0E+00	0E+00	Liver	0.0E+00	NA	0.0E+00	0.0E+00
			Endosulfan sulfate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin aldehyde	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin ketone	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Heptachlor epoxide	0E+00	0E+00	--	0E+00	Liver	0.0E+00	NA	--	0.0E+00
			Total PCB Aroclors	2E-08	4E-14	7E-09	2E-08	Eyes; Nails; Immunological	9.7E-03	NA	4.1E-03	1.4E-02
			Aluminum	NA	NA	--	0E+00	Neurological	1.0E-02	4.6E-04	--	1.1E-02
			Antimony	NA	NA	--	0E+00	Blood	0.0E+00	NA	--	0.0E+00
			Arsenic	2E-07	3E-11	2E-08	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3.1E-02	1.4E-04	2.8E-03	3.4E-02
			Cadmium	NA	0E+00	NA	0E+00	Kidney; Respiratory; Musculoskeletal	0.0E+00	0.0E+00	0.0E+00	0.0E+00
			Cobalt	NA	3E-11	--	3E-11	Endocrine; Lung	1.4E-03	1.6E-04	--	1.6E-03
			Copper	NA	NA	--	0E+00	GI tract	0.0E+00	NA	--	0.0E+00
			Cyanide	NA	NA	--	0E+00	Whole body; Endocrine	0.0E+00	NA	--	0.0E+00
			Iron	NA	NA	--	0E+00	GI tract	1.7E-02	NA	--	1.7E-02
			Lead	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Manganese	NA	NA	--	0E+00	Neurological	1.6E-02	1.7E-03	--	1.8E-02
			Mercury	NA	NA	--	0E+00	Immunological; Neurological	0.0E+00	0.0E+00	--	0.0E+00
			Nickel	NA	0E+00	--	0E+00	Whole body; Respiratory	0.0E+00	0.0E+00	--	0.0E+00
			Silver	NA	NA	--	0E+00	Skin	0.0E+00	NA	--	0.0E+00
			Thallium	NA	NA	--	0E+00	NOAEL	0.0E+00	NA	--	0.0E+00
			Vanadium	NA	NA	--	0E+00	Hair	0.0E+00	NA	--	0.0E+00
			Zinc	NA	NA	--	0E+00	Blood	0.0E+00	NA	--	0.0E+00
			Chemical Total	2.6E-07	6E-11	4E-08	3E-07		9E-02	3E-03	7E-03	1E-01
		Exposure Point Total					3E-07					1E-01
	Exposure Medium Total						3E-07					1E-01
Medium Total							3E-07					1E-01
Receptor Total							3E-07				Receptor HI Total	1E-01

Notes
N/A - Not Applicable

Blood HI Across All Media =	0E+00
Kidney HI Across All Media =	0E+00
Liver HI Across All Media =	0E+00
Developmental HI Across All Media =	3E-02
Neurological HI Across All Media =	6E-02
Respiratory, Lung HI Across All Media =	4E-02
Musculoskeletal Across All Media =	0E+00
Eye HI Across All Media =	1E-02
Immunological HI Across All Media =	1E-02
Hair, Skin, Nails HI Across All Media =	5E-02
Cardiovascular HI Across All Media =	3E-02
Endocrine HI Across All Media =	2E-03
GI tract HI Across All Media =	2E-02

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 3 (BB3)
Receptor Population: Outdoor Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	cis-1,2-Dichloroethene	NA	--	--	0E+00	Kidney	0.0E+00	--	--	0.0E+00
			Acenaphthylene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Benzo(a)anthracene	2E-08	2E-13	8E-09	3E-08	--	NA	NA	NA	0.0E+00
			Benzo(a)pyrene	3E-07	2E-12	1E-07	4E-07	--	NA	NA	NA	0.0E+00
			Benzo(b)fluoranthene	3E-08	2E-13	1E-08	4E-08	--	NA	NA	NA	0.0E+00
			Benzo(g,h,i)perylene	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Benzo(k)fluoranthene	3E-09	2E-13	1E-09	3E-09	--	NA	NA	NA	0.0E+00
			bis(2-Ethylhexyl)phthalate	1E-07	1E-12	4E-08	2E-07	Liver	3.4E-03	NA	1.0E-03	4.4E-03
			Carbazole	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Dibenzo(a,h)anthracene	5E-08	4E-13	2E-08	7E-08	--	NA	NA	NA	0.0E+00
			Dimethyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			di-n-Octyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Indeno(1,2,3-cd)pyrene	1E-08	1E-13	6E-09	2E-08	--	NA	NA	NA	0.0E+00
			Phenanthrene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Aldrin	0E+00	0E+00	--	0E+00	Liver	0.0E+00	NA	--	0.0E+00
			delta-BHC	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Dieldrin	0E+00	0E+00	--	0E+00	Liver; Neurological	0.0E+00	NA	--	0.0E+00
			4,4'-DDE	0E+00	0E+00	0E+00	0E+00	--	NA	NA	NA	0.0E+00
			4,4'-DDT	0E+00	0E+00	0E+00	0E+00	Liver	0.0E+00	NA	0.0E+00	0.0E+00
			Endosulfan sulfate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin aldehyde	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin ketone	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Heptachlor epoxide	0E+00	0E+00	--	0E+00	Liver	0.0E+00	NA	--	0.0E+00
			Total PCB Aroclors	1E-07	3E-13	5E-08	2E-07	Eyes; Nails; Immunological	6.5E-02	NA	2.7E-02	9.2E-02
			Aluminum	NA	NA	--	0E+00	Neurological	8.8E-03	4.0E-04	--	9.2E-03
			Antimony	NA	NA	--	0E+00	Blood	2.1E-01	NA	--	2.1E-01
			Arsenic	3E-07	4E-11	3E-08	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4.4E-02	2.0E-04	4.0E-03	4.9E-02
			Cadmium	NA	5E-12	NA	5E-12	Kidney; Respiratory; Musculoskeletal	3.9E-03	4.5E-05	4.7E-04	4.4E-03
			Cobalt	NA	6E-11	--	6E-11	Endocrine; Lung	3.2E-03	3.6E-04	--	3.5E-03
			Copper	NA	NA	--	0E+00	GI tract	3.4E-02	NA	--	3.4E-02
			Cyanide	NA	NA	--	0E+00	Whole body; Endocrine	0.0E+00	NA	--	0.0E+00
			Iron	NA	NA	--	0E+00	GI tract	1.1E-01	NA	--	1.1E-01
			Lead	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Manganese	NA	NA	--	0E+00	Neurological	2.3E-02	2.5E-03	--	2.5E-02
			Mercury	NA	NA	--	0E+00	Immunological; Neurological	6.3E-03	1.4E-05	--	6.3E-03
			Nickel	NA	2E-11	--	2E-11	Whole body; Respiratory	4.2E-03	9.5E-05	--	4.3E-03
			Silver	NA	NA	--	0E+00	Skin	0.0E+00	NA	--	0.0E+00
			Thallium	NA	NA	--	0E+00	NOAEL	1.0E-01	NA	--	1.0E-01
			Vanadium	NA	NA	--	0E+00	Hair	4.3E-03	NA	--	4.3E-03
			Zinc	NA	NA	--	0E+00	Blood	3.4E-03	NA	--	3.4E-03
			Chemical Total	9.2E-07	1E-10	3E-07	1E-06		6E-01	4E-03	3E-02	7E-01
		Exposure Point Total					1E-06					7E-01
	Exposure Medium Total						1E-06					7E-01
Medium Total							1E-06					7E-01
Receptor Total							1E-06				Receptor HI Total	7E-01

Notes
N/A - Not Applicable

Blood HI Across All Media =	2E-01
Kidney HI Across All Media =	4E-03
Liver HI Across All Media =	4E-03
Developmental HI Across All Media =	5E-02
Neurological HI Across All Media =	9E-02
Respiratory, Lung HI Across All Media =	6E-02
Musculoskeletal Across All Media =	4E-03
Eye HI Across All Media =	9E-02
Immunological HI Across All Media =	1E-01
Hair, Skin, Nails HI Across All Media =	1E-01
Cardiovascular HI Across All Media =	5E-02
Endocrine HI Across All Media =	4E-03
GI tract HI Across All Media =	1E-01

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 4 (BB4)
Receptor Population: Outdoor Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	cis-1,2-Dichloroethene	NA	--	--	0E+00	Kidney	0.0E+00	--	--	0.0E+00
			Acenaphthylene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Benzo(a)anthracene	4E-09	3E-14	2E-09	6E-09	--	NA	NA	NA	0.0E+00
			Benzo(a)pyrene	5E-08	4E-13	2E-08	7E-08	--	NA	NA	NA	0.0E+00
			Benzo(b)fluoranthene	8E-09	6E-14	3E-09	1E-08	--	NA	NA	NA	0.0E+00
			Benzo(g,h,i)perylene	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Benzo(k)fluoranthene	4E-10	3E-14	2E-10	5E-10	--	NA	NA	NA	0.0E+00
			bis(2-Ethylhexyl)phthalate	0E+00	0E+00	0E+00	0E+00	Liver	0.0E+00	NA	0.0E+00	0.0E+00
			Carbazole	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Dibenzo(a,h)anthracene	1E-07	1E-12	5E-08	2E-07	--	NA	NA	NA	0.0E+00
			Dimethyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			di-n-Octyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Indeno(1,2,3-cd)pyrene	4E-09	3E-14	1E-09	5E-09	--	NA	NA	NA	0.0E+00
			Phenanthrene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Aldrin	2E-09	4E-14	--	2E-09	Liver	3.4E-04	NA	--	3.4E-04
			delta-BHC	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Dieldrin	4E-08	6E-13	--	4E-08	Liver; Neurological	1.7E-03	NA	--	1.7E-03
			4,4'-DDE	0E+00	0E+00	0E+00	0E+00	--	NA	NA	NA	0.0E+00
			4,4'-DDT	9E-10	1E-14	8E-11	9E-10	Liver	3.6E-04	NA	3.2E-05	3.9E-04
			Endosulfan sulfate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin aldehyde	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin ketone	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Heptachlor epoxide	0E+00	0E+00	--	0E+00	Liver	0.0E+00	NA	--	0.0E+00
			Total PCB Aroclors	5E-07	1E-12	2E-07	7E-07	Eyes; Nails; Immunological	2.7E-01	NA	1.1E-01	3.8E-01
			Aluminum	NA	NA	--	0E+00	Neurological	7.3E-03	3.3E-04	--	7.6E-03
			Antimony	NA	NA	--	0E+00	Blood	2.1E-02	NA	--	2.1E-02
			Arsenic	2E-07	4E-11	2E-08	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3.9E-02	1.8E-04	3.5E-03	4.2E-02
			Cadmium	NA	6E-12	NA	6E-12	Kidney; Respiratory; Musculoskeletal	4.2E-03	4.8E-05	5.0E-04	4.7E-03
			Cobalt	NA	4E-11	--	4E-11	Endocrine; Lung	1.8E-03	2.1E-04	--	2.0E-03
			Copper	NA	NA	--	0E+00	GI tract	1.8E-03	NA	--	1.8E-03
			Cyanide	NA	NA	--	0E+00	Whole body; Endocrine	0.0E+00	NA	--	0.0E+00
			Iron	NA	NA	--	0E+00	GI tract	1.8E-02	NA	--	1.8E-02
			Lead	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Manganese	NA	NA	--	0E+00	Neurological	1.7E-02	1.8E-03	--	1.8E-02
			Mercury	NA	NA	--	0E+00	Immunological; Neurological	0.0E+00	0.0E+00	--	0.0E+00
			Nickel	NA	0E+00	--	0E+00	Whole body; Respiratory	0.0E+00	0.0E+00	--	0.0E+00
			Silver	NA	NA	--	0E+00	Skin	6.8E-04	NA	--	6.8E-04
			Thallium	NA	NA	--	0E+00	NOAEL	0.0E+00	NA	--	0.0E+00
			Vanadium	NA	NA	--	0E+00	Hair	5.1E-03	NA	--	5.1E-03
			Zinc	NA	NA	--	0E+00	Blood	6.6E-04	NA	--	6.6E-04
			Chemical Total	9.5E-07	8E-11	3E-07	1E-06		4E-01	3E-03	1E-01	5E-01
		Exposure Point Total					1E-06					5E-01
	Exposure Medium Total						1E-06					5E-01
Medium Total							1E-06					5E-01
Receptor Total							1E-06				Receptor HI Total	5E-01

Notes
N/A - Not Applicable

Blood HI Across All Media =	2E-02
Kidney HI Across All Media =	5E-03
Liver HI Across All Media =	2E-03
Developmental HI Across All Media =	4E-02
Neurological HI Across All Media =	7E-02
Respiratory, Lung HI Across All Media =	5E-02
Musculoskeletal Across All Media =	5E-03
Eye HI Across All Media =	4E-01
Immunological HI Across All Media =	4E-01
Hair, Skin, Nails HI Across All Media =	4E-01
Cardiovascular HI Across All Media =	4E-02
Endocrine HI Across All Media =	2E-03
GI tract HI Across All Media =	2E-02

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 5 (BB5)
Receptor Population: Outdoor Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	--	0E+00	Kidney	8.5E-04	--	--	8.5E-04
			Acenaphthylene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Benzo(a)anthracene	1E-08	1E-13	6E-09	2E-08	--	NA	NA	NA	0.0E+00
			Benzo(a)pyrene	2E-07	2E-12	8E-08	3E-07	--	NA	NA	NA	0.0E+00
			Benzo(b)fluoranthene	3E-08	2E-13	1E-08	4E-08	--	NA	NA	NA	0.0E+00
			Benzo(g,h,i)perylene	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Benzo(k)fluoranthene	8E-10	6E-14	3E-10	1E-09	--	NA	NA	NA	0.0E+00
			bis(2-Ethylhexyl)phthalate	8E-09	7E-14	2E-09	1E-08	Liver	2.0E-04	NA	6.1E-05	2.7E-04
			Carbazole	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Dibenzo(a,h)anthracene	2E-08	2E-13	8E-09	3E-08	--	NA	NA	NA	0.0E+00
			Dimethyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			di-n-Octyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Indeno(1,2,3-cd)pyrene	1E-08	7E-14	4E-09	1E-08	--	NA	NA	NA	0.0E+00
			Phenanthrene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Aldrin	0E+00	0E+00	--	0E+00	Liver	0.0E+00	NA	--	0.0E+00
			delta-BHC	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Dieldrin	1E-06	2E-11	--	1E-06	Liver; Neurological	5.7E-02	NA	--	5.7E-02
			4,4'-DDE	2E-07	3E-12	2E-08	2E-07	--	NA	NA	NA	0.0E+00
			4,4'-DDT	0E+00	0E+00	0E+00	0E+00	Liver	0.0E+00	NA	0.0E+00	0.0E+00
			Endosulfan sulfate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin aldehyde	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin ketone	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Heptachlor epoxide	1E-07	2E-12	--	1E-07	Liver	8.0E-02	NA	--	8.0E-02
			Total PCB Aroclors	7E-07	2E-12	3E-07	1E-06	Eyes; Nails; Immunological	4.3E-01	NA	1.8E-01	6.1E-01
			Aluminum	NA	NA	--	0E+00	Neurological	1.2E-02	5.6E-04	--	1.3E-02
			Antimony	NA	NA	--	0E+00	Blood	5.6E-03	NA	--	5.6E-03
			Arsenic	3E-07	4E-11	2E-08	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4.0E-02	1.8E-04	3.6E-03	4.3E-02
			Cadmium	NA	1E-11	NA	1E-11	Kidney; Respiratory; Musculoskeletal	9.1E-03	1.0E-04	1.1E-03	1.0E-02
			Cobalt	NA	7E-11	--	7E-11	Endocrine; Lung	3.4E-03	3.8E-04	--	3.7E-03
			Copper	NA	NA	--	0E+00	GI tract	3.3E-03	NA	--	3.3E-03
			Cyanide	NA	NA	--	0E+00	Whole body; Endocrine	0.0E+00	NA	--	0.0E+00
			Iron	NA	NA	--	0E+00	GI tract	3.1E-02	NA	--	3.1E-02
			Lead	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Manganese	NA	NA	--	0E+00	Neurological	1.7E-02	1.9E-03	--	1.9E-02
			Mercury	NA	NA	--	0E+00	Immunological; Neurological	0.0E+00	0.0E+00	--	0.0E+00
			Nickel	NA	0E+00	--	0E+00	Whole body; Respiratory	0.0E+00	0.0E+00	--	0.0E+00
			Silver	NA	NA	--	0E+00	Skin	0.0E+00	NA	--	0.0E+00
			Thallium	NA	NA	--	0E+00	NOAEL	0.0E+00	NA	--	0.0E+00
			Vanadium	NA	NA	--	0E+00	Hair	6.9E-03	NA	--	6.9E-03
			Zinc	NA	NA	--	0E+00	Blood	0.0E+00	NA	--	0.0E+00
			Chemical Total	3.0E-06	1E-10	5E-07	3E-06		7E-01	3E-03	2E-01	9E-01
		Exposure Point Total					3E-06					9E-01
	Exposure Medium Total						3E-06					9E-01
Medium Total							3E-06					9E-01
Receptor Total							3E-06				Receptor HI Total	9E-01

Notes
N/A - Not Applicable

Blood HI Across All Media =	6E-03
Kidney HI Across All Media =	1E-02
Liver HI Across All Media =	1E-01
Developmental HI Across All Media =	4E-02
Neurological HI Across All Media =	1E-01
Respiratory, Lung HI Across All Media =	6E-02
Musculoskeletal Across All Media =	1E-02
Eye HI Across All Media =	6E-01
Immunological HI Across All Media =	6E-01
Hair, Skin, Nails HI Across All Media =	7E-01
Cardiovascular HI Across All Media =	4E-02
Endocrine HI Across All Media =	4E-03
GI tract HI Across All Media =	3E-02

TABLE 9.9.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 6 (BB6)
Receptor Population: Outdoor Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	cis-1,2-Dichloroethene	NA	--	--	0E+00	Kidney	0.0E+00	--	--	0.0E+00
			Acenaphthylene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Benzo(a)anthracene	2E-08	1E-13	7E-09	3E-08	--	NA	NA	NA	0.0E+00
			Benzo(a)pyrene	1E-07	1E-12	5E-08	2E-07	--	NA	NA	NA	0.0E+00
			Benzo(b)fluoranthene	2E-08	2E-13	8E-09	3E-08	--	NA	NA	NA	0.0E+00
			Benzo(g,h,i)perylene	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Benzo(k)fluoranthene	2E-09	1E-13	6E-10	2E-09	--	NA	NA	NA	0.0E+00
			bis(2-Ethylhexyl)phthalate	0E+00	0E+00	0E+00	0E+00	Liver	0.0E+00	NA	0.0E+00	0.0E+00
			Carbazole	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Dibenzo(a,h)anthracene	2E-08	1E-13	6E-09	2E-08	--	NA	NA	NA	0.0E+00
			Dimethyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			di-n-Octyl phthalate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Indeno(1,2,3-cd)pyrene	1E-08	8E-14	4E-09	1E-08	--	NA	NA	NA	0.0E+00
			Phenanthrene	NA	--	NA	0E+00	--	NA	--	NA	0.0E+00
			Aldrin	0E+00	0E+00	--	0E+00	Liver	0.0E+00	NA	--	0.0E+00
			delta-BHC	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Dieldrin	0E+00	0E+00	--	0E+00	Liver; Neurological	0.0E+00	NA	--	0.0E+00
			4,4'-DDE	0E+00	0E+00	0E+00	0E+00	--	NA	NA	NA	0.0E+00
			4,4'-DDT	0E+00	0E+00	0E+00	0E+00	Liver	0.0E+00	NA	0.0E+00	0.0E+00
			Endosulfan sulfate	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin aldehyde	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Endrin ketone	NA	NA	NA	0E+00	--	NA	NA	NA	0.0E+00
			Heptachlor epoxide	0E+00	0E+00	--	0E+00	Liver	0.0E+00	NA	--	0.0E+00
			Total PCB Aroclors	1E-06	4E-12	6E-07	2E-06	Eyes; Nails; Immunological	8.0E-01	NA	3.4E-01	1.1E+00
			Aluminum	NA	NA	--	0E+00	Neurological	1.1E-02	5.1E-04	--	1.2E-02
			Antimony	NA	NA	--	0E+00	Blood	0.0E+00	NA	--	0.0E+00
			Arsenic	5E-08	7E-12	4E-09	5E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	7.6E-03	3.5E-05	6.8E-04	8.3E-03
			Cadmium	NA	4E-12	NA	4E-12	Kidney; Respiratory; Musculoskeletal	3.1E-03	3.5E-05	3.7E-04	3.5E-03
			Cobalt	NA	4E-11	--	4E-11	Endocrine; Lung	1.9E-03	2.2E-04	--	2.1E-03
			Copper	NA	NA	--	0E+00	GI tract	0.0E+00	NA	--	0.0E+00
			Cyanide	NA	NA	--	0E+00	Whole body; Endocrine	2.2E-03	NA	--	2.2E-03
			Iron	NA	NA	--	0E+00	GI tract	3.1E-02	NA	--	3.1E-02
			Lead	NA	NA	--	0E+00	--	NA	NA	--	0.0E+00
			Manganese	NA	NA	--	0E+00	Neurological	1.8E-02	2.0E-03	--	2.0E-02
			Mercury	NA	NA	--	0E+00	Immunological; Neurological	0.0E+00	0.0E+00	--	0.0E+00
			Nickel	NA	0E+00	--	0E+00	Whole body; Respiratory	0.0E+00	0.0E+00	--	0.0E+00
			Silver	NA	NA	--	0E+00	Skin	0.0E+00	NA	--	0.0E+00
			Thallium	NA	NA	--	0E+00	NOAEL	0.0E+00	NA	--	0.0E+00
			Vanadium	NA	NA	--	0E+00	Hair	0.0E+00	NA	--	0.0E+00
			Zinc	NA	NA	--	0E+00	Blood	0.0E+00	NA	--	0.0E+00
			Chemical Total	1.6E-06	5E-11	7E-07	2E-06		9E-01	3E-03	3E-01	1E+00
		Exposure Point Total					2E-06					1E+00
	Exposure Medium Total						2E-06					1E+00
Medium Total							2E-06					1E+00
Receptor Total							2E-06				Receptor HI Total	1E+00

Notes

N/A - Not Applicable

Blood HI Across All Media =	0E+00
Kidney HI Across All Media =	4E-03
Liver HI Across All Media =	0E+00
Developmental HI Across All Media =	8E-03
Neurological HI Across All Media =	4E-02
Respiratory, Lung HI Across All Media =	1E-02
Musculoskeletal Across All Media =	4E-03
Eye HI Across All Media =	1E+00
Immunological HI Across All Media =	1E+00
Hair, Skin, Nails HI Across All Media =	1E+00
Cardiovascular HI Across All Media =	8E-03
Endocrine HI Across All Media =	2E-03
GI tract HI Across All Media =	3E-02

TABLE 9.10.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Green Brook (GB)
Receptor Population: Construction/Utility Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU GB	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	6E-09	9E-11	2E-09	9E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	6E-08	9E-10	2E-08	9E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	9E-09	1E-10	4E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	3E-08	2E-10	1E-08	4E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	4E-09	6E-11	2E-09	5E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Total PCB Aroclors	1E-09	6E-12	5E-10	2E-09	Eyes; Nails; Immunological	7E-04	NA	3E-04	1E-03
			Aluminum	NA	NA	--	--	Neurological	2E-02	1E+00	--	1E+00
			Arsenic	9E-08	3E-08	9E-09	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	1E-01	1E-03	1E-01
			Cobalt	NA	1E-07	--	1E-07	Endocrine; Lung	3E-03	7E-01	--	7E-01
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Manganese	NA	NA	--	--	Neurological	2E-02	4E+00	--	4E+00
			Mercury	NA	NA	--	--	Immunological; Neurological	6E-03	2E-02	--	3E-02
			Vanadium	NA	NA	--	--	Hair	7E-03	NA	--	7E-03
			Chemical Total	2.0E-07	1E-07	5E-08	4E-07		1E-01	7E+00	2E-03	7E+00
		Exposure Point Total					4E-07					7E+00
	Exposure Medium Total						4E-07					7E+00
Medium Total							4E-07					7E+00
Receptor Total							4E-07				Receptor HI Total	7E+00

Notes

N/A - Not Applicable

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	6E+00
Respiratory, Lung HI Across All Media =	8E-01
Eye HI Across All Media =	1E-03
Immunological HI Across All Media =	3E-02
Hair, Skin, Nails HI Across All Media =	2E-01
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	7E-01
GI tract HI Across All Media =	3E-02

TABLE 9.10.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU GB	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-09	2E-11	3E-10	2E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-08	2E-10	3E-09	2E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-09	3E-11	4E-10	4E-09	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	9E-09	1E-10	1E-09	1E-08	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-09	1E-11	2E-10	1E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Total PCB Aroclors	4E-10	1E-12	5E-11	4E-10	Eyes; Nails; Immunological	2E-04	NA	3E-05	3E-04
			Aluminum	NA	NA	--	--	Neurological	6E-03	1E+00	--	1E+00
			Arsenic	3E-08	7E-09	9E-10	4E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	5E-03	1E-01	1E-04	1E-01
			Cobalt	NA	3E-08	--	3E-08	Endocrine; Lung	1E-03	5E-01	--	5E-01
			Iron	NA	NA	--	--	GI tract	1E-02	NA	--	1E-02
			Manganese	NA	NA	--	--	Neurological	7E-03	3E+00	--	3E+00
			Mercury	NA	NA	--	--	Immunological; Neurological	2E-03	2E-02	--	2E-02
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	6.8E-08	4E-08	6E-09	1E-07		3E-02	5E+00	2E-04	5E+00
		Exposure Point Total					1E-07					5E+00
	Exposure Medium Total						1E-07					5E+00
Medium Total							1E-07					5E+00
Receptor Total							1E-07				Receptor HI Total	5E+00

Notes

N/A - Not Applicable

Developmental HI Across All Media =	1E-01
Neurological HI Across All Media =	5E+00
Respiratory, Lung HI Across All Media =	6E-01
Eye HI Across All Media =	3E-04
Immunological HI Across All Media =	2E-02
Hair, Skin, Nails HI Across All Media =	1E-01
Cardiovascular HI Across All Media =	1E-01
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	1E-02

TABLE 9.10.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 1 (BB1)
Receptor Population: Construction/Utility Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB1	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	8E-09	1E-10	3E-09	1E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	9E-08	1E-09	4E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-08	1E-10	4E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	9E-10	1E-10	3E-10	1E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	3E-10	7E-09	3E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	5E-09	7E-11	2E-09	6E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-08	6E-11	5E-09	2E-08	Eyes; Nails; Immunological	7E-03	NA	3E-03	1E-02
			Aluminum	NA	NA	--	--	Neurological	1E-02	9E-01	--	9E-01
			Arsenic	1E-07	4E-08	1E-08	2E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	2E-02	2E-01	2E-03	2E-01
			Cobalt	NA	1E-07	--	1E-07	Endocrine; Lung	3E-03	7E-01	--	7E-01
			Iron	NA	NA	--	--	GI tract	2E-02	NA	--	2E-02
			Manganese	NA	NA	--	--	Neurological	2E-02	4E+00	--	4E+00
			Vanadium	NA	NA	--	--	Hair	7E-03	NA	--	7E-03
			Chemical Total	2.9E-07	2E-07	7E-08	5E-07		9E-02	5E+00	5E-03	6E+00
		Exposure Point Total					5E-07					6E+00
	Exposure Medium Total						5E-07					6E+00
Medium Total							5E-07					6E+00
Receptor Total							5E-07				Receptor HI Total	6E+00

Notes

N/A - Not Applicable

Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	5E+00
Respiratory, Lung HI Across All Media =	9E-01
Eye HI Across All Media =	1E-02
Immunological HI Across All Media =	1E-02
Hair, Skin, Nails HI Across All Media =	2E-01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	7E-01
GI tract HI Across All Media =	2E-02

TABLE 9.10.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB1	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	3E-09	3E-11	4E-10	3E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-08	3E-10	4E-09	3E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-09	4E-11	4E-10	4E-09	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-10	3E-11	4E-11	4E-10	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	6E-09	7E-11	8E-10	7E-09	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-09	2E-11	2E-10	2E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	4E-09	1E-11	6E-10	5E-09	Eyes; Nails; Immunological	2E-03	NA	3E-04	3E-03
			Aluminum	NA	NA	--	--	Neurological	3E-03	7E-01	--	7E-01
			Arsenic	5E-08	1E-08	1E-09	6E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	7E-03	2E-01	2E-04	2E-01
			Cobalt	NA	3E-08	--	3E-08	Endocrine; Lung	1E-03	5E-01	--	5E-01
			Iron	NA	NA	--	--	GI tract	8E-03	NA	--	8E-03
			Manganese	NA	NA	--	--	Neurological	6E-03	3E+00	--	3E+00
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	9.6E-08	4E-08	8E-09	1E-07		3E-02	4E+00	6E-04	4E+00
		Exposure Point Total					1E-07					4E+00
	Exposure Medium Total						1E-07					4E+00
Medium Total							1E-07					4E+00
Receptor Total							1E-07				Receptor HI Total	4E+00

Notes

N/A - Not Applicable

Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	4E+00
Respiratory, Lung HI Across All Media =	7E-01
Eye HI Across All Media =	3E-03
Immunological HI Across All Media =	3E-03
Hair, Skin, Nails HI Across All Media =	2E-01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	8E-03

TABLE 9.10.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 2 (BB2)
Receptor Population: Construction/Utility Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB2	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-09	3E-11	9E-10	3E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-08	4E-10	1E-08	4E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-09	5E-11	1E-09	5E-09	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	6E-09	1E-10	2E-09	9E-09	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	2E-09	3E-11	7E-10	3E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-08	8E-11	7E-09	2E-08	Eyes; Nails; Immunological	1E-02	NA	4E-03	1E-02
			Aluminum	NA	NA	--	--	Neurological	1E-02	9E-01	--	9E-01
			Arsenic	2E-07	6E-08	2E-08	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-02	3E-01	3E-03	3E-01
			Cobalt	NA	5E-08	--	5E-08	Endocrine; Lung	1E-03	3E-01	--	3E-01
			Iron	NA	NA	--	--	GI tract	2E-02	NA	--	2E-02
			Manganese	NA	NA	--	--	Neurological	2E-02	3E+00	--	3E+00
			Chemical Total	2.6E-07	1E-07	4E-08	4E-07		9E-02	5E+00	7E-03	5E+00
		Exposure Point Total					4E-07					5E+00
	Exposure Medium Total						4E-07					5E+00
Medium Total							4E-07					5E+00
Receptor Total							4E-07				Receptor HI Total	5E+00

Notes

N/A - Not Applicable

Developmental HI Across All Media =	3E-01
Neurological HI Across All Media =	5E+00
Respiratory, Lung HI Across All Media =	6E-01
Eye HI Across All Media =	1E-02
Immunological HI Across All Media =	1E-02
Hair, Skin, Nails HI Across All Media =	3E-01
Cardiovascular HI Across All Media =	3E-01
Endocrine HI Across All Media =	3E-01
GI tract HI Across All Media =	2E-02

TABLE 9.10.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB2	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	8E-10	9E-12	1E-10	9E-10	--	NA	NA	NA	--
			Benzo(a)pyrene	9E-09	1E-10	1E-09	1E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-09	1E-11	1E-10	1E-09	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-09	2E-11	3E-10	2E-09	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	6E-10	7E-12	8E-11	7E-10	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	6E-09	2E-11	8E-10	6E-09	Eyes; Nails; Immunological	3E-03	NA	5E-04	4E-03
			Aluminum	NA	NA	--	--	Neurological	3E-03	7E-01	--	7E-01
			Arsenic	7E-08	1E-08	2E-09	8E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	2E-01	3E-04	2E-01
			Cobalt	NA	1E-08	--	1E-08	Endocrine; Lung	5E-04	2E-01	--	2E-01
			Iron	NA	NA	--	--	GI tract	6E-03	NA	--	6E-03
			Manganese	NA	NA	--	--	Neurological	5E-03	3E+00	--	3E+00
			Chemical Total	8.5E-08	3E-08	5E-09	1E-07		3E-02	4E+00	8E-04	4E+00
		Exposure Point Total					1E-07					4E+00
	Exposure Medium Total						1E-07					4E+00
Medium Total							1E-07					4E+00
Receptor Total							1E-07				Receptor HI Total	4E+00

Notes

N/A - Not Applicable

Developmental HI Across All Media =	2E-01
Neurological HI Across All Media =	4E+00
Respiratory, Lung HI Across All Media =	5E-01
Eye HI Across All Media =	4E-03
Immunological HI Across All Media =	4E-03
Hair, Skin, Nails HI Across All Media =	2E-01
Cardiovascular HI Across All Media =	2E-01
Endocrine HI Across All Media =	2E-01
GI tract HI Across All Media =	6E-03

TABLE 9.10.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 3 (BB3)
Receptor Population: Construction/Utility Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-08	3E-10	8E-09	3E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	3E-07	4E-09	1E-07	4E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	4E-10	1E-08	4E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-09	4E-10	1E-09	4E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	1E-07	2E-09	4E-08	2E-07	Liver	3E-03	NA	1E-03	4E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	5E-08	9E-10	2E-08	7E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	2E-10	6E-09	2E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-07	5E-10	5E-08	2E-07	Eyes; Nails; Immunological	6E-02	NA	3E-02	9E-02
			Aluminum	NA	NA	--	--	Neurological	9E-03	8E-01	--	8E-01
			Antimony	NA	NA	--	--	Blood	2E-01	NA	--	2E-01
			Arsenic	3E-07	8E-08	3E-08	4E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-02	4E-01	4E-03	4E-01
			Cadmium	NA	1E-08	NA	1E-08	Kidney; Respiratory; Musculoskeletal	4E-03	8E-02	5E-04	9E-02
			Cobalt	NA	1E-07	--	1E-07	Endocrine; Lung	3E-03	7E-01	--	7E-01
			Copper	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Iron	NA	NA	--	--	GI tract	1E-01	NA	--	1E-01
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-02	5E+00	--	5E+00
			Mercury	NA	NA	--	--	Immunological; Neurological	6E-03	3E-02	--	3E-02
			Nickel	NA	3E-08	--	3E-08	Whole body; Respiratory	4E-03	2E-01	--	2E-01
			Thallium	NA	NA	--	--	NOAEL	1E-01	NA	--	1E-01
			Vanadium	NA	NA	--	--	Hair	4E-03	NA	--	4E-03
			Zinc	NA	NA	--	--	Blood	3E-03	NA	--	3E-03
			Chemical Total	9.2E-07	2E-07	3E-07	1E-06		6E-01	7E+00	3E-02	8E+00
		Exposure Point Total					1E-06					8E+00
	Exposure Medium Total						1E-06					8E+00
Medium Total							1E-06					8E+00
Receptor Total							1E-06				Receptor HI Total	8E+00

Notes

N/A - Not Applicable

Blood HI Across All Media =	2E-01
Kidney HI Across All Media =	9E-02
Liver HI Across All Media =	4E-03
Developmental HI Across All Media =	4E-01
Neurological HI Across All Media =	6E+00
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal Across All Media =	9E-02
Eye HI Across All Media =	9E-02
Immunological HI Across All Media =	1E-01
Hair, Skin, Nails HI Across All Media =	5E-01
Cardiovascular HI Across All Media =	4E-01
Endocrine HI Across All Media =	7E-01
GI tract HI Across All Media =	1E-01
Whole body HI Across All Media =	2E-01

TABLE 9.10.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	7E-09	8E-11	9E-10	8E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	9E-08	1E-09	1E-08	1E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-08	1E-10	1E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	8E-10	9E-11	1E-10	1E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	5E-08	6E-10	5E-09	5E-08	Liver	1E-03	NA	1E-04	1E-03
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	2E-10	2E-09	2E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	5E-09	5E-11	6E-10	5E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	4E-08	1E-10	5E-09	4E-08	Eyes; Nails; Immunological	2E-02	NA	3E-03	2E-02
			Aluminum	NA	NA	--	--	Neurological	3E-03	6E-01	--	6E-01
			Antimony	NA	NA	--	--	Blood	7E-02	NA	--	7E-02
			Arsenic	9E-08	2E-08	3E-09	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	3E-01	4E-04	3E-01
			Cadmium	NA	2E-09	NA	2E-09	Kidney; Respiratory; Musculoskeletal	1E-03	7E-02	5E-05	7E-02
			Cobalt	NA	3E-08	--	3E-08	Endocrine; Lung	1E-03	5E-01	--	5E-01
			Copper	NA	NA	--	--	GI tract	1E-02	NA	--	1E-02
			Iron	NA	NA	--	--	GI tract	4E-02	NA	--	4E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	8E-03	4E+00	--	4E+00
			Mercury	NA	NA	--	--	Immunological; Neurological	2E-03	2E-02	--	2E-02
			Nickel	NA	8E-09	--	8E-09	Whole body; Respiratory	1E-03	1E-01	--	1E-01
			Thallium	NA	NA	--	--	NOAEL	3E-02	NA	--	3E-02
			Vanadium	NA	NA	--	--	Hair	1E-03	NA	--	1E-03
			Zinc	NA	NA	--	--	Blood	1E-03	NA	--	1E-03
			Chemical Total	3.1E-07	6E-08	3E-08	4E-07		2E-01	5E+00	4E-03	6E+00
		Exposure Point Total					4E-07					6E+00
	Exposure Medium Total						4E-07					6E+00
Medium Total							4E-07					6E+00
Receptor Total							4E-07				Receptor HI Total	6E+00

Notes

N/A - Not Applicable

Blood HI Across All Media =	7E-02
Kidney HI Across All Media =	7E-02
Liver HI Across All Media =	1E-03
Developmental HI Across All Media =	3E-01
Neurological HI Across All Media =	5E+00
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal Across All Media =	7E-02
Eye HI Across All Media =	2E-02
Immunological HI Across All Media =	5E-02
Hair, Skin, Nails HI Across All Media =	3E-01
Cardiovascular HI Across All Media =	3E-01
Endocrine HI Across All Media =	5E-01
GI tract HI Across All Media =	5E-02
Whole body HI Across All Media =	1E-01

TABLE 9.10.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	4E-09	6E-11	2E-09	6E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	5E-08	7E-10	2E-08	7E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	8E-09	1E-10	3E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	4E-10	6E-11	2E-10	6E-10	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	1E-07	2E-09	5E-08	2E-07	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	4E-09	5E-11	1E-09	5E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Aldrin	2E-09	7E-11	--	3E-09	Liver	3E-04	NA	--	3E-04
			delta-BHC	NA	NA	--	--	--	NA	NA	--	--
			Dieldrin	4E-08	1E-09	--	4E-08	Liver; Neurological	2E-03	NA	--	2E-03
			4,4'-DDT	9E-10	2E-11	8E-11	1E-09	Liver	4E-04	NA	3E-05	4E-04
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	5E-07	2E-09	2E-07	7E-07	Eyes; Nails; Immunological	3E-01	NA	1E-01	4E-01
			Aluminum	NA	NA	--	--	Neurological	7E-03	6E-01	--	6E-01
			Antimony	NA	NA	--	--	Blood	2E-02	NA	--	2E-02
			Arsenic	2E-07	7E-08	2E-08	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-02	3E-01	3E-03	4E-01
			Cadmium	NA	1E-08	NA	1E-08	Kidney; Respiratory; Musculoskeletal	4E-03	9E-02	5E-04	1E-01
			Cobalt	NA	7E-08	--	7E-08	Endocrine; Lung	2E-03	4E-01	--	4E-01
			Copper	NA	NA	--	--	GI tract	2E-03	NA	--	2E-03
			Iron	NA	NA	--	--	GI tract	2E-02	NA	--	2E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-02	3E+00	--	3E+00
			Silver	NA	NA	--	--	Skin	7E-04	NA	--	7E-04
			Vanadium	NA	NA	--	--	Hair	5E-03	NA	--	5E-03
			Zinc	NA	NA	--	--	Blood	7E-04	NA	--	7E-04
			Chemical Total	9.5E-07	2E-07	3E-07	1E-06		4E-01	5E+00	1E-01	5E+00
		Exposure Point Total					1E-06					5E+00
	Exposure Medium Total						1E-06					5E+00
Medium Total							1E-06					5E+00
Receptor Total							1E-06				Receptor HI Total	5E+00

Notes

N/A - Not Applicable

Blood HI Across All Media =	2E-02
Kidney HI Across All Media =	1E-01
Liver HI Across All Media =	2E-03
Developmental HI Across All Media =	4E-01
Neurological HI Across All Media =	4E+00
Respiratory, Lung HI Across All Media =	9E-01
Musculoskeletal Across All Media =	1E-01
Eye HI Across All Media =	4E-01
Immunological HI Across All Media =	4E-01
Hair, Skin, Nails HI Across All Media =	8E-01
Cardiovascular HI Across All Media =	4E-01
Endocrine HI Across All Media =	4E-01
GI tract HI Across All Media =	2E-02

TABLE 9.10.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	1E-09	2E-11	2E-10	2E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-08	2E-10	2E-09	2E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-09	3E-11	3E-10	3E-09	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	1E-10	1E-11	2E-11	2E-10	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	4E-08	5E-10	6E-09	5E-08	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-09	1E-11	2E-10	1E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Aldrin	8E-10	2E-11	--	8E-10	Liver	1E-04	NA	--	1E-04
			delta-BHC	NA	NA	--	--	--	NA	NA	--	--
			Dieldrin	1E-08	3E-10	--	1E-08	Liver; Neurological	6E-04	NA	--	6E-04
			4,4'-DDT	3E-10	6E-12	9E-12	3E-10	Liver	1E-04	NA	4E-06	1E-04
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	2E-07	6E-10	2E-08	2E-07	Eyes; Nails; Immunological	9E-02	NA	1E-02	1E-01
			Aluminum	NA	NA	--	--	Neurological	2E-03	5E-01	--	5E-01
			Antimony	NA	NA	--	--	Blood	7E-03	NA	--	7E-03
			Arsenic	8E-08	2E-08	2E-09	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	3E-01	4E-04	3E-01
			Cadmium	NA	3E-09	NA	3E-09	Kidney; Respiratory; Musculoskeletal	1E-03	7E-02	6E-05	7E-02
			Cobalt	NA	2E-08	--	2E-08	Endocrine; Lung	6E-04	3E-01	--	3E-01
			Copper	NA	NA	--	--	GI tract	6E-04	NA	--	6E-04
			Iron	NA	NA	--	--	GI tract	6E-03	NA	--	6E-03
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	6E-03	3E+00	--	3E+00
			Silver	NA	NA	--	--	Skin	2E-04	NA	--	2E-04
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Zinc	NA	NA	--	--	Blood	2E-04	NA	--	2E-04
			Chemical Total	3.2E-07	4E-08	3E-08	4E-07		1E-01	4E+00	1E-02	4E+00
		Exposure Point Total					4E-07					4E+00
	Exposure Medium Total						4E-07					4E+00
Medium Total							4E-07					4E+00
Receptor Total							4E-07				Receptor HI Total	4E+00

Notes

N/A - Not Applicable

Blood HI Across All Media =	7E-03
Kidney HI Across All Media =	7E-02
Liver HI Across All Media =	8E-04
Developmental HI Across All Media =	3E-01
Neurological HI Across All Media =	4E+00
Respiratory, Lung HI Across All Media =	7E-01
Musculoskeletal Across All Media =	7E-02
Eye HI Across All Media =	1E-01
Immunological HI Across All Media =	1E-01
Hair, Skin, Nails HI Across All Media =	4E-01
Cardiovascular HI Across All Media =	3E-01
Endocrine HI Across All Media =	3E-01
GI tract HI Across All Media =	6E-03

TABLE 9.10.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 5 (BB5)
Receptor Population: Construction/Utility Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	NA	--	Kidney	9E-04	--	--	9E-04
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	1E-08	2E-10	6E-09	2E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	2E-07	3E-09	8E-08	3E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	3E-08	5E-10	1E-08	4E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	8E-10	1E-10	3E-10	1E-09	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	8E-09	1E-10	2E-09	1E-08	Liver	2E-04	NA	6E-05	3E-04
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	3E-10	8E-09	3E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	1E-10	4E-09	1E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	1E-06	4E-08	--	1E-06	Liver; Neurological	6E-02	NA	--	6E-02
			4,4'-DDE	2E-07	6E-09	2E-08	2E-07	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Heptachlor epoxide	1E-07	4E-09	--	1E-07	Liver	8E-02	NA	--	8E-02
			Total PCB Aroclors	7E-07	4E-09	3E-07	1E-06	Eyes; Nails; Immunological	4E-01	NA	2E-01	6E-01
			Aluminum	NA	NA	--	--	Neurological	1E-02	1E+00	--	1E+00
			Antimony	NA	NA	--	--	Blood	6E-03	NA	--	6E-03
			Arsenic	3E-07	7E-08	2E-08	3E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	4E-02	3E-01	4E-03	4E-01
			Cadmium	NA	2E-08	NA	2E-08	Kidney; Respiratory; Musculoskeletal	9E-03	2E-01	1E-03	2E-01
			Cobalt	NA	1E-07	--	1E-07	Endocrine; Lung	3E-03	7E-01	--	7E-01
			Copper	NA	NA	--	--	GI tract	3E-03	NA	--	3E-03
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-02	4E+00	--	4E+00
			Vanadium	NA	NA	--	--	Hair	7E-03	NA	--	7E-03
			Chemical Total	3.0E-06	3E-07	5E-07	4E-06		7E-01	6E+00	2E-01	7E+00
		Exposure Point Total					4E-06					7E+00
	Exposure Medium Total						4E-06					7E+00
Medium Total							4E-06					7E+00
Receptor Total							4E-06	Receptor HI Total				7E+00

Notes

N/A - Not Applicable

Blood HI Across All Media =	6E-03
Kidney HI Across All Media =	2E-01
Liver HI Across All Media =	1E-01
Developmental HI Across All Media =	4E-01
Neurological HI Across All Media =	5E+00
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal Across All Media =	2E-01
Eye HI Across All Media =	6E-01
Immunological HI Across All Media =	6E-01
Hair, Skin, Nails HI Across All Media =	1E+00
Cardiovascular HI Across All Media =	4E-01
Endocrine HI Across All Media =	7E-01
GI tract HI Across All Media =	3E-02

TABLE 9.10.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe: Current/Future
Exposure Unit (EU): Bound Brook 5 (BB5)
Receptor Population: Construction/Utility Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	cis-1,2-Dichloroethene	NA	--	NA	--	Kidney	3E-04	--	--	3E-04
			Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	5E-09	5E-11	6E-10	6E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	7E-08	8E-10	9E-09	8E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	1E-08	1E-10	1E-09	1E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	3E-10	3E-11	4E-11	3E-10	--	NA	NA	NA	--
			bis(2-Ethylhexyl)phthalate	3E-09	3E-11	3E-10	3E-09	Liver	7E-05	NA	7E-06	8E-05
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	7E-09	9E-11	9E-10	8E-09	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-09	4E-11	4E-10	4E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Dieldrin	4E-07	9E-09	--	4E-07	Liver; Neurological	2E-02	NA	--	2E-02
			4,4'-DDE	7E-08	1E-09	2E-09	7E-08	--	NA	NA	NA	--
			Endosulfan sulfate	NA	NA	--	--	--	NA	NA	--	--
			Endrin aldehyde	NA	NA	--	--	--	NA	NA	--	--
			Heptachlor epoxide	5E-08	9E-10	--	5E-08	Liver	3E-02	NA	--	3E-02
			Total PCB Aroclors	2E-07	9E-10	3E-08	3E-07	Eyes; Nails; Immunological	1E-01	NA	2E-02	2E-01
			Aluminum	NA	NA	--	--	Neurological	4E-03	8E-01	--	8E-01
			Antimony	NA	NA	--	--	Blood	2E-03	NA	--	2E-03
			Arsenic	8E-08	2E-08	3E-09	1E-07	Skin; Developmental; Cardiovascular; Neurological; Lung	1E-02	3E-01	4E-04	3E-01
			Cadmium	NA	6E-09	NA	6E-09	Kidney; Respiratory; Musculoskeletal	3E-03	2E-01	1E-04	2E-01
			Cobalt	NA	3E-08	--	3E-08	Endocrine; Lung	1E-03	6E-01	--	6E-01
			Copper	NA	NA	--	--	GI tract	1E-03	NA	--	1E-03
			Iron	NA	NA	--	--	GI tract	1E-02	NA	--	1E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	6E-03	3E+00	--	3E+00
			Vanadium	NA	NA	--	--	Hair	2E-03	NA	--	2E-03
			Chemical Total	9.9E-07	7E-08	5E-08	1E-06		2E-01	5E+00	2E-02	5E+00
		Exposure Point Total					1E-06					5E+00
	Exposure Medium Total						1E-06					5E+00
Medium Total							1E-06					5E+00
Receptor Total							1E-06				Receptor HI Total	5E+00

Notes

N/A - Not Applicable

Blood HI Across All Media =	2E-03
Kidney HI Across All Media =	2E-01
Liver HI Across All Media =	5E-02
Developmental HI Across All Media =	3E-01
Neurological HI Across All Media =	4E+00
Respiratory, Lung HI Across All Media =	1E+00
Musculoskeletal Across All Media =	2E-01
Eye HI Across All Media =	2E-01
Immunological HI Across All Media =	2E-01
Hair, Skin, Nails HI Across All Media =	4E-01
Cardiovascular HI Across All Media =	3E-01
Endocrine HI Across All Media =	6E-01
GI tract HI Across All Media =	1E-02

TABLE 9.10.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	2E-08	3E-10	7E-09	3E-08	--	NA	NA	NA	--
			Benzo(a)pyrene	1E-07	2E-09	5E-08	2E-07	--	NA	NA	NA	--
			Benzo(b)fluoranthene	2E-08	3E-10	8E-09	3E-08	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	2E-09	2E-10	6E-10	3E-09	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	2E-08	3E-10	6E-09	2E-08	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	1E-08	1E-10	4E-09	1E-08	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	1E-06	7E-09	6E-07	2E-06	Eyes; Nails; Immunological	8E-01	NA	3E-01	1E+00
			Aluminum	NA	NA	--	--	Neurological	1E-02	1E+00	--	1E+00
			Arsenic	5E-08	1E-08	4E-09	7E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	8E-03	6E-02	7E-04	7E-02
			Cadmium	NA	8E-09	NA	8E-09	Kidney; Respiratory; Musculoskeletal	3E-03	7E-02	4E-04	7E-02
			Cobalt	NA	7E-08	--	7E-08	Endocrine; Lung	2E-03	4E-01	--	4E-01
			Cyanide	NA	NA	--	--	Whole body; Endocrine	2E-03	NA	--	2E-03
			Iron	NA	NA	--	--	GI tract	3E-02	NA	--	3E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	2E-02	4E+00	--	4E+00
			Chemical Total	1.6E-06	1E-07	7E-07	2E-06		9E-01	5E+00	3E-01	6E+00
		Exposure Point Total					2E-06					6E+00
	Exposure Medium Total						2E-06					6E+00
Medium Total							2E-06					6E+00
Receptor Total							2E-06				Receptor HI Total	6E+00

Notes

N/A - Not Applicable

Kidney HI Across All Media =	7E-02
Developmental HI Across All Media =	7E-02
Neurological HI Across All Media =	5E+00
Respiratory, Lung HI Across All Media =	6E-01
Musculoskeletal Across All Media =	7E-02
Eye HI Across All Media =	1E+00
Immunological HI Across All Media =	1E+00
Hair, Skin, Nails HI Across All Media =	1E+00
Cardiovascular HI Across All Media =	7E-02
Endocrine HI Across All Media =	4E-01
GI tract HI Across All Media =	3E-02
Whole body HI Across All Media =	2E-03

TABLE 9.10.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Acenaphthylene	NA	--	NA	--	--	NA	--	NA	--
			Benzo(a)anthracene	6E-09	7E-11	8E-10	7E-09	--	NA	NA	NA	--
			Benzo(a)pyrene	4E-08	5E-10	6E-09	5E-08	--	NA	NA	NA	--
			Benzo(b)fluoranthene	7E-09	7E-11	9E-10	8E-09	--	NA	NA	NA	--
			Benzo(g,h,i)perylene	NA	NA	NA	--	--	NA	NA	NA	--
			Benzo(k)fluoranthene	5E-10	6E-11	7E-11	7E-10	--	NA	NA	NA	--
			Carbazole	NA	NA	NA	--	--	NA	NA	NA	--
			Dibenzo(a,h)anthracene	6E-09	7E-11	7E-10	6E-09	--	NA	NA	NA	--
			Dimethyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			di-n-Octyl phthalate	NA	NA	NA	--	--	NA	NA	NA	--
			Indeno(1,2,3-cd)pyrene	3E-09	4E-11	4E-10	4E-09	--	NA	NA	NA	--
			Phenanthrene	NA	--	NA	--	--	NA	--	NA	--
			Endrin ketone	NA	NA	--	--	--	NA	NA	--	--
			Total PCB Aroclors	5E-07	2E-09	6E-08	5E-07	Eyes; Nails; Immunological	3E-01	NA	4E-02	3E-01
			Aluminum	NA	NA	--	--	Neurological	4E-03	8E-01	--	8E-01
			Arsenic	2E-08	3E-09	5E-10	2E-08	Skin; Developmental; Cardiovascular; Neurological; Lung	3E-03	5E-02	8E-05	5E-02
			Cadmium	NA	2E-09	NA	2E-09	Kidney; Respiratory; Musculoskeletal	1E-03	5E-02	4E-05	5E-02
			Cobalt	NA	2E-08	--	2E-08	Endocrine; Lung	6E-04	3E-01	--	3E-01
			Cyanide	NA	NA	--	--	Whole body; Endocrine	7E-04	NA	--	7E-04
			Iron	NA	NA	--	--	GI tract	1E-02	NA	--	1E-02
			Lead	NA	NA	--	--	--	NA	NA	--	--
			Manganese	NA	NA	--	--	Neurological	6E-03	3E+00	--	3E+00
			Chemical Total	5.4E-07	3E-08	7E-08	6E-07		3E-01	4E+00	4E-02	4E+00
		Exposure Point Total					6E-07					4E+00
	Exposure Medium Total						6E-07					4E+00
Medium Total							6E-07					4E+00
Receptor Total							6E-07	Receptor HI Total				4E+00

Notes

N/A - Not Applicable

Kidney HI Across All Media =	5E-02
Developmental HI Across All Media =	5E-02
Neurological HI Across All Media =	4E+00
Respiratory, Lung HI Across All Media =	4E-01
Musculoskeletal Across All Media =	5E-02
Eye HI Across All Media =	3E-01
Immunological HI Across All Media =	3E-01
Hair, Skin, Nails HI Across All Media =	4E-01
Cardiovascular HI Across All Media =	5E-02
Endocrine HI Across All Media =	3E-01
GI tract HI Across All Media =	1E-02
Whole body HI Across All Media =	7E-04

TABLE 10.1.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB1	Benzidine	3E-04	N/A	9E-04	1E-03					
			Chemical Total	3E-04	--	9E-04	1E-03		--	--	--	--
		Exposure Point Total					1E-03					--
	Exposure Medium Total						1E-03					--
Medium Total							1E-03					--
Receptor Total							1E-03	Receptor HI Total				--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.1.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB1	Benzidine	4E-05	N/A	1E-04	2E-04					
			Chemical Total	4E-05	--	1E-04	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total							2E-04				Receptor HI Total	--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.1.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB2	Benzidine	4E-04	N/A	1E-03	2E-03					
			Chemical Total	4E-04	--	1E-03	2E-03		--	--	--	--
		Exposure Point Total					2E-03					--
	Exposure Medium Total						2E-03					--
Medium Total							2E-03					--
Receptor Total							2E-03				Receptor HI Total	--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.1.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB2	Benzidine	5E-05	N/A	2E-04	2E-04					
			Chemical Total	5E-05	--	2E-04	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total							2E-04	Receptor HI Total				--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.1.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB3	Benzidine	1E-03	N/A	3E-03	4E-03					
			Chemical Total	1E-03	--	3E-03	4E-03		--	--	--	--
		Exposure Point Total					4E-03					--
	Exposure Medium Total						4E-03					--
Medium Total							4E-03					--
Receptor Total							4E-03				Receptor HI Total	--

Notes

N/A = Not Applicable

TABLE 10.1.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB3	Benzidine	1E-04	N/A	4E-04	6E-04					
			Chemical Total	1E-04	--	4E-04	6E-04		--	--	--	--
		Exposure Point Total					6E-04					--
	Exposure Medium Total						6E-04					--
Medium Total							6E-04					--
Receptor Total							6E-04				Receptor HI Total	--

Notes

N/A = Not Applicable

TABLE 10.1.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB4	Benzidine	4E-04	N/A	1E-03	2E-03					
			Chemical Total	4E-04	--	1E-03	2E-03		--	--	--	--
		Exposure Point Total					2E-03					--
	Exposure Medium Total						2E-03					--
Medium Total							2E-03					--
Receptor Total							2E-03				Receptor HI Total	--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.1.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB4	Benzidine	6E-05	N/A	2E-04	2E-04					
			Chemical Total	6E-05	--	2E-04	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total							2E-04				Receptor HI Total	--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.1.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB5	Benzidine	3E-04	N/A	8E-04	1E-03	Eye; Nails; Immunological	3E-01	N/A	1E+00	2E+00
			Total PCB Aroclors									
			Chemical Total	3E-04	--	8E-04	1E-03		3E-01	--	1E+00	2E+00
		Exposure Point Total					1E-03					2E+00
	Exposure Medium Total						1E-03					2E+00
Medium Total							1E-03					2E+00
Receptor Total							1E-03				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

TABLE 10.1.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB5	Benzidine	4E-05	N/A	1E-04	2E-04					
			Chemical Total	4E-05	--	1E-04	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total							2E-04				Receptor HI Total	--

Notes

N/A = Not Applicable

TABLE 10.1.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB6	Benzidine	2E-04	N/A	6E-04	8E-04					
			Chemical Total	2E-04	--	6E-04	8E-04		--	--	--	--
		Exposure Point Total					8E-04					--
	Exposure Medium Total						8E-04					--
Medium Total							8E-04					--
Receptor Total							8E-04				Receptor HI Total	--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.2.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB1	Benzidine	1E-04	N/A	1E-04	3E-04					
			Chemical Total	1E-04	--	1E-04	3E-04		--	--	--	--
		Exposure Point Total					3E-04					--
	Exposure Medium Total						3E-04					--
Medium Total							3E-04					--
Receptor Total							3E-04				Receptor HI Total	--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.2.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB2	Benzidine	1E-04	N/A	2E-04	3E-04					
			Chemical Total	1E-04	--	2E-04	3E-04		--	--	--	--
		Exposure Point Total					3E-04					--
	Exposure Medium Total						3E-04					--
Medium Total							3E-04					--
Receptor Total							3E-04				Receptor HI Total	--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 9.2.CTE: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB2	Benzidine	7E-05	N/A	9E-05	2E-04					
			Chemical Total	7E-05	--	9E-05	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total							2E-04				Receptor HI Total	--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.2.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB3	Benzidine	4E-04	N/A	5E-04	9E-04					
			Chemical Total	4E-04	--	5E-04	9E-04		--	--	--	--
		Exposure Point Total					9E-04					--
	Exposure Medium Total						9E-04					--
Medium Total							9E-04					--
Receptor Total							9E-04				Receptor HI Total	--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.2.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB3	Benzidine	2E-04	N/A	2E-04	4E-04					
			Chemical Total	2E-04	--	2E-04	4E-04		--	--	--	--
		Exposure Point Total					4E-04					--
	Exposure Medium Total						4E-04					--
Medium Total							4E-04					--
Receptor Total							4E-04	Receptor HI Total				--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.2.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB4	Benzidine	2E-04	N/A	2E-04	3E-04					
			Chemical Total	2E-04	--	2E-04	3E-04		--	--	--	--
		Exposure Point Total					3E-04					--
	Exposure Medium Total						3E-04					--
Medium Total							3E-04					--
Receptor Total							3E-04				Receptor HI Total	--

Notes

N/A = Not Applicable

TABLE 10.2.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB4	Benzidine	7E-05	N/A	9E-05	2E-04					
			Chemical Total	7E-05	--	9E-05	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total							2E-04				Receptor HI Total	--

Notes

N/A = Not Applicable

TABLE 10.2.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB5	Benzidine	1E-04	N/A	1E-04	2E-04	Eye; Nails; Immunological	8E-01	N/A	1E+00	2E+00
			Total PCB Aroclors									
			Chemical Total	1E-04	--	1E-04	2E-04		8E-01	--	1E+00	2E+00
		Exposure Point Total					2E-04					2E+00
	Exposure Medium Total						2E-04					2E+00
Medium Total							2E-04					2E+00
Floodplain Soil	Surface Soil	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	1E+00	NA	8E-01	2E+00
			Chemical Total	--	--	--	--		1E+00	--	8E-01	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total							2E-04				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00

TABLE 10.2.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Recreationist / Sportsman
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB6	Benzidine	8E-05	N/A	1E-04	2E-04					
			Chemical Total	8E-05	--	1E-04	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Floodplain Soil	Surface Soil	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	NA	1E+00	3E+00
			Chemical Total	--	--	--	--		2E+00	--	1E+00	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total							--				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.3.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU GB	Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Chemical Total	4E-04	--	--	4E-04		2E+01	--	--	2E+01
		Exposure Point Total					4E-04					2E+01
	Exposure Medium Total						4E-04					2E+01
Medium Total							4E-04					2E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							4E-04				Receptor HI Total	2E+01

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01

Biota	Bottom-Feeding Fish Fillet	EU GB	Total PCB Aroclors	5E-03	N/A	N/A	5E-03	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			Chemical Total	5E-03	--	--	5E-03		3E+02	--	--	3E+02
		Exposure Point Total					5E-03					3E+02
	Exposure Medium Total						5E-03					3E+02
Medium Total							5E-03					3E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							5E-03				Receptor HI Total	3E+02

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02

TABLE 10.3.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							--				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

Biota	Crayfish	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							--				Receptor HI Total	2E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Chemical Total	--	--	--	--		2E+01	--	--	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							--				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01

Biota	Bottom-Feeding Fish Fillet	EU GB	Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			Chemical Total	1E-03	--	--	1E-03		2E+02	--	--	2E+02
		Exposure Point Total					1E-03					2E+02
	Exposure Medium Total						1E-03					2E+02
Medium Total							1E-03					2E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							--				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

Biota	Crayfish	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							--				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB1	Benzidine	3E-04	N/A	9E-04	1E-03					
			Chemical Total	3E-04	--	9E-04	1E-03		--	--	--	--
		Exposure Point Total					1E-03					--
	Exposure Medium Total						1E-03					--
Medium Total							1E-03					--
Receptor Total - Abiotic Media Only							1E-03				Receptor HI Total	--
Biota	Predatory Fish Fillet	EU BB1	Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Chemical Total	4E-04	--	--	4E-04		2E+01	--	--	2E+01
		Exposure Point Total					4E-04					2E+01
	Exposure Medium Total						4E-04					2E+01
Medium Total							4E-04					2E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							2E-03				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01

TABLE 10.3.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB1	Total PCB Aroclors	5E-03	N/A	N/A	5E-03	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			Chemical Total	5E-03	--	--	5E-03		3E+02	--	--	3E+02
		Exposure Point Total					5E-03					3E+02
	Exposure Medium Total						5E-03					3E+02
Medium Total							5E-03					3E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							7E-03				Receptor HI Total	3E+02

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02

Biota	Asiatic Clams	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							1E-03				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.3.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							1E-03				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB1	Benzidine	4E-05	N/A	1E-04	2E-04					
			Chemical Total	4E-05	--	1E-04	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total - Abiotic Media Only							2E-04	Receptor HI Total				--
Biota	Predatory	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Chemical Total	--	--	--	--		2E+01	--	--	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							2E-04	Receptor HI Total				2E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB1	Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			Chemical Total	1E-03	--	--	1E-03		2E+02	--	--	2E+02
		Exposure Point Total					1E-03					2E+02
	Exposure Medium Total						1E-03					2E+02
Medium Total							1E-03					2E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02

Biota	Asiatic Clams	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB2	Benzidine	4E-04	N/A	1E-03	2E-03					
			Chemical Total	4E-04	--	1E-03	2E-03		--	--	--	--
		Exposure Point Total					2E-03					--
	Exposure Medium Total						2E-03					--
Medium Total							2E-03					--
Receptor Total - Abiotic Media Only							2E-03				Receptor HI Total	--
Biota	Predatory Fish Fillet	EU BB2	Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04		4E+00	N/A	N/A	4E+00
			Chemical Total	6E-04	--	--	6E-04		2E+01	--	--	2E+01
		Exposure Point Total					6E-04					2E+01
	Exposure Medium Total						6E-04					2E+01
Medium Total							6E-04					2E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							2E-03				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+00
Liver HI Across All Media =	4E+00
Respiratory, Lung HI Across All Media =	4E+00
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Endocrine HI Across All Media =	4E+00

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB2	Heptachlor epoxide					Liver	2E+00	N/A	N/A	2E+00
			Total PCB Aroclors	4E-03	N/A	N/A	4E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	4E-03	N/A	N/A	4E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+02	N/A	N/A	1E+02
			Chemical Total	8E-03	--	--	8E-03		3E+02	--	--	3E+02
		Exposure Point Total					8E-03					3E+02
	Exposure Medium Total						8E-03					3E+02
Medium Total							8E-03					3E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							9E-03				Receptor HI Total	3E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+02
Liver HI Across All Media =	1E+02
Respiratory, Lung HI Across All Media =	1E+02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	1E+02

Biota	Asiatic Clams	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							2E-03				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							2E-03				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB2	Benzidine	5E-05	N/A	2E-04	2E-04					
			Chemical Total	5E-05	--	2E-04	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total - Abiotic Media Only							2E-04				Receptor HI Total	--
Biota	Predatory Fish Fillet	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		2E+01	--	--	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							2E-04				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+00
Liver HI Across All Media =	3E+00
Respiratory, Lung HI Across All Media =	3E+00
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Endocrine HI Across All Media =	3E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB2	Total PCB Aroclors	8E-04	N/A	N/A	8E-04	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	9E-04	N/A	N/A	9E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	8E+01	N/A	N/A	8E+01
			Chemical Total	2E-03	--	--	2E-03		2E+02	--	--	2E+02
		Exposure Point Total					2E-03					2E+02
	Exposure Medium Total						2E-03					2E+02
Medium Total							2E-03					2E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	8E+01
Liver HI Across All Media =	8E+01
Respiratory, Lung HI Across All Media =	8E+01
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	8E+01

Biota	Asiatic Clams	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB3	Benzidine	1E-03	N/A	3E-03	4E-03	Neurological; Liver				
			Chemical Total	1E-03	--	3E-03	4E-03		--	--	--	--
		Exposure Point Total					4E-03					--
	Exposure Medium Total						4E-03					--
Medium Total							4E-03					--
Receptor Total - Abiotic Media Only							4E-03	Receptor HI Total				--
Biota	Predatory Fish Fillet	EU BB3	Total PCB Aroclors	7E-04	N/A	N/A	7E-04	Eye; Nails; Immunological	4E+01	N/A	N/A	4E+01
			TCDD TEQ (PCBs)	5E-04	N/A	N/A	5E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+01	N/A	N/A	1E+01
			Chemical Total	1E-03	--	--	1E-03		5E+01	--	--	5E+01
		Exposure Point Total					1E-03					5E+01
	Exposure Medium Total						1E-03					5E+01
Medium Total							1E-03					5E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							5E-03	Receptor HI Total				5E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+01
Liver HI Across All Media =	1E+01
Respiratory, Lung HI Across All Media =	1E+01
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Endocrine HI Across All Media =	1E+01

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB3	Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	7E+01	N/A	N/A	7E+01
			TCDD TEQ (PCBs)	1E-03	N/A	N/A	1E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Chemical Total	3E-03	--	--	3E-03		1E+02	--	--	1E+02
		Exposure Point Total					3E-03					1E+02
	Exposure Medium Total						3E-03					1E+02
Medium Total							3E-03					1E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							7E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Liver HI Across All Media =	3E+01
Respiratory, Lung HI Across All Media =	3E+01
Eye HI Across All Media =	7E+01
Immunological HI Across All Media =	7E+01
Hair, Skin, Nails HI Across All Media =	7E+01
Endocrine HI Across All Media =	3E+01

Biota	Asiatic Clams	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							4E-03				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							4E-03				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB3	Benzidine	1E-04	N/A	4E-04	6E-04	Neurological; Liver				
			Chemical Total	1E-04	--	4E-04	6E-04		--	--	--	--
		Exposure Point Total					6E-04					--
	Exposure Medium Total						6E-04					--
Medium Total							6E-04					--
Receptor Total - Abiotic Media Only							6E-04	Receptor HI Total				--
Biota	Predatory Fish Fillet	EU BB3	Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E+00	N/A	N/A	9E+00
			Chemical Total	2E-04	--	--	2E-04		4E+01	--	--	4E+01
		Exposure Point Total					2E-04					4E+01
	Exposure Medium Total						2E-04					4E+01
Medium Total							2E-04					4E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							8E-04	Receptor HI Total				4E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E+00
Liver HI Across All Media =	9E+00
Respiratory, Lung HI Across All Media =	9E+00
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Endocrine HI Across All Media =	9E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB3	Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Chemical Total	6E-04	--	--	6E-04		8E+01	--	--	8E+01
		Exposure Point Total					6E-04					8E+01
	Exposure Medium Total						6E-04					8E+01
Medium Total							6E-04					8E+01
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Liver HI Across All Media =	3E+01
Respiratory, Lung HI Across All Media =	3E+01
Eye HI Across All Media =	5E+01
Immunological HI Across All Media =	5E+01
Hair, Skin, Nails HI Across All Media =	5E+01
Endocrine HI Across All Media =	3E+01

Biota	Asiatic Clams	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							6E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							6E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB4	Benzidine	4E-04	N/A	1E-03	2E-03					
			Chemical Total	4E-04	--	1E-03	2E-03		--	--	--	--
		Exposure Point Total					2E-03					--
	Exposure Medium Total						2E-03					--
Medium Total							2E-03					--
Receptor Total - Abiotic Media Only							2E-03	Receptor HI Total				--
Biota	Predatory Fish Fillet	EU BB4	Total PCB Aroclors	7E-04	N/A	N/A	7E-04	Eye; Nails; Immunological	4E+01	N/A	N/A	4E+01
			TCDD TEQ (PCBs)	5E-04	N/A	N/A	5E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+01	N/A	N/A	1E+01
			Chemical Total	1E-03	--	--	1E-03		5E+01	--	--	5E+01
		Exposure Point Total					1E-03					5E+01
	Exposure Medium Total						1E-03					5E+01
Medium Total							1E-03					5E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							3E-03	Receptor HI Total				5E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+01
Liver HI Across All Media =	1E+01
Respiratory, Lung HI Across All Media =	1E+01
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Endocrine HI Across All Media =	1E+01

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB4	Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	7E+01	N/A	N/A	7E+01
			TCDD TEQ (PCBs)	1E-03	N/A	N/A	1E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Chemical Total	3E-03	--	--	3E-03		1E+02	--	--	1E+02
		Exposure Point Total					3E-03					1E+02
	Exposure Medium Total						3E-03					1E+02
Medium Total							3E-03					1E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							4E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Liver HI Across All Media =	3E+01
Respiratory, Lung HI Across All Media =	3E+01
Eye HI Across All Media =	7E+01
Immunological HI Across All Media =	7E+01
Hair, Skin, Nails HI Across All Media =	7E+01
Endocrine HI Across All Media =	3E+01

Biota	Asiatic Clams	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							2E-03				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							2E-03				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB4	Benzidine	6E-05	N/A	2E-04	2E-04					
			Chemical Total	6E-05	--	2E-04	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total - Abiotic Media Only							2E-04	Receptor HI Total				--
Biota	Predatory Fish Fillet	EU BB4	Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E+00	N/A	N/A	9E+00
			Chemical Total	2E-04	--	--	2E-04		4E+01	--	--	4E+01
		Exposure Point Total					2E-04					4E+01
	Exposure Medium Total						2E-04					4E+01
Medium Total							2E-04					4E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							4E-04	Receptor HI Total				4E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E+00
Liver HI Across All Media =	9E+00
Respiratory, Lung HI Across All Media =	9E+00
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Endocrine HI Across All Media =	9E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB4	Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Chemical Total	6E-04	--	--	6E-04		8E+01	--	--	8E+01
		Exposure Point Total					6E-04					8E+01
	Exposure Medium Total						6E-04					8E+01
Medium Total							6E-04					8E+01
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							8E-04				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Liver HI Across All Media =	3E+01
Respiratory, Lung HI Across All Media =	3E+01
Eye HI Across All Media =	5E+01
Immunological HI Across All Media =	5E+01
Hair, Skin, Nails HI Across All Media =	5E+01
Endocrine HI Across All Media =	3E+01

Biota	Asiatic Clams	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB5	Benzidine	3E-04	N/A	8E-04	1E-03	Eye; Nails; Immunological	3E-01	N/A	1E+00	2E+00
			Total PCB Aroclors									
			Chemical Total	3E-04	--	8E-04	1E-03		3E-01	--	1E+00	2E+00
		Exposure Point Total					1E-03					2E+00
	Exposure Medium Total						1E-03					2E+00
Medium Total							1E-03					2E+00
Receptor Total - Abiotic Media Only							1E-03				Receptor HI Total	2E+00
Biota	Predatory Fish Fillet	EU BB5	Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	3E-03	N/A	N/A	3E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	6E+01	N/A	N/A	6E+01
			Chemical Total	4E-03	--	--	4E-03		1E+02	--	--	1E+02
		Exposure Point Total					4E-03					1E+02
	Exposure Medium Total						4E-03					1E+02
Medium Total							4E-03					1E+02
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							5E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	6E+01
Liver HI Across All Media =	6E+01
Respiratory, Lung HI Across All Media =	6E+01
Eye HI Across All Media =	6E+01
Immunological HI Across All Media =	6E+01
Hair, Skin, Nails HI Across All Media =	6E+01
Endocrine HI Across All Media =	6E+01

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB5	Total PCB Aroclors	4E-03	N/A	N/A	4E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	2E-02	N/A	N/A	2E-02	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+02	N/A	N/A	4E+02
			Chemical Total	2E-02	--	--	2E-02		6E+02	--	--	6E+02
		Exposure Point Total					2E-02					6E+02
	Exposure Medium Total						2E-02					6E+02
Medium Total							2E-02					6E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							2E-02				Receptor HI Total	6E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+02
Liver HI Across All Media =	4E+02
Respiratory, Lung HI Across All Media =	4E+02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	4E+02

Biota	Asiatic Clams	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	NA	NA	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							1E-03				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		--	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							1E-03				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB5	Benzidine	4E-05	N/A	1E-04	2E-04					
			Chemical Total	4E-05	--	1E-04	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total - Abiotic Media Only							2E-04	Receptor HI Total				--
Biota	Predatory Fish Fillet	EU BB5	Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+01	N/A	N/A	4E+01
			TCDD TEQ (PCBs)	6E-04	N/A	N/A	6E-04		5E+01	N/A	N/A	5E+01
			Chemical Total	8E-04	--	--	8E-04		9E+01	--	--	9E+01
		Exposure Point Total					8E-04					9E+01
	Exposure Medium Total						8E-04					9E+01
Medium Total							8E-04					9E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							9E-04	Receptor HI Total				9E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	5E+01
Liver HI Across All Media =	5E+01
Respiratory, Lung HI Across All Media =	5E+01
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Endocrine HI Across All Media =	5E+01

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB5	Total PCB Aroclors	8E-04	N/A	N/A	8E-04	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	3E-03	N/A	N/A	3E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+02	N/A	N/A	3E+02
			Chemical Total	4E-03	--	--	4E-03		5E+02	--	--	5E+02
		Exposure Point Total					4E-03					5E+02
	Exposure Medium Total						4E-03					5E+02
Medium Total							4E-03					5E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							4E-03				Receptor HI Total	5E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+02
Liver HI Across All Media =	3E+02
Respiratory, Lung HI Across All Media =	3E+02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	3E+02

Biota	Asiatic Clams	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		--	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		--	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB6	Benzidine	2E-04	N/A	6E-04	8E-04					
			Chemical Total	2E-04	--	6E-04	8E-04		--	--	--	--
		Exposure Point Total					8E-04					--
	Exposure Medium Total						8E-04					--
Medium Total							8E-04					--
Receptor Total - Abiotic Media Only							8E-04				Receptor HI Total	--
Biota	Predatory Fish Fillet	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			Chemical Total	--	--	--	--		4E+00	--	--	4E+00
		Exposure Point Total					--					4E+00
	Exposure Medium Total						--					4E+00
Medium Total							--					4E+00
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							8E-04				Receptor HI Total	4E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00

TABLE 10.3.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB6	Total PCB Aroclors	2E-03	N/A	N/A	2E-03	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04		4E+00	N/A	N/A	4E+00
			Chemical Total	2E-03	--	--	2E-03		1E+02	--	--	1E+02
		Exposure Point Total					2E-03					1E+02
	Exposure Medium Total						2E-03					1E+02
Medium Total							2E-03					1E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							3E-03	Receptor HI Total				1E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	4E+00
Liver HI Across All Media =	4E+00
Respiratory, Lung HI Across All Media =	4E+00
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Endocrine HI Across All Media =	4E+00

Biota	Asiatic Clams	EU BB6										
			Chemical Total	--	--	--	--		--	--	--	--
		Exposure Point Total					--					--
	Exposure Medium Total						--					--
Medium Total							--					--
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							8E-04	Receptor HI Total				--

Notes
N/A = Not Applicable
NA = Not Available

TABLE 10.3.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							8E-04				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							--				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

Biota	Bottom-Feeding Fish Fillet	EU BB6	Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	8E+01	N/A	N/A	8E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			Chemical Total	4E-04	--	--	4E-04		8E+01	--	--	8E+01
		Exposure Point Total					4E-04					8E+01
	Exposure Medium Total						4E-04					8E+01
Medium Total							4E-04					8E+01
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							4E-04				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+00
Liver HI Across All Media =	3E+00
Respiratory, Lung HI Across All Media =	3E+00
Eye HI Across All Media =	8E+01
Immunological HI Across All Media =	8E+01
Hair, Skin, Nails HI Across All Media =	8E+01
Endocrine HI Across All Media =	3E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							--				Receptor HI Total	2E+00

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU SL	Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	1E+01	N/A	N/A	1E+01
			Chemical Total	2E-04	--	--	2E-04		1E+01	--	--	1E+01
		Exposure Point Total					2E-04					1E+01
	Exposure Medium Total						2E-04					1E+01
Medium Total							2E-04					1E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							2E-04				Receptor HI Total	1E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	1E+01
Hair, Skin, Nails HI Across All Media =	1E+01

Biota	Bottom-Feeding Fish Fillet	EU SL	Total PCB Aroclors	2E-03	N/A	N/A	2E-03	Eye; Nails; Immunological	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	9E-04	N/A	N/A	9E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Chemical Total	3E-03	--	--	3E-03		1E+02	--	--	1E+02
		Exposure Point Total					3E-03					1E+02
	Exposure Medium Total						3E-03					1E+02
Medium Total							3E-03					1E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							3E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+01
Liver HI Across All Media =	2E+01
Respiratory, Lung HI Across All Media =	2E+01
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Endocrine HI Across All Media =	2E+01

TABLE 10.3.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							--	Receptor HI Total				3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

Biota	Crayfish	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							--	Receptor HI Total				2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	1E+01	N/A	N/A	1E+01
			Chemical Total	--	--	--	--		1E+01	--	--	1E+01
		Exposure Point Total					--					1E+01
	Exposure Medium Total						--					1E+01
Medium Total							--					1E+01
Receptor Total - Angler Adult, Abiotic Media + Predatory Fish Fillet							--	Receptor HI Total				1E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	1E+01
Hair, Skin, Nails HI Across All Media =	1E+01

Biota	Bottom-Feeding Fish Fillet	EU SL	Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	8E+01	N/A	N/A	8E+01
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Chemical Total	6E-04	--	--	6E-04		1E+02	--	--	1E+02
		Exposure Point Total					6E-04					1E+02
	Exposure Medium Total						6E-04					1E+02
Medium Total							6E-04					1E+02
Receptor Total - Angler Adult, Abiotic Media + Bottom-Feeding Fish Fillet							6E-04	Receptor HI Total				1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+01
Liver HI Across All Media =	2E+01
Respiratory, Lung HI Across All Media =	2E+01
Eye HI Across All Media =	8E+01
Immunological HI Across All Media =	8E+01
Hair, Skin, Nails HI Across All Media =	8E+01
Endocrine HI Across All Media =	2E+01

TABLE 10.3.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Asiatic Clams							--	Receptor HI Total				2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

Biota	Crayfish	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adult, Abiotic Media + Crayfish							--	Receptor HI Total				2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.4.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Chemical Total	--	--	--	--		2E+01	N/A	N/A	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							--				Receptor HI Total	2E+01

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01

Biota	Bottom-Feeding Fish Fillet	EU GB	Total PCB Aroclors	2E-03	N/A	N/A	2E-03	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			Chemical Total	2E-03	--	--	2E-03		3E+02	--	--	3E+02
		Exposure Point Total					2E-03					3E+02
	Exposure Medium Total						2E-03					3E+02
Medium Total							2E-03					3E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	3E+02

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02

TABLE 10.4.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							--				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

Biota	Crayfish	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							--				Receptor HI Total	2E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	1E+01	N/A	N/A	1E+01
			Chemical Total	--	--	--	--		1E+01	N/A	N/A	1E+01
		Exposure Point Total					--					1E+01
	Exposure Medium Total						--					1E+01
Medium Total							--					1E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							--				Receptor HI Total	1E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	1E+01
Hair, Skin, Nails HI Across All Media =	1E+01

Biota	Bottom-Feeding Fish Fillet	EU GB	Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			Chemical Total	1E-03	--	--	1E-03		2E+02	--	--	2E+02
		Exposure Point Total					1E-03					2E+02
	Exposure Medium Total						1E-03					2E+02
Medium Total							1E-03					2E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							--				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.4.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB1	Benzidine	1E-04	N/A	1E-04	3E-04					
			Chemical Total	1E-04	--	1E-04	3E-04		--	--	--	--
		Exposure Point Total					3E-04					--
	Exposure Medium Total						3E-04					--
Medium Total							3E-04					--
Receptor Total - Abiotic Media Only							3E-04				Receptor HI Total	--
Biota	Predatory Fish Fillet	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Chemical Total	--	--	--	--		2E+01	--	--	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							3E-04				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01

TABLE 10.4.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB1	Total PCB Aroclors	2E-03	N/A	N/A	2E-03	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			Chemical Total	2E-03	--	--	2E-03		3E+02	--	--	3E+02
		Exposure Point Total					2E-03					3E+02
	Exposure Medium Total						2E-03					3E+02
Medium Total							2E-03					3E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	3E+02

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02

Biota	Asiatic Clams	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							3E-04				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.4.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							3E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	1E+01	N/A	N/A	1E+01
			Chemical Total	--	--	--	--		1E+01	--	--	1E+01
		Exposure Point Total					--					1E+01
	Exposure Medium Total						--					1E+01
Medium Total							--					1E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							--	Receptor HI Total				1E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	1E+01
Hair, Skin, Nails HI Across All Media =	1E+01

Biota	Bottom-Feeding Fish Fillet	EU BB1	Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			Chemical Total	1E-03	--	--	1E-03		2E+02	--	--	2E+02
		Exposure Point Total					1E-03					2E+02
	Exposure Medium Total						1E-03					2E+02
Medium Total							1E-03					2E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03	Receptor HI Total				2E+02

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							--				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

Biota	Crayfish	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	1E+00	N/A	N/A	1E+00
			Chemical Total	--	--	--	--		1E+00	--	--	1E+00
		Exposure Point Total					--					1E+00
	Exposure Medium Total						--					1E+00
Medium Total							--					1E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							--				Receptor HI Total	1E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	1E+00
Immunological HI Across All Media =	1E+00
Hair, Skin, Nails HI Across All Media =	1E+00

TABLE 10.4.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB2	Benzo(a)anthracene	5E-08	N/A	2E-04	2E-04					
			Chemical Total	5E-08	--	2E-04	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total - Abiotic Media Only							2E-04				Receptor HI Total	--
Biota	Predatory Fish Fillet	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+00	N/A	N/A	4E+00
			Chemical Total	--	--	--	--		2E+01	--	--	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							2E-04				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+00
Liver HI Across All Media =	4E+00
Respiratory, Lung HI Across All Media =	4E+00
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Endocrine HI Across All Media =	4E+00

TABLE 10.4.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB2	Heptachlor epoxide					Liver	2E+00	N/A	N/A	2E+00
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	1E-03	N/A	N/A	1E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E+01	N/A	N/A	9E+01
			Chemical Total	3E-03	--	--	3E-03		3E+02	--	--	3E+02
		Exposure Point Total					3E-03					3E+02
	Exposure Medium Total						3E-03					3E+02
Medium Total							3E-03					3E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							3E-03				Receptor HI Total	3E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	9E+01
Liver HI Across All Media =	9E+01
Respiratory, Lung HI Across All Media =	9E+01
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	9E+01

Biota	Asiatic Clams	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.4.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB2	Benzidine	7E-05	N/A	9E-05	2E-04					
			Chemical Total	7E-05	--	9E-05	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total - Abiotic Media Only							2E-04	Receptor HI Total				--
Biota	Predatory Fish Fillet	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		2E+01	--	--	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							2E-04	Receptor HI Total				2E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+00
Liver HI Across All Media =	3E+00
Respiratory, Lung HI Across All Media =	3E+00
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01
Endocrine HI Across All Media =	3E+00

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB2	Total PCB Aroclors	7E-04	N/A	N/A	7E-04	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	9E-04	N/A	N/A	9E-04		7E+01	N/A	N/A	7E+01
			Chemical Total	2E-03	--	--	2E-03		3E+02	--	--	3E+02
		Exposure Point Total					2E-03					3E+02
	Exposure Medium Total						2E-03					3E+02
Medium Total							2E-03					3E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	3E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	7E+01
Liver HI Across All Media =	7E+01
Respiratory, Lung HI Across All Media =	7E+01
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	7E+01

Biota	Asiatic Clams	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.4.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB3	Benzidine	4E-04	N/A	5E-04	9E-04					
			Chemical Total	4E-04	--	5E-04	9E-04		--	--	--	--
		Exposure Point Total					9E-04					--
	Exposure Medium Total						9E-04					--
Medium Total							9E-04					--
Receptor Total - Abiotic Media Only							9E-04				Receptor HI Total	--
Biota	Predatory Fish Fillet	EU BB3	Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	4E+01	N/A	N/A	4E+01
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+01	N/A	N/A	1E+01
			Chemical Total	4E-04	--	--	4E-04		5E+01	--	--	5E+01
		Exposure Point Total					4E-04					5E+01
	Exposure Medium Total						4E-04					5E+01
Medium Total							4E-04					5E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							1E-03				Receptor HI Total	5E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+01
Liver HI Across All Media =	1E+01
Respiratory, Lung HI Across All Media =	1E+01
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Endocrine HI Across All Media =	1E+01

TABLE 10.4.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB3	Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	7E+01	N/A	N/A	7E+01
			TCDD TEQ (PCBs)	5E-04	N/A	N/A	5E-04		3E+01	N/A	N/A	3E+01
			Chemical Total	1E-03	--	--	1E-03		1E+02	--	--	1E+02
		Exposure Point Total					1E-03					1E+02
	Exposure Medium Total						1E-03					1E+02
Medium Total							1E-03					1E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Liver HI Across All Media =	3E+01
Respiratory, Lung HI Across All Media =	3E+01
Eye HI Across All Media =	7E+01
Immunological HI Across All Media =	7E+01
Hair, Skin, Nails HI Across All Media =	7E+01
Endocrine HI Across All Media =	3E+01

Biota	Asiatic Clams	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							9E-04				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.4.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							9E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB3	Benzidine	2E-04	N/A	2E-04	4E-04					
			Chemical Total	2E-04	--	2E-04	4E-04		--	--	--	--
		Exposure Point Total					4E-04					--
	Exposure Medium Total						4E-04					--
Medium Total							4E-04					--
Receptor Total - Abiotic Media Only							4E-04				Receptor HI Total	--
Biota	Predatory Fish Fillet	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E+00	N/A	N/A	9E+00
			Chemical Total	--	--	--	--		4E+01	--	--	4E+01
		Exposure Point Total					--					4E+01
	Exposure Medium Total						--					4E+01
Medium Total							--					4E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							4E-04				Receptor HI Total	4E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E+00
Liver HI Across All Media =	9E+00
Respiratory, Lung HI Across All Media =	9E+00
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Endocrine HI Across All Media =	9E+00

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB3	Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04		3E+01	N/A	N/A	3E+01
			Chemical Total	6E-04	--	--	6E-04		8E+01	--	--	8E+01
		Exposure Point Total					6E-04					8E+01
	Exposure Medium Total						6E-04					8E+01
Medium Total							6E-04					8E+01
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Liver HI Across All Media =	3E+01
Respiratory, Lung HI Across All Media =	3E+01
Eye HI Across All Media =	5E+01
Immunological HI Across All Media =	5E+01
Hair, Skin, Nails HI Across All Media =	5E+01
Endocrine HI Across All Media =	3E+01

Biota	Asiatic Clams	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							4E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.4.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB3										
			Chemical Total	--	--	--	--		--	--	--	--
		Exposure Point Total					--					--
	Exposure Medium Total						--					--
Medium Total							--					--
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							4E-04	Receptor HI Total				--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.4.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB4	Benzidine	2E-04	N/A	2E-04	3E-04					
			Chemical Total	2E-04	--	2E-04	3E-04		--	--	--	--
		Exposure Point Total					3E-04					--
	Exposure Medium Total						3E-04					--
Medium Total							3E-04					--
Receptor Total - Abiotic Media Only							3E-04				Receptor HI Total	--
Biota	Predatory Fish Fillet	EU BB4	Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	4E+01	N/A	N/A	4E+01
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+01	N/A	N/A	1E+01
			Chemical Total	4E-04	--	--	4E-04		5E+01	--	--	5E+01
		Exposure Point Total					4E-04					5E+01
	Exposure Medium Total						4E-04					5E+01
Medium Total							4E-04					5E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							8E-04				Receptor HI Total	5E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+01
Liver HI Across All Media =	1E+01
Respiratory, Lung HI Across All Media =	1E+01
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Endocrine HI Across All Media =	1E+01

TABLE 10.4.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB4	Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	7E+01	N/A	N/A	7E+01
			TCDD TEQ (PCBs)	5E-04	N/A	N/A	5E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Chemical Total	1E-03	--	--	1E-03		1E+02	--	--	1E+02
		Exposure Point Total					1E-03					1E+02
	Exposure Medium Total						1E-03					1E+02
Medium Total							1E-03					1E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Liver HI Across All Media =	3E+01
Respiratory, Lung HI Across All Media =	3E+01
Eye HI Across All Media =	7E+01
Immunological HI Across All Media =	7E+01
Hair, Skin, Nails HI Across All Media =	7E+01
Endocrine HI Across All Media =	3E+01

Biota	Asiatic Clams	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							3E-04				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.4.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							3E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB4	Benzidine	7E-05	N/A	9E-05	2E-04					
			Chemical Total	7E-05	--	9E-05	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total - Abiotic Media Only							2E-04				Receptor HI Total	--
Biota	Predatory Fish Fillet	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E+00	N/A	N/A	9E+00
			Chemical Total	--	--	--	--		4E+01	--	--	4E+01
		Exposure Point Total					--					4E+01
	Exposure Medium Total						--					4E+01
Medium Total							--					4E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							2E-04				Receptor HI Total	4E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E+00
Liver HI Across All Media =	9E+00
Respiratory, Lung HI Across All Media =	9E+00
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Endocrine HI Across All Media =	9E+00

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB4	Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04		3E+01	N/A	N/A	3E+01
			Chemical Total	6E-04	--	--	6E-04		8E+01	--	--	8E+01
		Exposure Point Total					6E-04					8E+01
	Exposure Medium Total						6E-04					8E+01
Medium Total							6E-04					8E+01
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							7E-04				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+01
Liver HI Across All Media =	3E+01
Respiratory, Lung HI Across All Media =	3E+01
Eye HI Across All Media =	5E+01
Immunological HI Across All Media =	5E+01
Hair, Skin, Nails HI Across All Media =	5E+01
Endocrine HI Across All Media =	3E+01

Biota	Asiatic Clams	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB4										
			Chemical Total	--	--	--	--		--	--	--	--
		Exposure Point Total					--					--
	Exposure Medium Total						--					--
Medium Total							--					--
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							2E-04	Receptor HI Total				--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.4.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB5	Benzidine	1E-04	N/A	1E-04	2E-04	Eye; Nails; Immunological				
			Total PCB Aroclors						8E-01	N/A	1E+00	2E+00
			Chemical Total	1E-04	--	1E-04	2E-04		8E-01	--	1E+00	2E+00
		Exposure Point Total					2E-04					2E+00
	Exposure Medium Total						2E-04					2E+00
Medium Total							2E-04					2E+00
Floodplain Soil	Surface Soil	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	1E+00	NA	8E-01	2E+00
			Chemical Total	--	--	--	--		1E+00	0E+00	8E-01	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Abiotic Media Only							2E-04				Receptor HI Total	4E+00
Biota	Predatory Fish Fillet	EU BB5	Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)	9E-04	N/A	N/A	9E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	6E+01	N/A	N/A	6E+01
			Chemical Total	1E-03	--	--	1E-03		1E+02	--	--	1E+02
		Exposure Point Total					1E-03					1E+02
	Exposure Medium Total						1E-03					1E+02
Medium Total							1E-03					1E+02
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							1E-03				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	6E+01
Liver HI Across All Media =	6E+01
Respiratory, Lung HI Across All Media =	6E+01
Eye HI Across All Media =	6E+01
Immunological HI Across All Media =	6E+01
Hair, Skin, Nails HI Across All Media =	6E+01
Endocrine HI Across All Media =	6E+01

TABLE 10.4.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB5	Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	6E-03	N/A	N/A	6E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+02	N/A	N/A	4E+02
			Chemical Total	7E-03	--	--	7E-03		6E+02	--	--	6E+02
		Exposure Point Total					7E-03					6E+02
	Exposure Medium Total						7E-03					6E+02
Medium Total							7E-03					6E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							7E-03				Receptor HI Total	6E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+02
Liver HI Across All Media =	4E+02
Respiratory, Lung HI Across All Media =	4E+02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	4E+02

Biota	Asiatic Clams	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	7E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	7E+00
Immunological HI Across All Media =	7E+00
Hair, Skin, Nails HI Across All Media =	7E+00

TABLE 10.4.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							2E-04				Receptor HI Total	6E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	6E+00
Immunological HI Across All Media =	6E+00
Hair, Skin, Nails HI Across All Media =	6E+00

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB5	Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+01	N/A	N/A	4E+01
			TCDD TEQ (PCBs)	5E-04	N/A	N/A	5E-04		5E+01	N/A	N/A	5E+01
			Chemical Total	7E-04	--	--	7E-04		9E+01	--	--	9E+01
		Exposure Point Total					7E-04					9E+01
	Exposure Medium Total						7E-04					9E+01
Medium Total							7E-04					9E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							7E-04				Receptor HI Total	9E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	5E+01
Liver HI Across All Media =	5E+01
Respiratory, Lung HI Across All Media =	5E+01
Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01
Endocrine HI Across All Media =	5E+01

Biota	Bottom-Feeding Fish Fillet	EU BB5	Total PCB Aroclors	8E-04	N/A	N/A	8E-04	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	3E-03	N/A	N/A	3E-03		3E+02	N/A	N/A	3E+02
			Chemical Total	4E-03	--	--	4E-03		4E+02	--	--	4E+02
		Exposure Point Total					4E-03					4E+02
	Exposure Medium Total						4E-03					4E+02
Medium Total							4E-03					4E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							4E-03				Receptor HI Total	4E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+02
Liver HI Across All Media =	3E+02
Respiratory, Lung HI Across All Media =	3E+02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	3E+02

TABLE 10.4.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							--				Receptor HI Total	2E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.4.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Surface Sediment	EU BB6	Benzidine	8E-05	N/A	1E-04	2E-04					
			Chemical Total	8E-05	--	1E-04	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Floodplain Soil	Surface Soil	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	NA	1E+00	3E+00
			Chemical Total	--	--	--	--		2E+00	--	1E+00	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Abiotic Media Only							2E-04				Receptor HI Total	3E+00
Biota	Predatory Fish Fillet	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							2E-04				Receptor HI Total	6E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	6E+00
Immunological HI Across All Media =	6E+00
Hair, Skin, Nails HI Across All Media =	6E+00

TABLE 10.4.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB6	Total PCB Aroclors	6E-04	N/A	N/A	6E-04	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E+01	N/A	N/A	9E+01
			TCDD TEQ (PCBs)						4E+00	N/A	N/A	4E+00
			Chemical Total	6E-04	--	--	6E-04		1E+02	--	--	1E+02
		Exposure Point Total					6E-04					1E+02
	Exposure Medium Total						6E-04					1E+02
Medium Total							6E-04					1E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							8E-04				Receptor HI Total	1E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	4E+00
Liver HI Across All Media =	4E+00
Respiratory, Lung HI Across All Media =	4E+00
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Endocrine HI Across All Media =	4E+00

Biota	Asiatic Clams	EU BB6										
			Chemical Total	--	--	--	--		--	--	--	--
		Exposure Point Total					--					--
	Exposure Medium Total						--					--
Medium Total							--					--
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							2E-04				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

TABLE 10.4.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							2E-04				Receptor HI Total	6E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	6E+00
Immunological HI Across All Media =	6E+00
Hair, Skin, Nails HI Across All Media =	6E+00

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							--				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

Biota	Bottom-Feeding Fish Fillet	EU BB6	Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	8E+01	N/A	N/A	8E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			Chemical Total	4E-04	--	--	4E-04		8E+01	--	--	8E+01
		Exposure Point Total					4E-04					8E+01
	Exposure Medium Total						4E-04					8E+01
Medium Total							4E-04					8E+01
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							4E-04				Receptor HI Total	8E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	3E+00
Liver HI Across All Media =	3E+00
Respiratory, Lung HI Across All Media =	3E+00
Eye HI Across All Media =	8E+01
Immunological HI Across All Media =	8E+01
Hair, Skin, Nails HI Across All Media =	8E+01
Endocrine HI Across All Media =	3E+00

TABLE 10.4.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							--				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.4.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	1E+01	N/A	N/A	1E+01
			Chemical Total	--	--	--	--		1E+01	--	--	1E+01
		Exposure Point Total					--					1E+01
	Exposure Medium Total						--					1E+01
Medium Total							--					1E+01
Receptor Total - Angler Adolescent, Abiotic Media + Predatory Fish Fillet							--				Receptor HI Total	1E+01

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	1E+01
Hair, Skin, Nails HI Across All Media =	1E+01

Biota	Bottom-Feeding Fish Fillet	EU SL	Total PCB Aroclors	7E-04	N/A	N/A	7E-04	Eye; Nails; Immunological	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Chemical Total	1E-03	--	--	1E-03		1E+02	--	--	1E+02
		Exposure Point Total					1E-03					1E+02
	Exposure Medium Total						1E-03					1E+02
Medium Total							1E-03					1E+02
Receptor Total - Angler Adolescent, Abiotic Media + Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	1E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+01
Liver HI Across All Media =	2E+01
Respiratory, Lung HI Across All Media =	2E+01
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Endocrine HI Across All Media =	2E+01

TABLE 10.4.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Adolescent, Abiotic Media + Asiatic Clams							--				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

Biota	Crayfish	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Adolescent, Abiotic Media + Crayfish							--				Receptor HI Total	2E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.5.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			Chemical Total	--	--	--	--		3E+01	--	--	3E+01
		Exposure Point Total					--					3E+01
	Exposure Medium Total						--					3E+01
Medium Total							--					3E+01
Receptor Total - Angler Child, Predatory Fish Fillet							--				Receptor HI Total	3E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01

Biota	Bottom-Feeding Fish Fillet	EU GB	Total PCB Aroclors	2E-03	N/A	N/A	2E-03	Eye; Nails; Immunological	4E+02	N/A	N/A	4E+02
			Chemical Total	2E-03	--	--	2E-03		4E+02	--	--	4E+02
		Exposure Point Total					2E-03					4E+02
	Exposure Medium Total						2E-03					4E+02
Medium Total							2E-03					4E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	4E+02

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	4E+02
Immunological HI Across All Media =	4E+02
Hair, Skin, Nails HI Across All Media =	4E+02

TABLE 10.5.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		6E+00	--	--	6E+00
		Exposure Point Total					--					6E+00
	Exposure Medium Total						--					6E+00
Medium Total							--					6E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	6E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Chemical Total	--	--	--	--		2E+01	--	--	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total - Angler Child, Predatory Fish Fillet							--				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01

Biota	Bottom-Feeding Fish Fillet	EU GB	Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	4E+02	N/A	N/A	4E+02
			Chemical Total	1E-03	--	--	1E-03		4E+02	--	--	4E+02
		Exposure Point Total					1E-03					4E+02
	Exposure Medium Total						1E-03					4E+02
Medium Total							1E-03					4E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							1E-03				Receptor HI Total	4E+02

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	4E+02
Immunological HI Across All Media =	4E+02
Hair, Skin, Nails HI Across All Media =	4E+02

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		5E+00	--	--	5E+00
		Exposure Point Total					--					5E+00
	Exposure Medium Total						--					5E+00
Medium Total							--					5E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU GB	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.5.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			Chemical Total	--	--	--	--		3E+01	--	--	3E+01
		Exposure Point Total					--					3E+01
	Exposure Medium Total						--					3E+01
Medium Total							--					3E+01
Receptor Total - Angler Child, Predatory Fish Fillet							--				Receptor HI Total	3E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01

Biota	Bottom-Feeding Fish Fillet	EU BB1	Total PCB Aroclors	2E-03	N/A	N/A	2E-03	Eye; Nails; Immunological	4E+02	N/A	N/A	4E+02
			Chemical Total	2E-03	--	--	2E-03		4E+02	--	--	4E+02
		Exposure Point Total					2E-03					4E+02
	Exposure Medium Total						2E-03					4E+02
Medium Total							2E-03					4E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	4E+02

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	4E+02
Immunological HI Across All Media =	4E+02
Hair, Skin, Nails HI Across All Media =	4E+02

TABLE 10.5.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		6E+00	--	--	6E+00
		Exposure Point Total					--					6E+00
	Exposure Medium Total						--					6E+00
Medium Total							--					6E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	6E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Chemical Total	--	--	--	--		2E+01	--	--	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total - Angler Child, Predatory Fish Fillet							--	Receptor HI Total				2E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01

Biota	Bottom-Feeding Fish Fillet	EU BB1	Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	4E+02	N/A	N/A	4E+02
			Chemical Total	1E-03	--	--	1E-03		4E+02	--	--	4E+02
		Exposure Point Total					1E-03					4E+02
	Exposure Medium Total						1E-03					4E+02
Medium Total							1E-03					4E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							1E-03	Receptor HI Total				4E+02

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	4E+02
Immunological HI Across All Media =	4E+02
Hair, Skin, Nails HI Across All Media =	4E+02

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		5E+00	--	--	5E+00
		Exposure Point Total					--					5E+00
	Exposure Medium Total						--					5E+00
Medium Total							--					5E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB1	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.5.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	3E+01	N/A	N/A	3E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	6E+00	N/A	N/A	6E+00
			Chemical Total	--	--	--	--		4E+01	--	--	4E+01
		Exposure Point Total					--					4E+01
	Exposure Medium Total						--					4E+01
Medium Total							--					4E+01
Receptor Total - Angler Child, Predatory Fish Fillet							--				Receptor HI Total	4E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	6E+00
Liver HI Across All Media =	6E+00
Respiratory, Lung HI Across All Media =	6E+00
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Endocrine HI Across All Media =	6E+00

Biota	Bottom-Feeding Fish Fillet	EU BB2	Heptachlor epoxide					Liver	3E+00	N/A	N/A	3E+00
			Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			TCDD TEQ (PCBs)	1E-03	N/A	N/A	1E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+02	N/A	N/A	1E+02
			Chemical Total	2E-03	--	--	2E-03		4E+02	--	--	4E+02
		Exposure Point Total					2E-03					4E+02
	Exposure Medium Total						2E-03					4E+02
Medium Total							2E-03					4E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							2E-03				Receptor HI Total	4E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+02
Liver HI Across All Media =	2E+02
Respiratory, Lung HI Across All Media =	1E+02
Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02
Endocrine HI Across All Media =	1E+02

TABLE 10.5.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		6E+00	--	--	6E+00
		Exposure Point Total					--					6E+00
	Exposure Medium Total						--					6E+00
Medium Total							--					6E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	6E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	3E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			TCDD TEQ (PCBs)						5E+00	N/A	N/A	5E+00
			Chemical Total	--	--	--	--		3E+01	--	--	3E+01
		Exposure Point Total					--					3E+01
	Exposure Medium Total						--					3E+01
Medium Total							--					3E+01
Receptor Total - Angler Child, Predatory Fish Fillet							--	Receptor HI Total				3E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	5E+00
Liver HI Across All Media =	5E+00
Respiratory, Lung HI Across All Media =	5E+00
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01
Endocrine HI Across All Media =	5E+00

Biota	Bottom-Feeding Fish Fillet	EU BB2	Heptachlor epoxide					Liver	2E+00	N/A	N/A	2E+00
			Total PCB Aroclors	8E-04	N/A	N/A	8E-04	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	9E-04	N/A	N/A	9E-04		1E+02	N/A	N/A	1E+02
			Chemical Total	2E-03	--	--	2E-03		4E+02	--	--	4E+02
		Exposure Point Total					2E-03					4E+02
	Exposure Medium Total						2E-03					4E+02
Medium Total							2E-03					4E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							2E-03	Receptor HI Total				4E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+02
Liver HI Across All Media =	1E+02
Respiratory, Lung HI Across All Media =	1E+02
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	1E+02

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		5E+00	--	--	5E+00
		Exposure Point Total					--					5E+00
	Exposure Medium Total						--					5E+00
Medium Total							--					5E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB2	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.5.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB3	Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	6E+01	N/A	N/A	6E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Chemical Total	2E-04	--	--	2E-04		8E+01	--	--	8E+01
		Exposure Point Total					2E-04					8E+01
	Exposure Medium Total						2E-04					8E+01
Medium Total							2E-04					8E+01
Receptor Total - Angler Child, Predatory Fish Fillet							2E-04				Receptor HI Total	8E+01

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+01
Liver HI Across All Media =	2E+01
Respiratory, Lung HI Across All Media =	2E+01
Eye HI Across All Media =	6E+01
Immunological HI Across All Media =	6E+01
Hair, Skin, Nails HI Across All Media =	6E+01
Endocrine HI Across All Media =	2E+01

Biota	Bottom-Feeding Fish Fillet	EU BB3	Heptachlor epoxide					Liver	2E+00	N/A	N/A	2E+00
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	4E-04	N/A	N/A	4E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	5E+01	N/A	N/A	5E+01
			Chemical Total	8E-04	--	--	8E-04		2E+02	--	--	2E+02
		Exposure Point Total					8E-04					2E+02
	Exposure Medium Total						8E-04					2E+02
Medium Total							8E-04					2E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							8E-04				Receptor HI Total	2E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	5E+01
Liver HI Across All Media =	6E+01
Respiratory, Lung HI Across All Media =	5E+01
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Endocrine HI Across All Media =	5E+01

TABLE 10.5.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		6E+00	--	--	6E+00
		Exposure Point Total					--					6E+00
	Exposure Medium Total						--					6E+00
Medium Total							--					6E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	6E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB3	Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+01	N/A	N/A	1E+01
			Chemical Total	2E-04	--	--	2E-04		6E+01	--	--	6E+01
		Exposure Point Total					2E-04					6E+01
	Exposure Medium Total						2E-04					6E+01
Medium Total							2E-04					6E+01
Receptor Total - Angler Child, Predatory Fish Fillet							2E-04				Receptor HI Total	6E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+01
Liver HI Across All Media =	1E+01
Respiratory, Lung HI Across All Media =	1E+01
Eye HI Across All Media =	5E+01
Immunological HI Across All Media =	5E+01
Hair, Skin, Nails HI Across All Media =	5E+01
Endocrine HI Across All Media =	1E+01

Biota	Bottom-Feeding Fish Fillet	EU BB3	Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological	9E+01	N/A	N/A	9E+01
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+01	N/A	N/A	4E+01
			Chemical Total	6E-04	--	--	6E-04		1E+02	--	--	1E+02
		Exposure Point Total					6E-04					1E+02
	Exposure Medium Total						6E-04					1E+02
Medium Total							6E-04					1E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							6E-04				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+01
Liver HI Across All Media =	4E+01
Respiratory, Lung HI Across All Media =	4E+01
Eye HI Across All Media =	9E+01
Immunological HI Across All Media =	9E+01
Hair, Skin, Nails HI Across All Media =	9E+01
Endocrine HI Across All Media =	4E+01

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)						2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		5E+00	--	--	5E+00
		Exposure Point Total					--					5E+00
	Exposure Medium Total						--					5E+00
Medium Total							--					5E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.5.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB4	Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	6E+01	N/A	N/A	6E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Chemical Total	2E-04	--	--	2E-04		8E+01	--	--	8E+01
		Exposure Point Total					2E-04					8E+01
	Exposure Medium Total						2E-04					8E+01
Medium Total							2E-04					8E+01
Receptor Total - Angler Child, Predatory Fish Fillet							2E-04				Receptor HI Total	8E+01

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+01
Liver HI Across All Media =	2E+01
Respiratory, Lung HI Across All Media =	2E+01
Eye HI Across All Media =	6E+01
Immunological HI Across All Media =	6E+01
Hair, Skin, Nails HI Across All Media =	6E+01
Endocrine HI Across All Media =	2E+01

Biota	Bottom-Feeding Fish Fillet	EU BB4	Heptachlor epoxide					Liver	2E+00	N/A	N/A	2E+00
			Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	4E-04	N/A	N/A	4E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	5E+01	N/A	N/A	5E+01
			Chemical Total	8E-04	--	--	8E-04		2E+02	--	--	2E+02
		Exposure Point Total					8E-04					2E+02
	Exposure Medium Total						8E-04					2E+02
Medium Total							8E-04					2E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							8E-04				Receptor HI Total	2E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	5E+01
Liver HI Across All Media =	6E+01
Respiratory, Lung HI Across All Media =	5E+01
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Endocrine HI Across All Media =	5E+01

TABLE 10.5.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		6E+00	--	--	6E+00
		Exposure Point Total					--					6E+00
	Exposure Medium Total						--					6E+00
Medium Total							--					6E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	6E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB4	Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	5E+01	N/A	N/A	5E+01
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+01	N/A	N/A	1E+01
			Chemical Total	2E-04	--	--	2E-04		6E+01	--	--	6E+01
		Exposure Point Total					2E-04					6E+01
	Exposure Medium Total						2E-04					6E+01
Medium Total							2E-04					6E+01
Receptor Total - Angler Child, Predatory Fish Fillet							2E-04				Receptor HI Total	6E+01

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	1E+01
Liver HI Across All Media =	1E+01
Respiratory, Lung HI Across All Media =	1E+01
Eye HI Across All Media =	5E+01
Immunological HI Across All Media =	5E+01
Hair, Skin, Nails HI Across All Media =	5E+01
Endocrine HI Across All Media =	1E+01

Biota	Bottom-Feeding Fish Fillet	EU BB4	Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological	9E+01	N/A	N/A	9E+01
			TCDD TEQ (PCBs)	3E-04	N/A	N/A	3E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	4E+01	N/A	N/A	4E+01
			Chemical Total	6E-04	--	--	6E-04		1E+02	--	--	1E+02
		Exposure Point Total					6E-04					1E+02
	Exposure Medium Total						6E-04					1E+02
Medium Total							6E-04					1E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							6E-04				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	4E+01
Liver HI Across All Media =	4E+01
Respiratory, Lung HI Across All Media =	4E+01
Eye HI Across All Media =	9E+01
Immunological HI Across All Media =	9E+01
Hair, Skin, Nails HI Across All Media =	9E+01
Endocrine HI Across All Media =	4E+01

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		5E+00	--	--	5E+00
		Exposure Point Total					--					5E+00
	Exposure Medium Total						--					5E+00
Medium Total							--					5E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	5E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	2E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.5.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB5	Heptachlor epoxide					Liver	2E+00	N/A	N/A	2E+00
			Total PCB Aroclors	3E-04	N/A	N/A	3E-04	Eye; Nails; Immunological	8E+01	N/A	N/A	8E+01
			TCDD TEQ (PCBs)	7E-04	N/A	N/A	7E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	9E+01	N/A	N/A	9E+01
			Chemical Total	1E-03	--	--	1E-03		2E+02	--	--	2E+02
		Exposure Point Total					1E-03					2E+02
	Exposure Medium Total						1E-03					2E+02
Medium Total							1E-03					2E+02
Receptor Total - Angler Child, Predatory Fish Fillet							1E-03				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	9E+01
Liver HI Across All Media =	9E+01
Respiratory, Lung HI Across All Media =	9E+01
Eye HI Across All Media =	8E+01
Immunological HI Across All Media =	8E+01
Hair, Skin, Nails HI Across All Media =	8E+01
Endocrine HI Across All Media =	9E+01

TABLE 10.5.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Bottom-Feeding Fish Fillet	EU BB5	Total PCB Aroclors	1E-03	N/A	N/A	1E-03	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			TCDD TEQ (PCBs)	5E-03	N/A	N/A	5E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	6E+02	N/A	N/A	6E+02
			Chemical Total	6E-03	--	--	6E-03		9E+02	--	--	9E+02
		Exposure Point Total					6E-03					9E+02
	Exposure Medium Total						6E-03					9E+02
Medium Total							6E-03					9E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							6E-03				Receptor HI Total	9E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	6E+02
Liver HI Across All Media =	6E+02
Respiratory, Lung HI Across All Media =	6E+02
Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02
Endocrine HI Across All Media =	6E+02

TABLE 10.5.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		6E+00	--	--	6E+00
		Exposure Point Total					--					6E+00
	Exposure Medium Total						--					6E+00
Medium Total							--					6E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	6E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.5.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB5	Total PCB Aroclors	2E-04	N/A	N/A	2E-04	Eye; Nails; Immunological	7E+01	N/A	N/A	7E+01
			TCDD TEQ (PCBs)	6E-04	N/A	N/A	6E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	7E+01	N/A	N/A	7E+01
			Chemical Total	8E-04	--	--	8E-04		1E+02	--	--	1E+02
		Exposure Point Total					8E-04					1E+02
	Exposure Medium Total						8E-04					1E+02
Medium Total							8E-04					1E+02
Receptor Total - Angler Child, Predatory Fish Fillet							8E-04				Receptor HI Total	1E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	7E+01
Liver HI Across All Media =	7E+01
Respiratory, Lung HI Across All Media =	7E+01
Eye HI Across All Media =	7E+01
Immunological HI Across All Media =	7E+01
Hair, Skin, Nails HI Across All Media =	7E+01
Endocrine HI Across All Media =	7E+01

Biota	Bottom-Feeding Fish Fillet	EU BB5	Total PCB Aroclors	9E-04	N/A	N/A	9E-04	Eye; Nails; Immunological	3E+02	N/A	N/A	3E+02
			TCDD TEQ (PCBs)	4E-03	N/A	N/A	4E-03	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	5E+02	N/A	N/A	5E+02
			Chemical Total	5E-03	--	--	5E-03		7E+02	--	--	7E+02
		Exposure Point Total					5E-03					7E+02
	Exposure Medium Total						5E-03					7E+02
Medium Total							5E-03					7E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							5E-03				Receptor HI Total	7E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	5E+02
Liver HI Across All Media =	5E+02
Respiratory, Lung HI Across All Media =	5E+02
Eye HI Across All Media =	3E+02
Immunological HI Across All Media =	3E+02
Hair, Skin, Nails HI Across All Media =	3E+02
Endocrine HI Across All Media =	5E+02

TABLE 10.5.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)						2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		5E+00	--	--	5E+00
		Exposure Point Total					--					5E+00
	Exposure Medium Total						--					5E+00
Medium Total							--					5E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	5E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	2E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.5.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	6E+00	N/A	N/A	6E+00
			TCDD TEQ (PCBs)						2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		8E+00	--	--	8E+00
		Exposure Point Total					--					8E+00
	Exposure Medium Total						--					8E+00
Medium Total							--					8E+00
Receptor Total - Angler Child, Predatory Fish Fillet							--				Receptor HI Total	8E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	6E+00
Immunological HI Across All Media =	6E+00
Hair, Skin, Nails HI Across All Media =	6E+00
Endocrine HI Across All Media =	2E+00

Biota	Bottom-Feeding Fish Fillet	EU BB6	Total PCB Aroclors	5E-04	N/A	N/A	5E-04	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)						6E+00	N/A	N/A	6E+00
			Chemical Total	5E-04	--	--	5E-04		2E+02	--	--	2E+02
		Exposure Point Total					5E-04					2E+02
	Exposure Medium Total						5E-04					2E+02
Medium Total							5E-04					2E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							5E-04				Receptor HI Total	2E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	6E+00
Liver HI Across All Media =	6E+00
Respiratory, Lung HI Across All Media =	6E+00
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	6E+00

TABLE 10.5.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			Chemical Total	--	--	--	--		4E+00	--	--	4E+00
		Exposure Point Total					--					4E+00
	Exposure Medium Total						--					4E+00
Medium Total							--					4E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	5E+00	N/A	N/A	5E+00
			TCDD TEQ (PCBs)						2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		6E+00	--	--	6E+00
		Exposure Point Total					--					6E+00
	Exposure Medium Total						--					6E+00
Medium Total							--					6E+00
Receptor Total - Angler Child, Predatory Fish Fillet							--				Receptor HI Total	6E+00

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	5E+00
Immunological HI Across All Media =	5E+00
Hair, Skin, Nails HI Across All Media =	5E+00
Endocrine HI Across All Media =	2E+00

Biota	Bottom-Feeding Fish Fillet	EU BB6	Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological Reproductive; Endocrine; Liver; Development; Respiratory; Blood	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)						5E+00	N/A	N/A	5E+00
			Chemical Total	4E-04	--	--	4E-04		1E+02	--	--	1E+02
		Exposure Point Total					4E-04					1E+02
	Exposure Medium Total						4E-04					1E+02
Medium Total							4E-04					1E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							4E-04				Receptor HI Total	1E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	5E+00
Liver HI Across All Media =	5E+00
Respiratory, Lung HI Across All Media =	5E+00
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Endocrine HI Across All Media =	5E+00

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 ytears old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Crayfish	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			Chemical Total	--	--	--	--		4E+00	--	--	4E+00
		Exposure Point Total					--					4E+00
	Exposure Medium Total						--					4E+00
Medium Total							--					4E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	4E+00

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00

TABLE 10.5.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Chemical Total	--	--	--	--		2E+01	--	--	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total - Angler Child, Predatory Fish Fillet							--				Receptor HI Total	2E+01

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01

Biota	Bottom-Feeding Fish Fillet	EU SL	Total PCB Aroclors	5E-04	N/A	N/A	5E-04	Eye; Nails; Immunological	2E+02	N/A	N/A	2E+02
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	3E+01	N/A	N/A	3E+01
			Chemical Total	8E-04	--	--	8E-04		2E+02	--	--	2E+02
		Exposure Point Total					8E-04					2E+02
	Exposure Medium Total						8E-04					2E+02
Medium Total							8E-04					2E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							8E-04				Receptor HI Total	2E+02

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	3E+01
Liver HI Across All Media =	3E+01
Respiratory, Lung HI Across All Media =	3E+01
Eye HI Across All Media =	2E+02
Immunological HI Across All Media =	2E+02
Hair, Skin, Nails HI Across All Media =	2E+02
Endocrine HI Across All Media =	3E+01

TABLE 10.5.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	4E+00	N/A	N/A	4E+00
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		6E+00	--	--	6E+00
		Exposure Point Total					--					6E+00
	Exposure Medium Total						--					6E+00
Medium Total							--					6E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	6E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			Chemical Total	--	--	--	--		3E+00	--	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	3E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.5.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Predatory Fish Fillet	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	2E+01	N/A	N/A	2E+01
			Chemical Total	--	--	--	--		2E+01	--	--	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total - Angler Child, Predatory Fish Fillet							--				Receptor HI Total	2E+01

Notes

N/A = Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01

Biota	Bottom-Feeding Fish Fillet	EU SL	Total PCB Aroclors	4E-04	N/A	N/A	4E-04	Eye; Nails; Immunological	1E+02	N/A	N/A	1E+02
			TCDD TEQ (PCBs)	2E-04	N/A	N/A	2E-04	Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+01	N/A	N/A	2E+01
			Chemical Total	6E-04	--	--	6E-04		2E+02	--	--	2E+02
		Exposure Point Total					6E-04					2E+02
	Exposure Medium Total						6E-04					2E+02
Medium Total							6E-04					2E+02
Receptor Total - Angler Child, Bottom-Feeding Fish Fillet							6E-04				Receptor HI Total	2E+02

Notes

N/A = Not Applicable

NA = Not Available

Blood HI Across All Media =	2E+01
Liver HI Across All Media =	2E+01
Respiratory, Lung HI Across All Media =	2E+01
Eye HI Across All Media =	1E+02
Immunological HI Across All Media =	1E+02
Hair, Skin, Nails HI Across All Media =	1E+02
Endocrine HI Across All Media =	2E+01

TABLE 10.5.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Spring Lake (SL)
Receptor Population:	Angler
Receptor Age:	Child (0 to 6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Biota	Asiatic Clams	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	N/A	N/A	3E+00
			TCDD TEQ (PCBs)					Reproductive; Endocrine; Liver; Development; Respiratory; Blood	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		5E+00	--	--	5E+00
		Exposure Point Total					--					5E+00
	Exposure Medium Total						--					5E+00
Medium Total							--					5E+00
Receptor Total - Angler Child, Asiatic Clams							--				Receptor HI Total	5E+00

Notes
N/A = Not Applicable
NA = Not Available

Blood HI Across All Media =	2E+00
Liver HI Across All Media =	2E+00
Respiratory, Lung HI Across All Media =	2E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
Endocrine HI Across All Media =	2E+00

Biota	Crayfish	EU SL	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	N/A	N/A	2E+00
			Chemical Total	--	--	--	--		2E+00	--	--	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total - Angler Child, Crayfish							--				Receptor HI Total	2E+00

Notes
N/A = Not Applicable
NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.6RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	All Sediment	EU BB3	Benzidine	1E-04	N/A	6E-05	2E-04					
			Chemical Total	1E-04	--	6E-05	2E-04		--	--	--	--
		Exposure Point Total					2E-04					--
	Exposure Medium Total						2E-04					--
Medium Total							2E-04					--
Receptor Total							2E-04				Receptor HI Total	--

Notes

N/A = Not Applicable

NA = Not Available

TABLE 10.7.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	1E+00	NA	8E-01	2E+00
			Chemical Total	--	--	--	--		1E+00	--	8E-01	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total							--				Receptor HI Total	2E+00

Notes

NA - Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.7.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	1E+00	NA	1E-01	2E+00
			Chemical Total	--	--	--	--		1E+00	--	1E-01	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total							--				Receptor HI Total	2E+00

Notes

NA - Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.7.RME: SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	Dieldrin	2E-04	1E-08	--	2E-04					
			Total PCB Aroclors	1E-04	1E-09	5E-05	2E-04	Eye; Nails; Immunological	2E+00	NA	1E+00	4E+00
			Chemical Total	2.9E-04	1E-08	5E-05	3E-04		2E+00	--	1E+00	4E+00
		Exposure Point Total					3E-04					4E+00
	Exposure Medium Total						3E-04					4E+00
Medium Total							3E-04					4E+00
Receptor Total							3E-04				Receptor HI Total	4E+00

Notes

NA - Not Available

Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00

TABLE 10.7.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	NA	2E-01	2E+00
			Chemical Total	--	--	--	--		2E+00	--	2E-01	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total							--				Receptor HI Total	2E+00

Notes

NA - Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.7.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Total PCB Aroclors	2E-04	2E-09	9E-05	3E-04	Eye; Nails; Immunological	4E+00	NA	2E+00	7E+00
			Chemical Total	2E-04	2E-09	9E-05	3E-04		4E+00	--	2E+00	7E+00
		Exposure Point Total					3E-04					7E+00
	Exposure Medium Total						3E-04					7E+00
Medium Total							3E-04					7E+00
Receptor Total							3E-04	Receptor HI Total				7E+00

Notes

NA - Not Available

Eye HI Across All Media =	7E+00
Immunological HI Across All Media =	7E+00
Hair, Skin, Nails HI Across All Media =	7E+00

TABLE 10.7.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	4E+00	NA	3E-01	5E+00
			Chemical Total	--	--	--	--		4E+00	--	3E-01	5E+00
		Exposure Point Total					--					5E+00
	Exposure Medium Total						--					5E+00
Medium Total							--					5E+00
Receptor Total							--				Receptor HI Total	5E+00

Notes

NA - Not Available

Eye HI Across All Media =	5E+00
Immunological HI Across All Media =	5E+00
Hair, Skin, Nails HI Across All Media =	5E+00

TABLE 10.8.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	NA	1E+00	4E+00
			Antimony					Blood	4E+00	NA	--	4E+00
			Iron					GI tract	2E+00	NA	--	2E+00
			Thallium					NOAEL	5E+00	NA	--	5E+00
			Chemical Total	--	--	--	--		1E+01	--	1E+00	1E+01
		Exposure Point Total					--					1E+01
	Exposure Medium Total						--					1E+01
Medium Total							--					1E+01
Receptor Total							--				Receptor HI Total	1E+01

Notes

NA - Not Available

Blood HI Across All Media =	4E+00
Eye HI Across All Media =	4E+00
Immunological HI Across All Media =	4E+00
Hair, Skin, Nails HI Across All Media =	4E+00
GI tract HI Across All Media =	2E+00

TABLE 10.8.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	NA	3E-01	3E+00
			Antimony					Blood	4E+00	NA	--	4E+00
			Iron					GI tract	2E+00	NA	--	2E+00
			Thallium					NOAEL	5E+00	NA	--	5E+00
			Chemical Total	--	--	--	--		1E+01	--	3E-01	1E+01
		Exposure Point Total					--					1E+01
	Exposure Medium Total						--					1E+01
Medium Total							--					1E+01
Receptor Total							--				Receptor HI Total	1E+01

Notes

NA - Not Available

Blood HI Across All Media =	4E+00
Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00
GI tract HI Across All Media =	2E+00

TABLE 10.8.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	1E+01	NA	5E+00	2E+01
			Chemical Total	--	--	--	--		1E+01	--	5E+00	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total							--				Receptor HI Total	2E+01

Notes

NA - Not Available

Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01

TABLE 10.8.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Total PCB Aroclors					Eye; Nails; Immunological	1E+01	NA	1E+00	1E+01
			Chemical Total	--	--	--	--		1E+01	--	1E+00	1E+01
		Exposure Point Total					--					1E+01
	Exposure Medium Total						--					1E+01
Medium Total							--					1E+01
Receptor Total							--				Receptor HI Total	1E+01

Notes

NA - Not Available

Eye HI Across All Media =	1E+01
Immunological HI Across All Media =	1E+01
Hair, Skin, Nails HI Across All Media =	1E+01

TABLE 10.8.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	Dieldrin					Liver; Neurological	2E+00	NA	--	2E+00
			Total PCB Aroclors					Eye; Nails; Immunological	2E+01	NA	8E+00	3E+01
			Chemical Total	--	--	--	--		2E+01	--	8E+00	3E+01
		Exposure Point Total					--					3E+01
	Exposure Medium Total						--					3E+01
Medium Total							--					3E+01
Receptor Total							--				Receptor HI Total	3E+01

Notes

NA - Not Available

Liver HI Across All Media =	2E+00
Neurological HI Across All Media =	2E+00
Eye HI Across All Media =	3E+01
Immunological HI Across All Media =	3E+01
Hair, Skin, Nails HI Across All Media =	3E+01

TABLE 10.8.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	Dieldrin					Liver; Neurological	2E+00	NA	--	2E+00
			Total PCB Aroclors					Eye; Nails; Immunological	2E+01	NA	2E+00	2E+01
			Chemical Total	--	--	--	--		2E+01	--	2E+00	2E+01
		Exposure Point Total					--					2E+01
	Exposure Medium Total						--					2E+01
Medium Total							--					2E+01
Receptor Total							--				Receptor HI Total	2E+01

Notes

NA - Not Available

Liver HI Across All Media =	2E+00
Neurological HI Across All Media =	2E+00
Eye HI Across All Media =	2E+01
Immunological HI Across All Media =	2E+01
Hair, Skin, Nails HI Across All Media =	2E+01

TABLE 10.8.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Total PCB Aroclors	1E-04	4E-10	5E-05	2E-04	Eye; Nails; Immunological	4E+01	NA	2E+01	6E+01
			Chemical Total	--	--	--	2E-04		4E+01	--	2E+01	6E+01
		Exposure Point Total					2E-04					6E+01
	Exposure Medium Total						2E-04					6E+01
Medium Total							2E-04					6E+01
Receptor Total							2E-04				Receptor HI Total	6E+01

Notes

NA - Not Available

Eye HI Across All Media =	6E+01
Immunological HI Across All Media =	6E+01
Hair, Skin, Nails HI Across All Media =	6E+01

TABLE 10.8.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Resident
Receptor Age:	Child (0-6 years old)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	4E+01	NA	3E+00	4E+01
			Chemical Total	--	--	--	--		4E+01	--	3E+00	4E+01
		Exposure Point Total					--					4E+01
	Exposure Medium Total						--					4E+01
Medium Total							--					4E+01
Receptor Total							--				Receptor HI Total	4E+01

Notes

NA - Not Available

Eye HI Across All Media =	4E+01
Immunological HI Across All Media =	4E+01
Hair, Skin, Nails HI Across All Media =	4E+01

TABLE 10.9.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	NA	2E+00	3E+00
			Chemical Total	--	--	--	--		2E+00	--	2E+00	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total							--				Receptor HI Total	3E+00

Notes

N/A - Not Applicable

NA = Not Available

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.9.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB5	Total PCB Aroclors					Eye; Nails; Immunological	2E+00	NA	2E-01	2E+00
			Chemical Total	--	--	--	--		2E+00	--	2E-01	2E+00
		Exposure Point Total					--					2E+00
	Exposure Medium Total						--					2E+00
Medium Total							--					2E+00
Receptor Total							--				Receptor HI Total	2E+00

Notes

N/A - Not Applicable

NA = Not Available

Eye HI Across All Media =	2E+00
Immunological HI Across All Media =	2E+00
Hair, Skin, Nails HI Across All Media =	2E+00

TABLE 10.9.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	NA	3E+00	5E+00
			Chemical Total	--	--	--	--		3E+00	--	3E+00	5E+00
		Exposure Point Total					--					5E+00
	Exposure Medium Total						--					5E+00
Medium Total							--					5E+00
Receptor Total							--	Receptor HI Total				5E+00

Notes

NA = Not Availlable

Eye HI Across All Media =	5E+00
Immunological HI Across All Media =	5E+00
Hair, Skin, Nails HI Across All Media =	5E+00

TABLE 10.9.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Commercial/Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	Surface Soil	EU BB6	Total PCB Aroclors					Eye; Nails; Immunological	3E+00	NA	3E-01	3E+00
			Chemical Total	--	--	--	--		3E+00	--	3E-01	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total							--				Receptor HI Total	3E+00

Notes

NA = Not Availlable

Eye HI Across All Media =	3E+00
Immunological HI Across All Media =	3E+00
Hair, Skin, Nails HI Across All Media =	3E+00

TABLE 10.10.RME: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU GB	Manganese					Neurological	2E-02	4E+00	--	4E+00
			Chemical Total	--	--	--	--		2E-02	4E+00	--	4E+00
		Exposure Point Total					--					4E+00
	Exposure Medium Total						--					4E+00
Medium Total							--					4E+00
Receptor Total							--				Receptor HI Total	4E+00

Neurological HI Across All Media = 4E+00

TABLE 10.10.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Green Brook (GB)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU GB	Manganese					Neurological	7E-03	3E+00	--	3E+00
			Chemical Total	--	--	--	--		7E-03	3E+00	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total							--				Receptor HI Total	3E+00

Neurological HI Across All Media = 3E+00

TABLE 10.10.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB1	Manganese					Neurological	2E-02	4E+00	--	4E+00
			Chemical Total	--	--	--	--		2E-02	4E+00	--	4E+00
		Exposure Point Total					--					4E+00
	Exposure Medium Total						--					4E+00
Medium Total							--					4E+00
Receptor Total							--				Receptor HI Total	4E+00

Neurological HI Across All Media = 4E+00

TABLE 10.10.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 1 (BB1)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB1	Manganese					Neurological	6E-03	3E+00	--	3E+00
			Chemical Total	--	--	--	--		6E-03	3E+00	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total							--				Receptor HI Total	3E+00

Neurological HI Across All Media = 3E+00

TABLE 10.10.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB2	Manganese					Neurological	2E-02	3E+00	--	3E+00
			Chemical Total	--	--	--	--		2E-02	3E+00	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total							--				Receptor HI Total	3E+00

Neurological HI Across All Media = 3E+00

TABLE 10.10.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 2 (BB2)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB2	Manganese					Neurological	5E-03	3E+00	--	3E+00
			Chemical Total	--	--	--	--		5E-03	3E+00	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total							--				Receptor HI Total	3E+00

Neurological HI Across All Media = 3E+00

TABLE 10.10.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	Manganese					Neurological	2E-02	5E+00	--	5E+00
			Chemical Total	--	--	--	--		2E-02	5E+00	--	5E+00
		Exposure Point Total					--					5E+00
	Exposure Medium Total						--					5E+00
Medium Total							--					5E+00
Receptor Total							--	Receptor HI Total				5E+00

Neurological HI Across All Media = 5E+00

TABLE 10.10.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 3 (BB3)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB3	Manganese					Neurological	8E-03	4E+00	--	4E+00
			Chemical Total	--	--	--	--		8E-03	4E+00	--	4E+00
		Exposure Point Total					--					4E+00
	Exposure Medium Total						--					4E+00
Medium Total							--					4E+00
Receptor Total							--				Receptor HI Total	4E+00

Neurological HI Across All Media = 4E+00

TABLE 10.10.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Manganese					Neurological	2E-02	3E+00	--	3E+00
			Chemical Total	--	--	--	--		2E-02	3E+00	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total							--	Receptor HI Total				3E+00

Neurological HI Across All Media = 3E+00

TABLE 10.10.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 4 (BB4)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB4	Manganese					Neurological	6E-03	3E+00	--	3E+00
			Chemical Total	--	--	--	--		6E-03	3E+00	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total							--				Receptor HI Total	3E+00

Neurological HI Across All Media = 3E+00

TABLE 10.10.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	Manganese					Neurological	2E-02	4E+00	--	4E+00
			Chemical Total	--	--	--	--		2E-02	4E+00	--	4E+00
		Exposure Point Total					--					4E+00
	Exposure Medium Total						--					4E+00
Medium Total							--					4E+00
Receptor Total							--				Receptor HI Total	4E+00

Neurological HI Across All Media = 4E+00

TABLE 10.10.CTE: RISK SUMMARY
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 5 (BB5)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB5	Manganese					Neurological	6E-03	3E+00	--	3E+00
			Chemical Total	--	--	--	--		6E-03	3E+00	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total							--				Receptor HI Total	3E+00

Neurological HI Across All Media = 3E+00

TABLE 10.10.RME: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Manganese					Neurological	2E-02	4E+00	--	4E+00
			Chemical Total	--	--	--	--		2E-02	4E+00	--	4E+00
		Exposure Point Total					--					4E+00
	Exposure Medium Total						--					4E+00
Medium Total							--					4E+00
Receptor Total							--				Receptor HI Total	4E+00

Neurological HI Across All Media = 4E+00

TABLE 10.10.CTE: RISK SUMMARY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Scenario Timeframe:	Current/Future
Exposure Unit (EU):	Bound Brook 6 (BB6)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Floodplain Soil	All Soil	EU BB6	Manganese					Neurological	6E-03	3E+00	--	3E+00
			Chemical Total	--	--	--	--		6E-03	3E+00	--	3E+00
		Exposure Point Total					--					3E+00
	Exposure Medium Total						--					3E+00
Medium Total							--					3E+00
Receptor Total							--				Receptor HI Total	3E+00

Neurological HI Across All Media = 3E+00

APPENDIX B

Memorandum: Recommendation for Reference Site Selection
Natural Heritage
Summary of Reference Area Sediment and Floodplain Soil Data

Memorandum: Recommendation for Reference Site Selection

MALCOLM PIRNIE

REVISED DRAFT TECHNICAL MEMORANDUM

To: Mark Austin (USEPA Region 2) **Date:** December 19, 2011

Copy: See Distribution

From: The Louis Berger Group, Inc. / Arcadis/Malcolm Pirnie

Re: Recommendation for Reference Site Selection
Operable Unit 4 (OU4) – Bound Brook
Cornell-Dubilier Electronics Superfund Site

Contract No.: USACE W912DQ-08-D-0017, Task Order 0001

Introduction

The Cornell-Dubilier Electronics (CDE) Superfund Site is located at 333 Hamilton Boulevard in South Plainfield, Middlesex County, New Jersey. The Site was divided into four Operable Units by the United States Environmental Protection Agency (EPA).

- Operable Unit 1 (OU1) addresses residential, commercial, and municipal properties in the vicinity of the former CDE facility.
- Operable Unit 2 (OU2) addresses contaminated soils and buildings at the former CDE facility.
- Operable Unit 3 (OU3) addresses contaminated groundwater.
- Operable Unit 4 (OU4) encompasses an 8.3-mile long portion of the Bound Brook channel and two impoundments (New Market Pond and Spring Lake), its floodplain, plus an additional 1.6 miles along Green Brook (OU4 Study Area). (It should be noted that no further investigation is occurring in Spring Lake at this time.)

This technical memo characterizes various features within the OU4 Study Area and potential reference sites within close proximity to, but outside of, the OU4 Study Area, with the purpose of identifying and selecting candidate reference sites to support the OU4 ecological risk assessment (ERA). Specifically, floodplain soil and surface sediment samples will be collected from the reference sites for chemical analysis, laboratory toxicity testing, and laboratory bioaccumulation testing as described in Sections 5.3.14 and 5.3.15 of the OU4 Remedial Investigation/Feasibility Study (RI/FS) Work Plan. Aspects of the ERA (*e.g.*, interpretation of sediment toxicity testing results) will require a comparison of existing conditions at various locations within the OU4 Study Area to reference site conditions.

Based on the data gathering and evaluations described within the body of this memo, the current recommendation is to select Ambrose Brook as the reference site for brook and floodplain sampling and to select Lake Nelson as the reference site for New Market Pond. Specific sampling locations for toxicity and bioaccumulation testing have yet to be determined, but will be proposed following agency review and comment on this memo.

OU4 Study Area Location and Subwatershed Areas Evaluated

The OU4 Study Area is located within the Raritan River watershed. The New Jersey Department of Environmental Protection (NJDEP) (1994) identified that the Raritan River watershed

includes four ecoregions/subregions [*i.e.*, Northern (upper) Piedmont, lower Piedmont, red shale zone, and urban/industrial zone]. The NJDEP also identified reference sites within each of the major ecoregions of the state; however, the OU4 Study Area falls within the urban/industrial zone, for which no reference sites were identified (NJDEP, 1994). Potential reference sites within close proximity to, but outside of, the OU4 Study Area and intended to represent the 'least disturbed condition', (*i.e.*, sites with similar habitat and land use characteristics, but which have not been impacted by releases of the contaminants of potential ecological concern from the former CDE facility) were preliminarily identified in the OU4 Work Plan (Louis Berger Group, Inc. and Malcolm Pirnie, Inc., 2010b), based on review of aerial photographs, topographic maps, and local land use data.

To continue the reference site selection process, characteristics of the OU4 Study Area and the potential reference sites were further evaluated during the spring through fall of 2011 to inform the selection of candidate reference sites. Additional information collected and used to inform the selection of candidate reference sites included:

- Geographic Information Systems (GIS) data (*e.g.*, land use and known contaminated sites).
- Limited surface water/surface sediment quality data collected in the field during habitat characterization.
- Historical information on habitat and surface water quality (*e.g.*, USEPA's STORET database, previous reports).

The OU4 Study Area is within the Bound Brook subwatershed. Subwatershed areas and portions of subwatershed areas within close proximity to, but outside of, the OU4 Study Area and preliminarily identified in the Work Plan were evaluated. The following subwatershed areas were investigated for potential brook and floodplain reference sites:

- Ambrose Brook.
- Green Brook upstream of Washington Avenue.
- Bound Brook upstream of Reading Avenue.

Blue Brook and Stony Brook in the upper portion of the Green Brook subwatershed, Bonygutt Brook in the middle portion of the Green Brook subwatershed, and Middle Brook in the lower portion of the Green Brook subwatershed were not considered as potential reference sites because several key characteristics are too dissimilar to Bound Brook (*e.g.*, higher stream gradients, different land use, and disparate drainage area size).

The following subwatershed areas were investigated for potential impoundment reference sites:

- Ambrose Brook upstream of the Lake Nelson spillway.
- Cedar Brook upstream of Cedar Brook Lake spillway.

As no further investigation is planned for Spring Lake, potential reference impoundments similar to New Market Pond were investigated. Seeleys Pond, an impoundment on Blue Brook, and Watchung Lake, an impoundment on Stony Brook, were not considered as potential reference sites because key characteristics (listed above) are too dissimilar to Bound Brook. Lake Papaianni, an impoundment very close to the headwaters of Ambrose Brook, was not considered as a potential reference location because its drainage area and land use are too dissimilar to New

Market Pond on Bound Brook. Lake Creighton, an impoundment on Ambrose Brook very close to the confluence with Green Brook, was not considered since it is much smaller and shallower than New Market Pond. Lake Nelson, an impoundment approximately mid-reach on Ambrose Brook, was considered due to many similarities with New Market Pond, as discussed further in this memo.

Polychlorinated biphenyls (PCBs), chemicals of concern in the OU4 Study Area, were also detected in Spring Lake; however, EPA (2010) determined that the pattern of PCBs in Spring Lake was unique and unlike that in Bound Brook and New Market Pond (associated with the former CDE facility), potentially indicating a separate source. Although PCBs were detected in Spring Lake downstream of Cedar Brook Lake, and the drainage area and land use within the upstream portion of the Cedar Brook subwatershed is dissimilar to that in the Bound Brook subwatershed draining to New Market Pond, Cedar Brook Lake was considered as a potential impoundment reference site since it is within the Bound Brook subwatershed.

The subwatershed areas considered are shown on Figure 1.

Data Collection

The following sections summarize the data collection activities conducted to evaluate the candidate reference sites.

GIS Data Review

Available GIS information was used to summarize land area, land use, percent impervious surfaces, soils, and known contaminated sites within each subwatershed area. Subwatershed areas were identified based on hydrologic unit code (HUC) 14 boundaries. Boundaries were revised as necessary, based on topography, to identify upstream portions of subwatershed areas. The subwatershed area for the OU4 Study Area is shown on Figure 2. The subwatershed areas for potential brook/floodplain reference sites are shown on Figures 3, 4, and 5. The subwatershed areas for potential impoundment reference sites are shown on Figures 6 and 7.

GIS data obtained and summarized for each subwatershed area include:

- Total area
- Major land use categories
- Impervious surfaces
- Soil characteristics

These data are summarized in Table 1 by subwatershed area. In addition to these data, information on known contaminated sites was compiled and used to inform selection of candidate reference sites, as discussed further below for each subwatershed area. It should be recognized that known contaminated sites on this list may have undergone or may currently be undergoing remediation.

The following sources of GIS data were used in this evaluation:

- Topographic Base Mapping: ESRI ArcGIS Online and data partners including USGS and © 2007 National Geographic Society & Sources: USGS, FAO, NPS, EPA, ESRI, DeLorme, TANA, and other suppliers.

- HUC: NJDEP, New Jersey Geological Survey, 14 Digit Hydrologic Unit Code Delineations for New Jersey, Version 2011.
- Land use and Impervious surface: NJDEP 2007 Land use/Land Cover Update, Lower Raritan, South River and Lawrence Watershed Management Area, WMA09.
- Soils: U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Survey Geographic 2008 (SSURGO) Database for Middlesex, Somerset, and Union Counties, New Jersey.
- Known Contaminated Sites: NJDEP Known Contaminated Site List for New Jersey (Non-Homeowner), Fall 2009.

Habitat Characterization

Scientists from The Louis Berger Group and ARCADIS/Malcolm Pirnie evaluated aquatic and terrestrial habitat at select locations within the OU4 Study Area and potential reference sites on May 26, June 1, June 6, and September 14, 2011. The purpose of the fieldwork was to document current conditions and changes in habitats previously characterized, as well as to characterize habitat areas not previously evaluated.

Aquatic habitat characterization within the OU4 Study Area was conducted at the following locations:

- Bound Brook at its confluence with Green Brook.
- Bound Brook at River Mile (RM) 3.0 – 3.4.
- Bound Brook at RM 5.3 – 5.8.
- Bound Brook near the former CDE facility (OU2) at approximately RM 6.4 – 6.7.

Terrestrial habitat characterization within the OU4 Study Area (including proximal floodplain areas) was conducted at the following locations:

- Bound Brook at its confluence with Green Brook.
- Bound Brook at RM 3.0 – 3.4.
- Bound Brook at RM 5.3 – 6.0.
- Areas proximal to Cedar Brook immediately upstream from its confluence with Bound Brook.

Habitat characterization was conducted at the following locations within the potential reference sites:

- Ambrose Brook, both upstream and downstream of Lake Nelson.
- Green Brook near Washington Avenue on the Dunellen/Green Brook border.
- Bound Brook upstream of OU4 near Reading Avenue.
- Lake Nelson.
- Cedar Brook Lake.

Characterization of aquatic habitats included some or all of the following parameters:

- Habitat structure.
- Stream morphology.
- Water depth.
- Temperature.
- pH.

- Dissolved oxygen.
- Conductivity.
- Turbidity.
- Redox potential.
- Sediment grain size.
- Sediment total organic carbon (TOC).

Water quality readings and sediment samples could not be collected from all locations due to low water and/or access limitations. The following table indicates locations where habitat characterization, water quality readings, and sediment sampling were conducted.

Site	Habitat Evaluation	Water Quality	TOC	Sediment Grain Size
OU4 Study Area				
Bound Brook near confluence with Green Brook	X	X	---	X
Bound Brook RM 3.0-3.4	X	X	X	X
Bound Brook RM 5.3-5.8*	X	X	X	X
Bound Brook near former CDE facility (~RM 6.7)	X	---	X	X
Green Brook upstream Bound Brook confluence	X	X	---	X
Cedar Brook upstream of Bound Brook Confluence	X	---	---	---
Potential Reference Sites				
Ambrose Brook downstream of Lake Nelson	X	X	X	X
Ambrose Brook Upstream of Lake Nelson (Stelton Road & Ethel Road)	X	X	---	---
Ambrose Brook (~ 300' upstream of Stelton Road & Ethel Road)	X	---	---	---
Green Brook near Washington Avenue	X	X	X	X
Bound Brook near Reading Avenue	X	X	---	X
Cedar Brook Lake	X	X	---	---

Notes:
* Three water quality readings, TOC, and sediment grain size samples were collected along RM 5.3 – 5.8.

Terrestrial vegetation was identified in floodplain areas and observed wildlife habitat usage was noted in both terrestrial and aquatic environments. These activities were generally conducted according to standard operating procedures (SOPs) presented in Appendix B of the Quality Assurance Project Plan (QAPP) (Louis Berger Group, Inc. and Malcolm Pirnie, Inc., 2010a). Based on the intended use of the data from the reference sites (*i.e.*, to compare chemical data from surface sediment and floodplain soil samples, laboratory sediment toxicity testing results, and laboratory bioaccumulation test findings), more weight was placed on the GIS information (*e.g.*, similarities in land use and known contaminated sites); therefore, quantitative estimates of habitat characteristics (*e.g.*, percent of and/or relative abundance) were not obtained. In addition, due to lack of contact with satellites (due to extensive tree cover), the locations were not documented using a GPS unit.

Water quality measurements were made with a Horiba U-22 meter, which was calibrated each day before use. Water quality data are summarized in Table 2. Representative sediment samples were collected for grain size and TOC analysis. The analytical results for these samples are

summarized in Table 3. In addition, preliminary geotechnical data for sediments from New Market Pond are summarized in Table 3 and limited historical data are included in Tables 2 and 3.

The results of the habitat characterization activities were combined with existing/historical information to describe habitat within the OU4 Study Area and potential reference sites.

Historical Information

The USEPA's STOrage and RETrieval Data Warehouse (STORET) (accessed online at: http://www.epa.gov/storet/) was searched for pertinent information regarding habitat characterization, water quality, and biological monitoring within each of the subwatershed areas. Information on habitat and general conditions in the watersheds was also gleaned from the following reports:

- Ecological Evaluation for the Cornell-Dubilier Electronics Site (EPA, 1999).
- Wildlife Species Investigation of the Bound Brook Ecosystem, South Plainfield, New Jersey (Stantec Consulting Services, Inc., 2008).
- Final General Reevaluation Report & Supplemental Environmental Impact Statement, Green Brook Sub-Basin of the Raritan River Basin, Middlesex, Sommerset, and Union Counties, State of New Jersey (USACE, 1997).

In addition to general information gleaned from these sources, existing data on habitat, water and sediment quality was compiled for several locations along Bound Brook (~RM 0.4, ~RM 5.2, ~RM 5.5, ~RM 6.5-6.6, ~RM 7.4), New Market Pond, Ambrose Brook downstream of Lake Nelson (near the confluence with Green Brook and near Behmer Road), Ambrose Brook upstream of Lake Nelson (near School Street), and Green Brook upstream of Washington Avenue (near Clinton Avenue and near Raymond Avenue).

OU4 Study Area Characterization

Bound Brook is a moderate-sized, perennial stream with a mild gradient and classified as FW2-NT (freshwater, non-trout). The stream channel is between 1 and 4 feet deep, 10 to 20 wide, and the average channel slope is about 4 feet/mile. The headwaters of Bound Brook originate in areas of residential and commercial/industrial development just upstream of Dismal Swamp, which consists of approximately 650 ac of mostly forested wetlands. Bound Brook flows approximately 11 miles and drains an area of approximately 24 square miles of primarily residential and some commercial/industrial development. As shown in Table 1, land use in the subwatershed is approximately 48% residential, 20% commercial/industrial, <1% agricultural, 9% open space, and 11% wetlands/open water. The Bound Brook subwatershed includes the area drained by Cedar Brook, as shown on Figure 2. Cedar Brook, with an average stream gradient of 19 feet/mile, enters Bound Brook at approximately RM 5.5.

Within and just downstream of Dismal Swamp (about RM 7.4), the natural floodplain remains intact and the channel banks are generally more shallowly sloped than in the remainder of Bound Brook. Banks along the remainder of Bound Brook vary from low to fairly steep. The entire Green Brook basin, including Bound Brook, Ambrose Brook, Bonygutt Brook, Stony Brook, and Middle Brook, is prone to flooding and bank erosion is visible in some areas along Bound Brook (*e.g.*, along RM 3.0 to 3.4, RM 5.5). In general, substrate along much of Bound Brook is

medium to course sand, with limited areas of fine sand, silt, clay, gravel, cobbles, or hard bottom. Areas with visible outcropping of the Passaic Formation bedrock occur along RM 2.8 to 3.0 and also at other locations. Historical information indicates the substrate in Bound Brook provided less than 20% stable epifaunal habitat suitable for colonization at about RM 7.4 and 40% to 70% stable epifaunal habitat suitable for colonization at about RM 0.4. Few small riffles were observed along RM3.0-3.4 and 5.3 to 5.5. The non-native Asiatic clam (*Corbicula fluminea*) was observed at several locations along Bound Brook from RM 3.0 to RM 5.5. A species of pearly mussel was observed in Bound Brook just downstream of the New Market Pond spillway.

Due to the urban nature of the subwatershed, the amount of wetlands and vegetated riparian buffer decreases downstream of Dismal Swamp; however, vegetated riparian buffer providing overhanging canopy does exist along some portions of Bound Brook (*e.g.*, around RM 0.4, RM 3.0 to 3.4, and 5.3 to 5.8). Limited areas of mainly forested wetlands exist along Bound Brook from RM 0.0 to about RM 3.3 and from the upstream end of New Market Pond to Dismal Swamp, with the most extensive wetland areas occurring along the north bank from about RM 5.5 to RM 6.1. Forested areas adjacent to Bound Brook are vegetated with red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), green ash (*Fraxinus pennsylvanica*), arrowwood (*Viburnum dentatum*), and various oak (*Quercus*) species. The fields are dominated by tall grasses and brambles (*Rosa* spp. and *Rubus* spp). Submerged aquatic vegetation was observed in a few locations along the Brook including the confluence with Green Brook, RM 3.0 to 3.4, RM 5.3 to 5.4, and RM 5.5.

New Market Pond is a 25-acre impoundment that was created in the mid-nineteenth century. The pond is bordered by a limited area of designated park land, forested wetlands on the upstream end of the impoundment, and roadways. Surrounding land use includes mostly residential, some commercial/industrial, and recreational uses (ball fields). New Market Pond was dredged in the mid-1980s to a depth of 6 to 8 feet. Surficial sediments (to a depth of about 1 foot) at the time of the dredging were described as black organic silt.

Recorded water depths from a recent bathymetric survey in New Market Pond ranged from approximately 1 to 4 feet in the eastern portion of New Market Pond and 1 to 6 or more feet in the western portion of New Market Pond. Many of the shallow lakes in the Green Brook basin are in advanced stages of eutrophication. There are five aerators on New Market Pond, installed within the past 5 years, that generally run between May and October. Preliminary stream flow data collected between May and September 2011 upstream of New Market Pond indicate flow ranging from 2 to 46 cubic feet per sec (cfs), with an average flow of 16 cfs. Preliminary data collected between May and September on stream flow downstream of New Market Pond indicate flow ranging from 5 to 63 cfs, with an average of 26 cfs.

A total of 174 sites are listed on the Known Contaminated Sites list within the Bound Brook subwatershed. Three sites are on the National Priorities List. Thirty-three of these sites are classified as high complexity and threatening sites, with multiple contaminants, unknown sources, and continuing impact to soils, groundwater, and possibly surface water. Eight of those high complexity and threatening sites are upstream of the OU4 Study Area. The majority of the remainder of the sites are classified as more complicated sites, with multiple spills/discharges of

more than one contaminant involving both soil and groundwater impacts. Many of these appear to be associated with gasoline or heating oil spills.

Potential Brook/Floodplain Reference Sites

Ambrose Brook

Ambrose Brook flows approximately 9 miles from its headwaters into an area of mixed residential and commercial/industrial development, where it enters Green Brook. Less than a quarter mile from the headwaters, Ambrose Brook flows into Lake Papaianni. Ambrose Brook is impounded approximately 2 miles downstream of Lake Papaianni to form Lake Nelson. A small tributary of Ambrose Brook, Doty's Brook, enters from the north approximately 1.5 miles downstream of Lake Nelson. Similar to Bound Brook, Ambrose Brook is also a moderate-sized perennial stream with a mild gradient and classified as FW2-NT (freshwater, non-trout). The stream channel upstream of Lake Nelson was measured on June 1, 2011 to be less than 6 inches deep and 12 feet wide. The average stream gradient is about 9 feet/mile.

The area drained by the Ambrose Brook subwatershed, shown on Figure 3, is approximately 14 square miles of predominantly residential and commercial/industrial development. As shown in Table 1, land use in the subwatershed is approximately 38% residential development, 31% commercial/industrial development, 2% agriculture, 15% open space, and 11% wetlands/open water.

Although flooding is known to occur in Ambrose Brook, historical data and recent observations indicate that the stream banks, in areas of observation, were moderately stable and vegetated, providing good overhanging canopy. The riparian buffer in these areas was also moderate to good (*i.e.*, between 6 to 18 meters on one or both banks). A normal stream channel was observed upstream of Lake Nelson while some channelization was observed downstream of Lake Nelson. Based on historical information, the substrate was made up of up to 75% gravel/cobbles surrounded by fine sediment at two separate locations downstream of Lake Nelson. Up to 40% to 70% stable epifaunal habitat, suitable for colonization, was present at these locations. The north bank of the creek (near Stelton Road and Ethel Road) was observed to be reinforced by loose stones. Sediments in the brook at this location appeared to be silty sand with some partially exposed rocks. A species of pearly mussel was observed just downstream of the Lake Nelson spillway.

Areas of mainly forested wetlands exist along Ambrose Brook, starting just downstream of Lake Papaianni and continuing along most of the remainder of its length. Historical information indicates these wetlands are typically vegetated with species such as willow (*Salix* spp.), sycamore (*Platanus occidentalis*), box elder (*Acer negundo*), red maple, silver maple, pin oak (*Quercus palustris*) , elm (*Ulmus* spp.), ash (*Fraxinus* spp.), black gum (*Nyssa sylvatica*), spice bush (*Lindera benzoin*), witch hazel (*Hamamelis virginiana*), and arrowwood. Submerged aquatic vegetation was observed in Ambrose Brook upstream of Lake Nelson.

A total of 79 sites are listed on the Known Contaminated Sites list within the Ambrose Brook subwatershed. Eleven of these sites are classified as high complexity and threatening sites with multiple contaminants, unknown sources, and continuing impact to soils, groundwater, and

possibly surface water. Only one of those sites (Revlon Consumers Products Corporation) is located upstream of Lake Nelson in the area of commercial/industrial development that is along the divide between Bound Brook and Ambrose Brook. Volatile organic chemicals, including trichloroethene, were identified as a groundwater concern. The Revlon Consumer's Products Corporation site at 55 Talmadge Road, Edison, New Jersey is a Resource Conservation and Recovery Act site documented as having human exposures and groundwater contamination under control. Manufacturing at this site has ceased. Many of the other high complexity and threatening sites are located in the downstream portion of the watershed. The majority of the remainder of the sites are classified as more complicated, with multiple spills/discharges of more than one contaminant involving both soil and groundwater impacts. Some of these appear to be associated with gasoline or heating oil spills.

Green Brook Subwatershed Upstream of Washington Avenue

The headwaters of Green Brook originate in the undeveloped Watchung Reservation, which includes Blue Brook, and from runoff in the valleys of the Watchung Mountains. Stream gradients in the upper portion of the subwatershed are relatively steep (*i.e.*, 18.5 feet per mile for Green Brook, 24 feet per mile for Blue Brook in the Watchung Reservation, and 88.1 feet per mile for Stony Brook). The gradient in Green Brook quickly becomes more moderate and averages about 8 feet per mile in the lower subwatershed. Due in part to higher dissolved oxygen in the upper portion of Green Brook, it is classified as FW2-TM (freshwater, trout maintenance) upstream of Route 22.

Washington Avenue was selected as the downstream boundary for the Green Brook subwatershed upstream of the OU4 Study Area. Washington Avenue is upstream of the OU4 Study Area and upstream of Bonygutt Brook, a smaller tributary of Green Brook. This portion of the Green Brook subwatershed, shown on Figure 4, drains an area of approximately 21 square miles. As shown in Table 1, land use in the subwatershed consists of mostly residential development (43%) and open space (34%), with less commercial/industrial development (about 12%). Approximately 9% of the land area is covered by wetlands/open water.

The banks of Green Brook, from the confluence with Bound Brook upstream to Raymond Avenue (just downstream of Route 22), are unstable to moderately unstable with some channelization present. The substrate in these areas has been reported as between 25% and 75% gravel/cobbles surrounded by fine sediment, providing between 20% to 70% favorable epifaunal habitat at one or more locations within this stretch.

Forested wetlands are present along much of this stretch of Green Brook, with riparian buffers between 6 to 18 meters on one or both banks. Historical information indicates these wetlands are typically vegetated with species such as willow, sycamore, box elder, red maple, silver maple, pin oak, elm, ask, black gum, spice bush, witch hazel, and arrowwood.

A total of 67 sites are listed on the Known Contaminated Sites list within this portion of the subwatershed. Seven of these sites are classified as high complexity and threatening sites with multiple contaminants, unknown sources, and continuing impact to soils, groundwater, and possibly surface water. Seven of these sites are located within the portion of the subwatershed between Washington Avenue and Raymond Avenue. The majority of the remainder of the sites

are classified as more complicated contaminant discharges, with multiple spills/discharges of more than one contaminant involving both soil and groundwater impacts. Many of these appear to be associated with gasoline or heating oil spills.

Bound Brook Subwatershed Upstream of Reading Avenue

Bound Brook in the upstream portion of Dismal Swamp was accessed from a residential neighborhood off of Reading Avenue. The portion of the Bound Brook subwatershed upstream of this location is shown on Figure 5. As shown on Table 1, this portion of the subwatershed drains approximately 2 square miles and land use is approximately 30% residential development (mostly northeast of Interstate 287), 43% commercial/industrial development (mostly southwest of Interstate 287), less than 0.5% agriculture, 7% open space, and 13% wetlands/open water (mostly in Dismal Swamp).

Large concrete slabs reinforce the stream bank downstream of the access point near Reading Avenue. Stream banks have not been altered immediately upstream of this location, where there is a significant riparian buffer (~ 200 feet) between Bound Brook and the newer housing development. Good overhanging canopy is present along most sections of the brook. Stream banks are relatively steep and there is little channel sinuosity at this location. Water velocity was slow when observed on June 1, 2011 and sediments appeared to be a mix of fine grained materials and organic detritus (*e.g.*, dead leaves).

A total of 30 sites are listed on the Known Contaminated Sites list within this portion of the subwatershed. Six of these sites are classified as high complexity and threatening sites with multiple contaminants, unknown sources, and continuing impact to soils, groundwater, and possibly surface water. Three of these sites (*i.e.*, Con-Lux Coatings, Inc., American Bindery, and Metex Corporation) are just upstream of the headwaters. Con-Lux Coatings, Inc. and Metex Corporation have an in-place or ongoing application for a classification exception area. The others (*i.e.*, two Oakley Specialized Services, Inc. sites and the Pee Wee Moulding Corporation site) are west of the brook and have either an in-place or ongoing application for classification exception areas and/or deed restrictions. The majority of the remaining sites are classified as more complicated contaminant discharges, with multiple spills/discharges of more than one contaminant involving both soil and groundwater impacts. Many of these appear to be associated with gasoline or heating oil spills.

Potential Impoundment Reference Sites

Lake Nelson

Lake Nelson, a privately-owned lake maintained by the Lake Nelson Improvement Association, is rectangular in shape and covers approximately 15 acres. The Ambrose Brook subwatershed draining to Lake Nelson covers approximately 5 square miles, as shown on Figure 6. As shown on Table 1, land use in this subwatershed is approximately 51% residential development, 27% commercial/industrial development, 2% agriculture, 11% open space, and 8% wetlands/open water. Approximately 440 acres of predominantly residential development drain directly into the lake. Lake Nelson is impounded with a dam and spillway at its western end. Known contaminated sites for this portion of the subwatershed are discussed above for the Ambrose Brook subwatershed.

Lake Nelson is 8 feet deep at its deepest and averages 3 feet deep. There are three aerators on Lake Nelson that also generally operate between May and October. Available stream flow data collected between March and October 2010 upstream of Lake Nelson indicate flow ranging from 2 to 42 cfs, with an average flow of 12 cfs. Lake Nelson receives stormwater conveyed from nearby highways. According to personal communication with the Lake Nelson Improvement Association, Lake Nelson was lowered for emergency dam repairs prior to Tropical Storm Irene on August 28, 2011 and will remain approximately 18 inches below normal until repairs are completed. Repairs are expected to be completed by mid-January 2012, according to a conversation with the association held on December 14, 2011.

Cedar Brook Lake

Cedar Brook Lake is circular and covers approximately 5 acres. The portion of the Cedar Brook subwatershed draining to Cedar Brook Lake, shown on Figure 7, covers approximately 2 square miles. As shown on Table 1, land use is approximately 61% residential development, 11% commercial development, 12% open space, and 3% wetlands/open water. Two sites are listed on the Known Contaminated Sites list within this portion of the subwatershed. One of these sites (1st Street Groundwater Contamination) is classified as a high complexity and threatening site with multiple contaminants, unknown sources, and continuing impact to soils, groundwater, and possibly surface water. The lake is surrounded by parkland. Certain near-shore sections of the lake are currently covered with mats of algae. The grass lawns immediately surrounding Cedar Brook Lake are mowed, but apparently not treated with pesticides or herbicides, based on personal communication with Cedar Brook Lake Park employees.

Summary and Recommendations for Candidate Reference Sites

This section evaluates the information presented above by comparing locations within the OU4 Study Area to potential reference sites. Recommendations for candidate reference sites are subsequently presented.

GIS Data

The following evaluation compares drainage area, land use, slopes, and soil erodibility between the OU4 Study Area and the potential reference sites. This information is also summarized in Table 1.

- Drainage Area:
  - The Ambrose Brook subwatershed and the portion of the Green Brook subwatershed upstream of Washington Avenue each drain a total land area similar to Bound Brook.
- Land Use:
  - The portion of the Bound Brook subwatershed upstream of Reading Avenue and the Ambrose Brook subwatershed contain land use most similar to that found in the Bound Brook subwatershed.
  - The portion of the Green Brook subwatershed upstream of Washington Avenue contains less commercial/industrial land use and more open space, as

well as less area covered by wetlands/open water than the Bound Brook subwatershed.
    - The percentage of impervious surfaces in the Ambrose Brook subwatershed (37%) is more similar to the Bound Brook subwatershed (36%), in contrast to the Green Brook subwatershed upstream of Washington Avenue (21%) and the Bound Brook subwatershed upstream of Reading Avenue (50%).
- Slopes and Soil Erodibility
    - The percentage of subwatershed area with greater than and less than 10% slopes are similar for the Ambrose Brook and Bound Brook subwatersheds, in contrast to the Green Brook subwatershed upstream of Washington Avenue and the Bound Brook subwatershed upstream of Reading Avenue.
    - Soil erodibility characteristics are similar in the Ambrose Brook and Bound Brook subwatersheds, and less similar to the Bound Brook study area within the Green Brook subwatershed upstream of Washington Avenue and the Bound Brook subwatershed upstream of Reading Avenue.
- Impoundment Land Use
    - The land use in the portion of the Ambrose Brook subwatershed draining to Lake Nelson is more similar to the Bound Brook subwatershed draining to New Market Pond than that for Cedar Brook Lake.
    - The residential land use, including roadways, immediately adjacent to Lake Nelson may be more similar to land use surrounding New Market Pond than the parkland surrounding Cedar Brook Lake.
- Impoundment Slopes and Soil Erodibility
    - The percentage of subwatershed area with greater than and less than 10% slopes and soil erodibility characteristics, for the Ambrose Brook subwatershed draining to Lake Nelson, is more similar to the Bound Brook subwatershed draining to New Market Pond than the Cedar Brook subwatershed draining to Cedar Brook Lake.

<u>Stream Morphology and Habitat</u>

The following evaluation compares stream gradients, morphology, and habitat between the OU4 Study Area and the potential reference sites.

- Stream Gradients:
    - Green Brook has significantly higher stream gradients in the upstream portions of the subwatershed. Although Cedar Brook within the Bound Brook subwatershed has an average stream gradient of 19 feet per mile, Bound Brook has a stream gradient of 4 feet per mile.
    - Ambrose Brook has a similar stream gradient (9 feet per mile) to Bound Brook.
- Substrate, Bank Condition and Riparian Buffer:
    - Bound Brook, Ambrose Brook, and the mid-portion of Green Brook have similarities in substrate, bank condition, and riparian buffers.
    - Banks on these streams have some signs of channelization and erosion, although Green Brook may have more channelization than either Bound Brook or Ambrose Brook and Bound Brook and Green Brook may have more erosion than Ambrose Brook.

- Although information on substrate and habitat is more limited for Ambrose Brook and Green Brook, they both appear to contain varying substrate providing areas of stable epifaunal habitat, similar to areas in Bound Brook.
- Both Bound Brook and Ambrose Brook have forested wetlands with similar vegetation along much of their length, providing for floodplain sampling locations.
- There are forested wetlands present along the mid-portion of Green Brook, but not in the upper, high gradient portions.
- Overall, Ambrose Brook may have more substrate, epifaunal habitat, and riparian buffer areas along its length that are similar to Bound Brook than the other potential reference sites. In addition, submerged aquatic vegetation was reported on Bound Brook and Ambrose Brook, but not in the mid-portion of Green Brook.
- Riparian buffer along Bound Brook, Ambrose Brook, and the mid-portion of Green Brook are also likely very similar in terms of riparian quality, width, and vegetation. However, both Ambrose Brook and Bound Brook have similar amounts of total riparian buffer area along their lengths (approximately 9 miles and 11 miles, respectively), as opposed to only the 3 to 4 mile mid-portion of Green Brook.

- Water/Sediment Quality:
  - Water quality parameters are similar between Bound Brook, Ambrose Brook, and Green Brook, as shown in Table 2.
  - As shown in Table 3, the grain size and TOC results vary in Bound Brook. Those locations with lower silt and clay content have lower TOC, as expected. TOC in the sample from Ambrose Brook is most similar to that in Bound Brook at about RM 3.4 and about RM 5.5. In terms of grain size, the sample from Bound Brook near Reading Avenue is most similar to the sample from Bound Brook near the confluence with Green Brook and the sample from Ambrose Brook is most similar to the sample from Bound Brook at about RM 3.4.
- Impoundments:
  - New Market Pond and Lake Nelson are of similar size, shape and depth. Both have aerators that run from late spring through fall. Based on preliminary, available flow data, it seems that flow through these impoundments is similar.

<u>Known Contaminated Sites</u>

The portion of Bound Brook upstream of Reading Avenue, in the Bound Brook subwatershed, is the most similar to Bound Brook, since many of the sites are the same. The Ambrose Brook subwatershed, similar to the Bound Brook subwatershed, has many sites classified as high complexity and threatening sites with impact to soils, groundwater, and possibly surface water. In the Ambrose Brook subwatershed, only one of those sites (Revlon Consumers Products Corporation) is located upstream of Lake Nelson, in the area of commercial/industrial development that is along the divide between Bound Brook and Ambrose Brook. Manufacturing no longer occurs at this site and groundwater contamination is reported to be under control. Seven of the sites classified as high complexity and threatening sites with impact to soils, groundwater, and possibly surface water within the Green Brook subwatershed upstream of

Washington Avenue are within the lower portion of the subwatershed between Washington Avenue and Raymond Avenue.

Recommendations

The OU4 Study Area includes Bound Brook up to ~RM 8.3 and the associated floodplain (except for the floodplain area encompassed by the Woodbrook Road Dump Superfund Site). Based on the intended use of the data from the reference sites (*i.e.*, to compare chemical data from surface sediment and floodplain soil samples, laboratory sediment toxicity testing results, and laboratory bioaccumulation test findings), more weight was placed on similarities in land use and known contaminated sites than other factors when evaluating potential reference sites. In consideration of the factors described above, Ambrose Brook is proposed as the candidate reference site for brook and floodplain sampling. Based on the number of known contaminated sites within the Ambrose Brook subwatershed downstream of Lake Nelson, locations upstream or immediately downstream of Lake Nelson will be selected for sampling.

Lake Nelson is proposed as the candidate impoundment reference site; however, water quality, sediment grain size/TOC samples, and flow information have not yet been collected from Lake Nelson. Water quality and sediment grain size/TOC samples will from Lake Nelson once the lake level has been restored and conditions stabilize.

Specific sampling locations for toxicity testing and bioaccumulation testing within the OU4 Study Area have yet to be determined. Following agency review of the recommended reference site locations, specific sampling locations within Ambrose Brook, its floodplain, and Lake Nelson will be identified that are most similar, in terms of morphology, substrate, and water quality, to those sampling locations within the OU4 Study Area. A limited amount of visual characterization will be conducted to select these sampling locations.

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Distribution

Ken Maas, Fred Molloy (USACE)
AmyMarie Accardi-Dey, Ed Dudek, Len Warner, (LBG)
Rich Califano, Brian Gillen, Hope Nemickas (ARCADIS/MP)

Table 1
GIS Data

Parameter	Units	Bound Brook Subwatershed (OU4 Study Area)	Potential Reference Sites				
			Brook			Impoundment	
			Bound Brook Subwatershed Upstream of Reading Avenue	Green Brook Subwatershed Upstream of Washington Avenue	Ambrose Brook Subwatershed	Lake Nelson (Ambrose Brook Subwatershed draining to Lake Nelson)	Cedar Brook Lake (Cedar Brook Subwatershed draining to Cedar Brook Lake)
Area							
Total Area	square miles	24	2	21	14	5	1
Land Use							
Commercial/Mixed Urban	% of total	10%	17%	11%	21%	17%	11%
Industrial		10%	26%	1%	10%	10%	--
Residential		48%	30%	43%	38%	51%	61%
Undeveloped/Open Space		9%	7%	34%	15%	11%	12%
Agricultural		0.3%	0.2%	0.4%	2%	2%	--
Welands/Open Water		11%	13%	9%	11%	8%	3%
Impervious Surfaces							
Impervious Surfaces	% of total	36%	50%	21%	37%	39%	36%
Soil Characteristics							
< 10 % Slopes	% of total	91%	100%	52%	95%	93%	81%
>10 % Slopes		2%	--	45%	0.03%	--	0.3%
Highly erodible		2%	--	21%	--	--	0.3%
Potentially highly erodible		68%	51%	66%	80%	81%	71%
Not highly erodible		22%	26%	10%	15%	12%	10%

Table 2
Water Quality Data

		Brook Locations										
		Within the OU4 Study Area						Potential Reference Sites				
		Bound Brook					Green Brook	Bound Brook	Ambrose Brook			Green Brook
Parameter	**Units**	**~RM 3.4**	**~RM 5.3**	**RM 5.4-5.5**	**RM ~5.8**	**Confluence with Green Brook**	**Just Upstream of Bound Brook Confluence**	**Near Reading Avenue**	**300 feet downstream of Lake Nelson**	**Near Confluence with Green Brook**	**Upstream of Lake Nelson**	**Near Washington Avenue**
pH	--	8.56	6.93	7.51	6.96	7.33	7.31	7.25	7.08	7.10	7.25	7.18
Turbidity	NTU	18.00	5.07	8.67	11.80	4.13	3.33	12.70	12.53	NA	15.68	56.5
Dissolved oxygen	mg/L	9.77	6.74	6.50	5.73	7.44	8.01	8.21	6.18	5.30	7.38	9.95
Temperature	°C	25.68	19.35	19.36	20.10	23.69	23.71	27.29	26.76	21.80	16.00	21.5
Conductivity	mS/cm	0.51	0.60	0.62	0.54	0.53	0.57	0.93	0.45	0.48	0.45	49.5
Redox potential	mV	131	91	132	73	7.33	6.97	14.93	181	NA	NA	121

Table 2
Water Quality Data

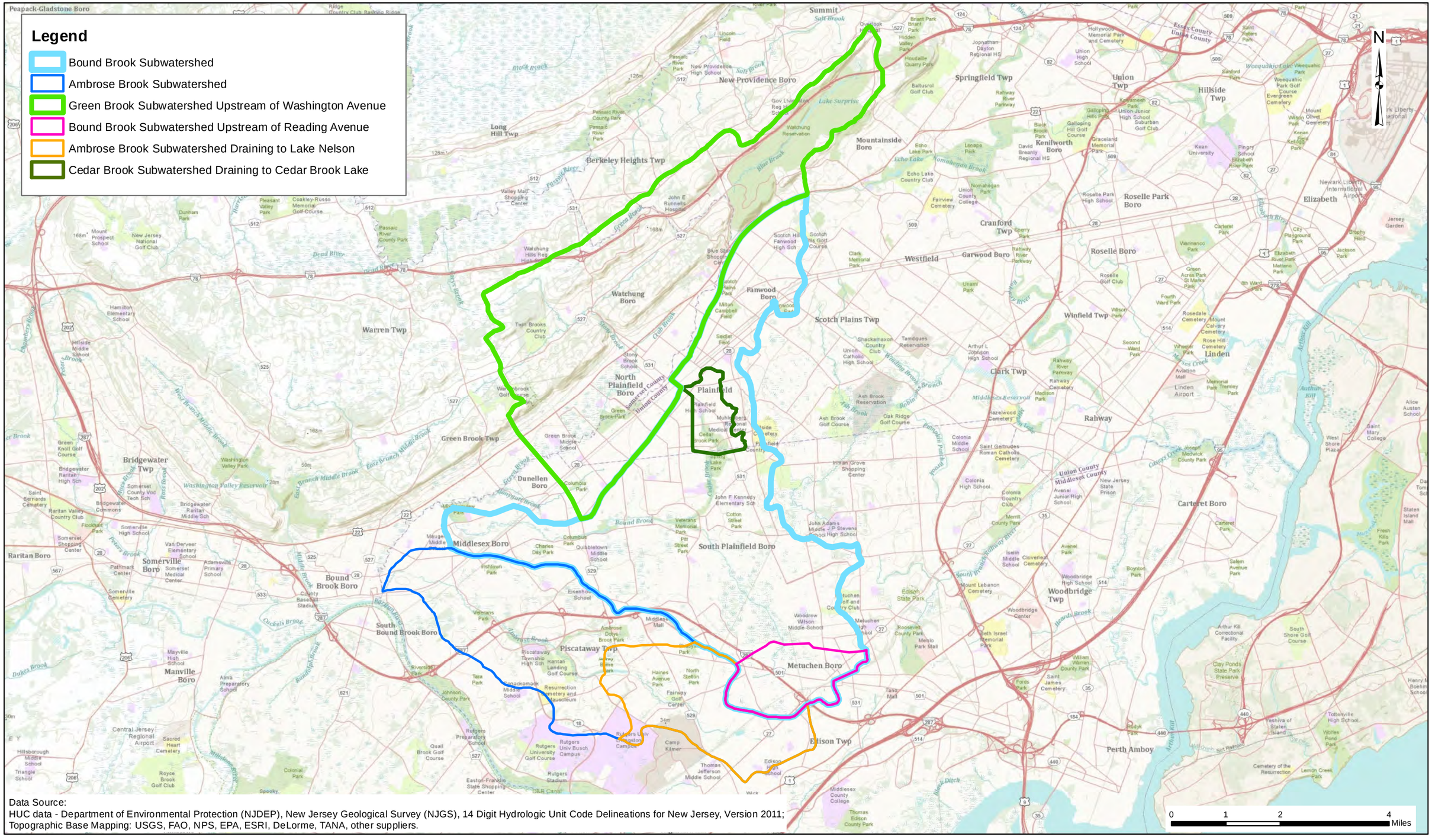
Parameter	Units	Impoundment Locations					
		Within OU4 Study Area			Potential Reference Sites		
		New Market Pond			Cedar Brook Lake		
pH	--	7.50	8.50	NA	7.01	7.25	7.23
Turbidity	NTU	4.00	30.00	7.90	9.7	8.3	15.8
Dissolved oxygen	mg/L	3.76	10.15	NA	10.14	10.6	10.58
Temperature	°C	27.00	27.70	NA	23.5	23.7	24.1
Conductivity	mS/cm	0.57	0.41	NA	0.075	0.073	0.071
Redox potential	mV	NA	NA	NA	150	133	139

Notes:
NA = Not Analyzed

Table 3
Sediment Grain Size Classification and Total Organic Carbon Data

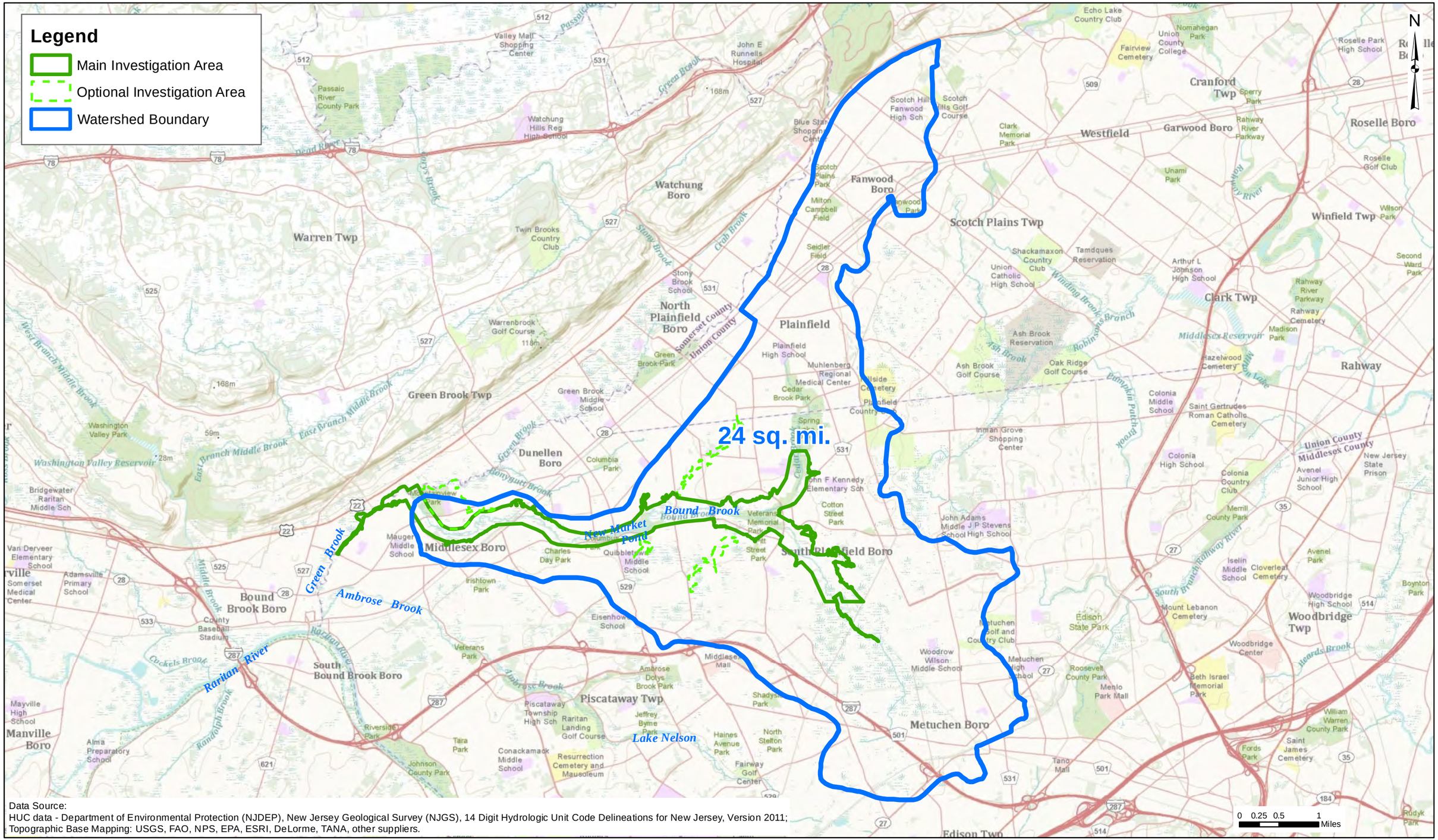
		Brook Locations									Impoundment
		Within the OU4 Study Area Brook Locations							Potential Reference Sites		Within the OU4 Study Area (New Market Pond)
		Bound Brook						Green Brook	Bound Brook	Ambrose Brook	
Parameter	**Units**	**~RM 3.4**	**~RM 5.3**	**~RM 5.5**	**~RM 5.8**	**~RM 6.7**	**At Confluence with Green Brook**	**Just Upstream of Bound Brook Confluence**	**Near Reading Avenue**	**300 feet Downstream of Lake Nelson**	
Sediment Grain Size Classification											
Cobble	%	--	--	--	--	--	--	--	--	--	--
Gravel	%	75.3	0.0	0.4	0.0	0.9	0.0	43	0.0	52.7	0.0
Sand	%	22.8	30.9	94.8	74.5	37.7	53.8	53.6	51.8	40.8	52.1
Silt & Clay	%	1.9	69.1	4.8	25.5	61.4	46.2	3.4	48.2	6.5	47.9
Total Organic Carbon											
Total Organic Carbon	mg/kg	3,390	103,000	2,540	24,300	51,200	NS	NS	NR	1,340	7,290-85,000*

Notes:
NS = Not Sampled
NR = Not Received
* Range from five surface grab samples in New Market Pond



Data Source:
HUC data - Department of Environmental Protection (NJDEP), New Jersey Geological Survey (NJGS), 14 Digit Hydrologic Unit Code Delineations for New Jersey, Version 2011;
Topographic Base Mapping: USGS, FAO, NPS, EPA, ESRI, DeLorme, TANA, other suppliers.

LB / MALCOLM PIRNIE	Cornell-Dubilier Electronics Superfund Site South Plainfield, New Jersey	**Subwatershed Boundary Areas** *Bound Brook Remedial Investigation/Feasibility Study*	October 2011 Figure 1



Data Source:
HUC data - Department of Environmental Protection (NJDEP), New Jersey Geological Survey (NJGS), 14 Digit Hydrologic Unit Code Delineations for New Jersey, Version 2011;
Topographic Base Mapping: USGS, FAO, NPS, EPA, ESRI, DeLorme, TANA, other suppliers.

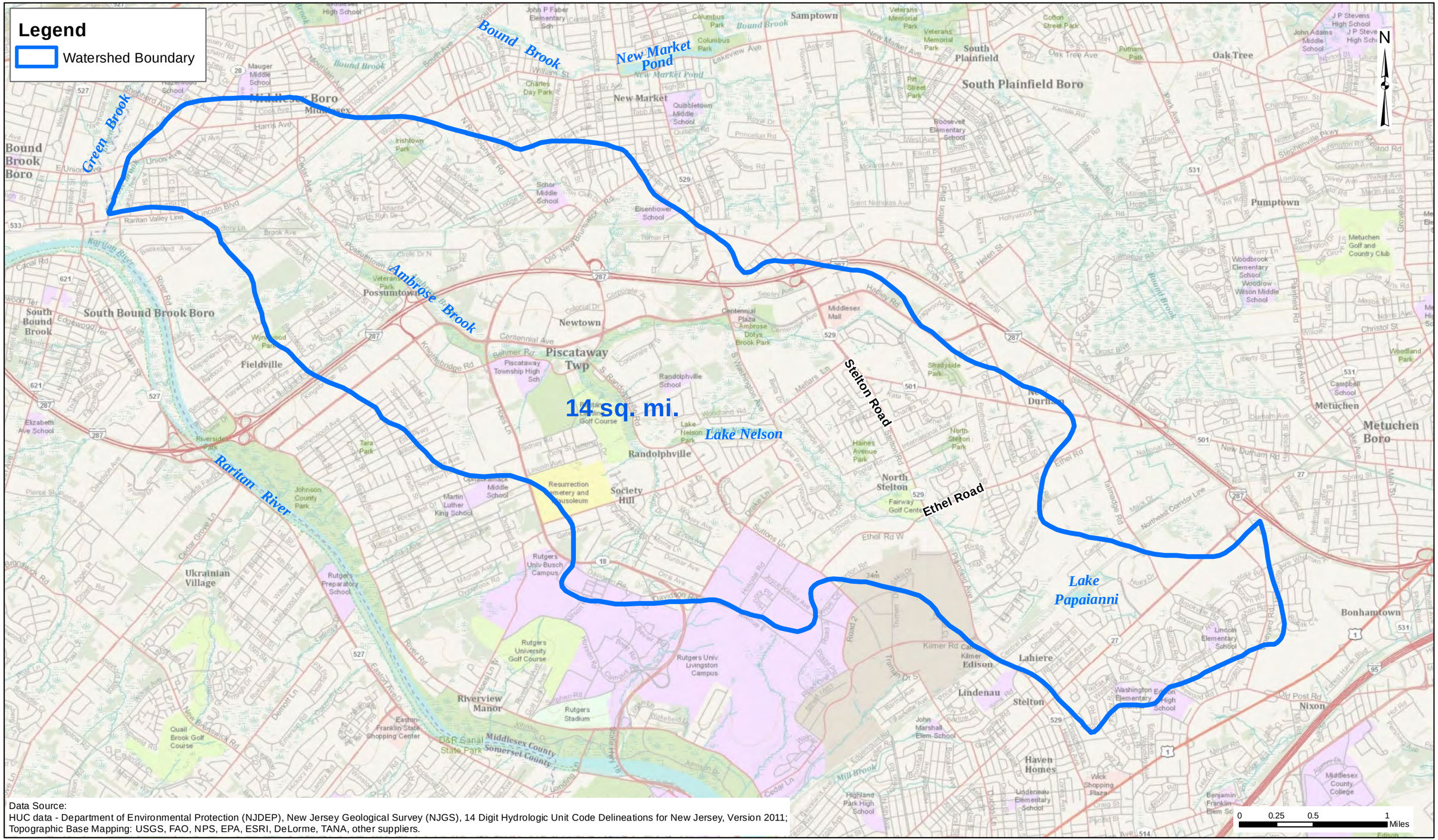
MALCOLM PIRNIE

Cornell-Dubilier Electronics
Superfund Site
South Plainfield, New Jersey

Bound Brook Subwatershed
Bound Brook Remedial Investigation/Feasibility Study

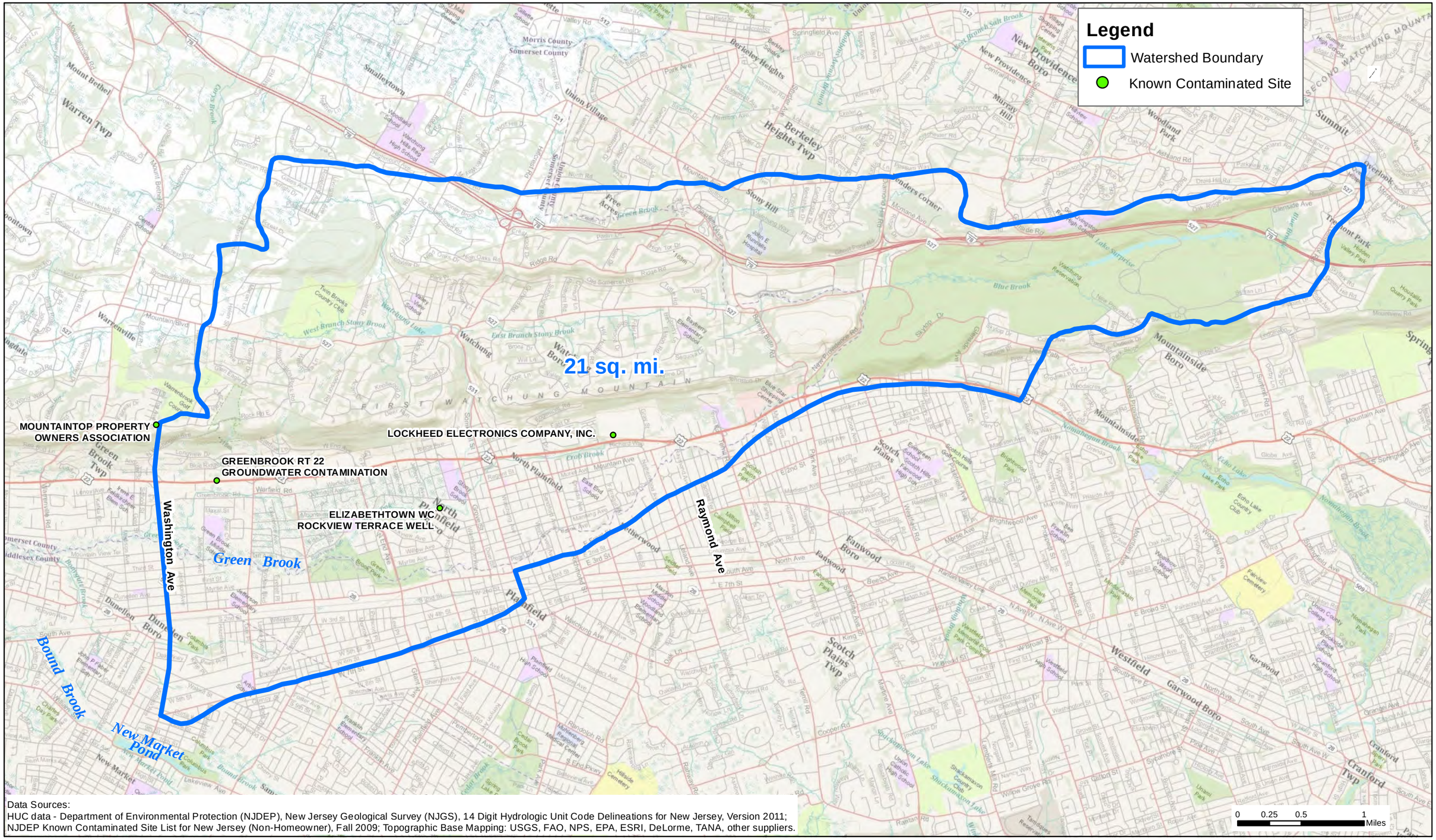
October 2011

Figure 2



Data Source:
HUC data - Department of Environmental Protection (NJDEP), New Jersey Geological Survey (NJGS), 14 Digit Hydrologic Unit Code Delineations for New Jersey, Version 2011;
Topographic Base Mapping: USGS, FAO, NPS, EPA, ESRI, DeLorme, TANA, other suppliers.

MALCOLM PIRNIE	Cornell-Dubilier Electronics Superfund Site South Plainfield, New Jersey	**Ambrose Brook Subwatershed** *Bound Brook Remedial Investigation/Feasibility Study*	October 2011 Figure 3



Data Sources:
HUC data - Department of Environmental Protection (NJDEP), New Jersey Geological Survey (NJGS), 14 Digit Hydrologic Unit Code Delineations for New Jersey, Version 2011;
NJDEP Known Contaminated Site List for New Jersey (Non-Homeowner), Fall 2009; Topographic Base Mapping: USGS, FAO, NPS, EPA, ESRI, DeLorme, TANA, other suppliers.

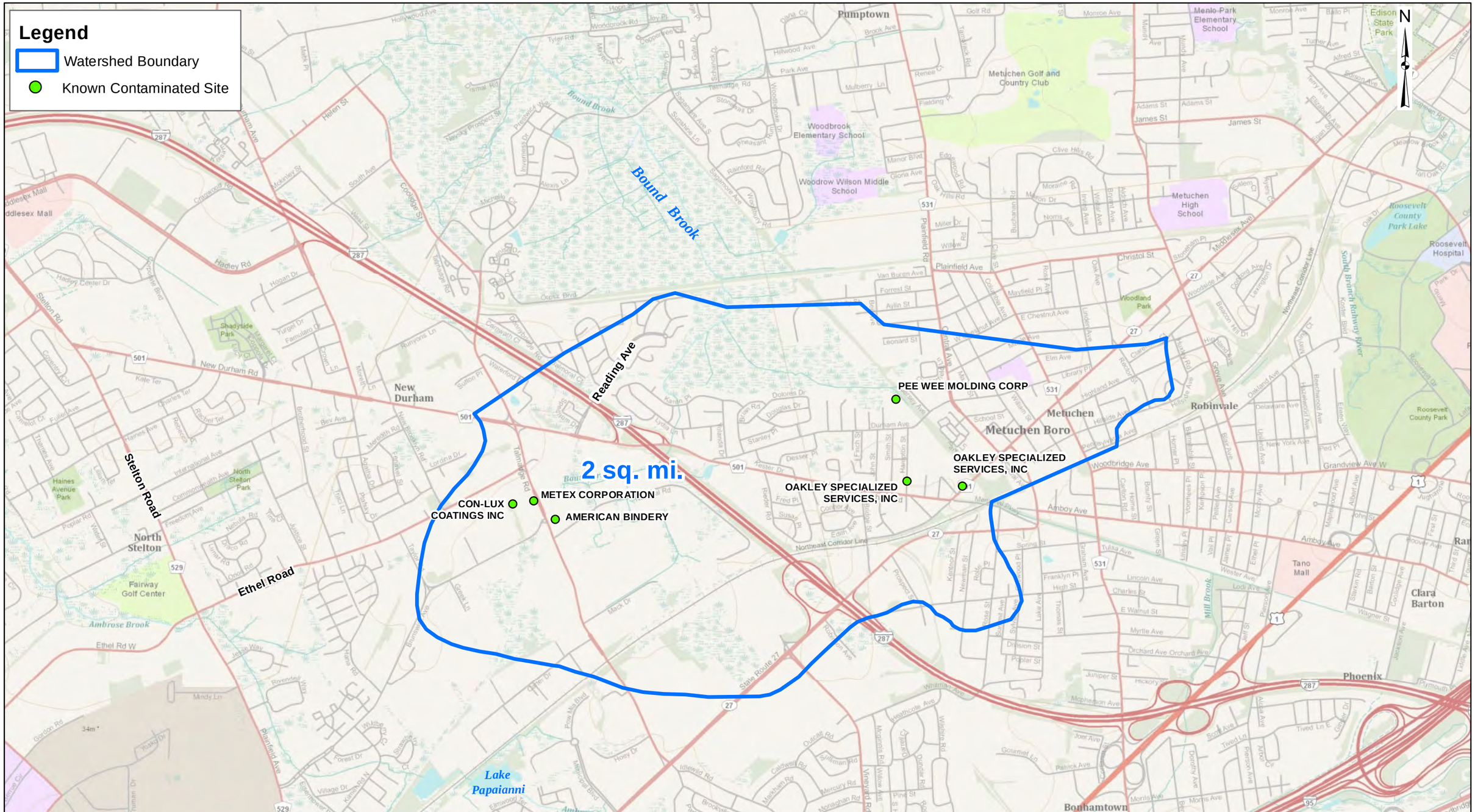
MALCOLM PIRNIE

Cornell-Dubilier Electronics
Superfund Site
South Plainfield, New Jersey

Green Brook Subwatershed Upstream of Washington Avenue
Bound Brook Remedial Investigation/Feasibility Study

October 2011

Figure 4



Data Sources:
HUC data - Department of Environmental Protection (NJDEP), New Jersey Geological Survey (NJGS), 14 Digit Hydrologic Unit Code Delineations for New Jersey, Version 2011;
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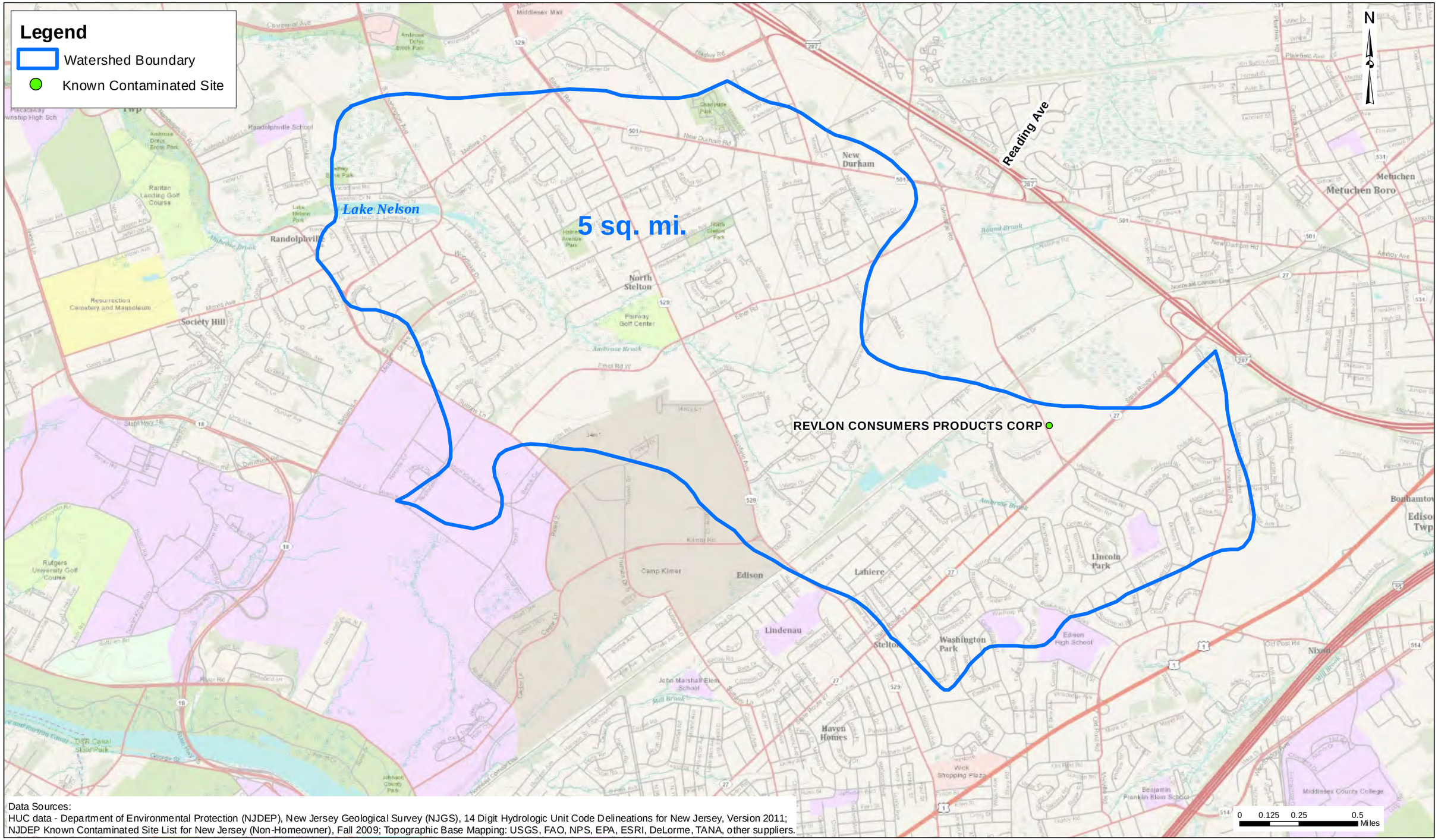
MALCOLM PIRNIE	Cornell-Dubilier Electronics Superfund Site South Plainfield, New Jersey	**Bound Brook Subwatershed Upstream of Reading Ave** *Bound Brook Remedial Investigation/Feasibility Study*	October 2011 Figure 5



Data Sources:
HUC data - Department of Environmental Protection (NJDEP), New Jersey Geological Survey (NJGS), 14 Digit Hydrologic Unit Code Delineations for New Jersey, Version 2011;
NJDEP Known Contaminated Site List for New Jersey (Non-Homeowner), Fall 2009; Topographic Base Mapping: USGS, FAO, NPS, EPA, ESRI, DeLorme, TANA, other suppliers.

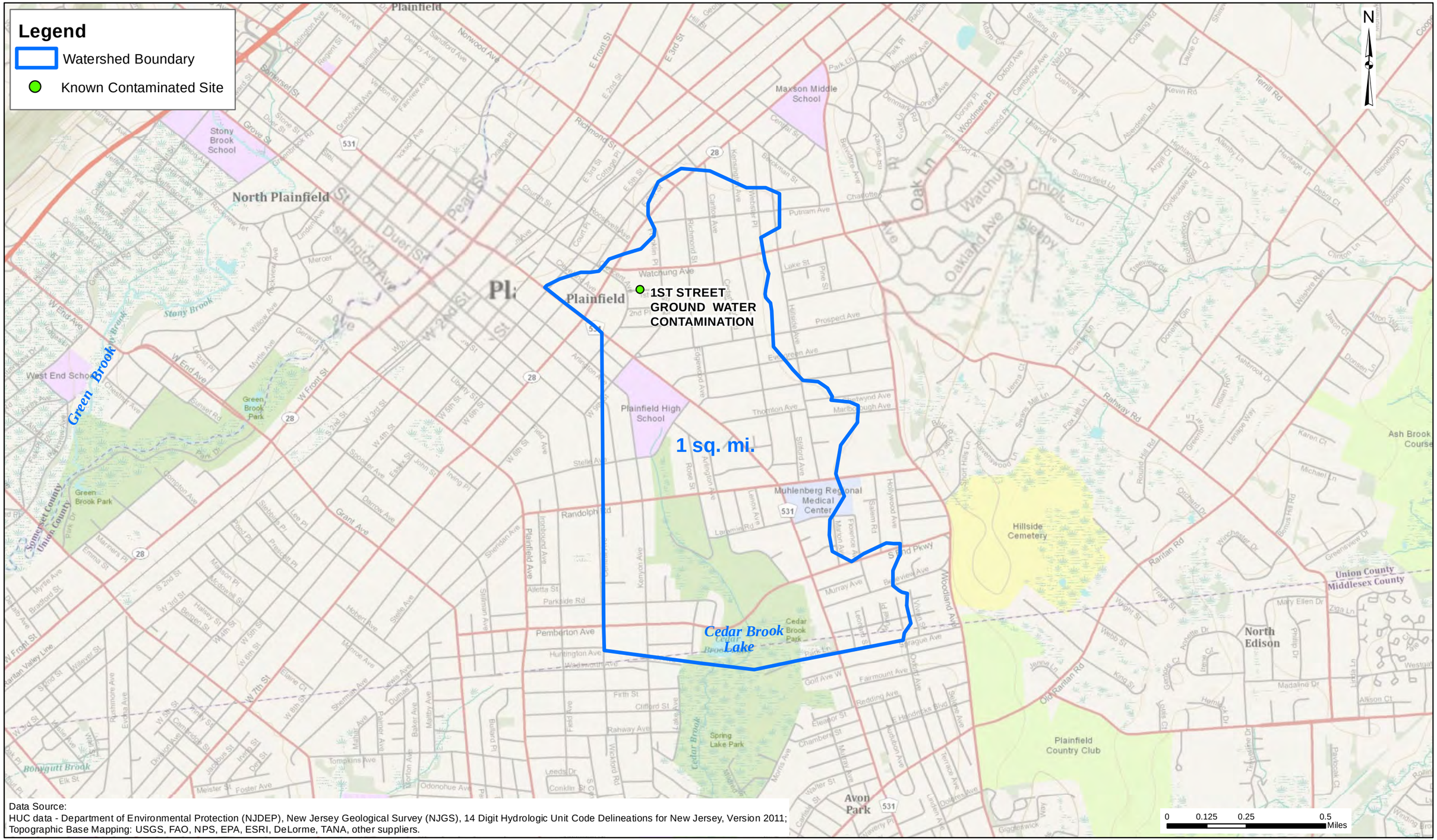
MALCOLM PIRNIE

Cornell-Dubilier Electronics
Superfund Site
South Plainfield, New Jersey

Ambrose Brook Subwatershed Draining to Lake Nelson
Bound Brook Remedial Investigation/Feasibility Study

October 2011

Figure 6



Data Source:
HUC data - Department of Environmental Protection (NJDEP), New Jersey Geological Survey (NJGS), 14 Digit Hydrologic Unit Code Delineations for New Jersey, Version 2011;
Topographic Base Mapping: USGS, FAO, NPS, EPA, ESRI, DeLorme, TANA, other suppliers.

MALCOLM PIRNIE	Cornell-Dubilier Electronics Superfund Site South Plainfield, New Jersey	**Cedar Brook Subwatershed Draining to Cedar Brook Lake** *Bound Brook Remedial Investigation/Feasibility Study*	October 2011 Figure 7

Natural Heritage

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Parks and Forestry
Mail Code 501-04
ONLM -Natural Heritage Program
P.O. Box 420
Trenton, NJ 08625-0420
Tel. #609-984-1339
Fax. #609-984-1427

BOB MARTIN
Commissioner

September 12, 2012

Hope Nemickas
ARCADIS of New York, Inc.
Two Huntington Quadrangle, Suite 1S10
Melville, NY 11747

Re: Cornell- Dubilier Electronics Superfund Site

Dear Ms. Nemickas:

Thank you for your data request regarding rare species information for the above referenced project site in Middlesex Borough, Piscataway Township and South Plainfield Borough, Middlesex County.

Searches of the Natural Heritage Database and the Landscape Project (Version 3.1) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Request for Data into our Geographic Information System. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Landscape Project habitat mapping and the Biotics Database for occurrences of any rare wildlife species or wildlife habitat on the referenced site. The Natural Heritage Database was searched for occurrences of rare plant species or ecological communities that may be on the project site. Please refer to Table 1 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented on site. A detailed report is provided for each category coded as 'Yes' in Table 1.

We have also checked the Landscape Project habitat mapping and Biotics Database for occurrences of rare wildlife species or wildlife habitat in the immediate vicinity (within ¼ mile) of the referenced site. Additionally, the Natural Heritage Database was checked for occurrences of rare plant species or ecological communities within ¼ mile of the site. Please refer to Table 2 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented within the immediate vicinity of the site. Detailed reports are provided for all categories coded as 'Yes' in Table 2. These reports may include species that have also been documented on the project site.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and ecological communities. Please refer to Tables 1 and 2 (attached) to determine if any priority sites are located on or in the vicinity of the site.

A list of rare plant species and ecological communities that have been documented from Middlesex County can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/countylist.html. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/nhpcodes_2010.pdf.

If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive NJ-GeoWeb website at the following URL, http://www.state.nj.us/dep/gis/geowebsplash.htm or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292-9400.

PLEASE SEE 'CAUTIONS AND RESTRICTIONS ON NHP DATA', which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/newcaution2008.pdf.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Robert J. Cartica
Administrator

c: NHP File No. 12-4007454-1985

Table 1: On Site Data Request Search Results (7 Possible Reports)

Rare Plants/Ecological Communities Possibly On Site:	Yes
Rare Plants/Ecological Communities On Site/Immediate Vicinity:	No
Natural Heritage Priority Sites On Site:	No
Landscape 3.1 Species Based Patches On Site:	Yes
Landscape 3.1 Vernal Pool Habitat On Site:	Yes
Landscape 3.1 Stream/Mussel Habitat On Site:	No
Other Animals Tracked by ENSP On Site:	Yes

Possibly on Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database

Scientific Name	Common Name	Federal Protection	State Protection	Regional Status	Grank	Srank	Identified	Last Observed	Location
Vascular Plants									
Ranunculus pusillus var. pusillus	Low Spearwort			HL	G5T4?	S2	Y - Yes	2007-06-05	N. SIDE OF RR, S. SIDE OF CENTER ST., CA. 0.2 MI. SW OF FABER SCHOOL, DUNELLEN.

Total number of records: 1

Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.1 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection	State Protection	Grank	Srank
Aves								
	Bald Eagle	Haliaeetus leucocephalus	Foraging	4	NA	State Endangered	G5	S1B,S2N
	Cooper's Hawk	Accipiter cooperii	Nest	2	NA	Special Concern	G5	S3B,S4N
	Great Blue Heron	Ardea herodias	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Loggerhead Shrike	Lanius ludovicianus migrans	Non-breeding Sighting	4	NA	State Endangered	G4T3Q	S1B,S1N
	Northern Harrier	Circus cyaneus	Breeding Sighting	4	NA	State Endangered	G5	S1B,S3N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Wood Thrush	Hylocichla mustelina	Breeding Sighting	2	NA	Special Concern	G5	S3B

Vernal Pool Habitat on the Project Site Based on Search of Landscape Project 3.1

Vernal Pool Habitat Type	Vernal Pool Habitat ID
Vernal habitat area	2117
Potential vernal habitat area	2136
Potential vernal habitat area	2133
Potential vernal habitat area	2130
Potential vernal habitat area	2127

Total number of records: 5

Other Animal Species On the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program

Scientific Name	Common Name	Federal Protection Status	State Protection Status	Grank	Srank
Invertebrate Animals					
Metarranthis pilosaria	Coastal Bog Metarranthis			G3G4	S3S4

Total number of records: 1

Table 2: Vicinity Data Request Search Results (6 possible reports)

Rare Plants/Ecological Communities within the Vicinity:	Yes
Natural Heritage Priority Sites within the Vicinity:	Yes
Landscape 3.1 Species Based Patches within the Vicinity:	Yes
Landscape 3.1 Vernal Pool Habitat within the Vicinity:	Yes
Landscape 3.1 Stream/Mussel Habitat within the Vicnity:	No
Other Animals Tracked by ENSP within the Vicnity:	Yes

Immediate Vicinity of the Project Site
Based on Search of Natural Heritage Database
Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database

Scientific Name	Common Name	Federal Protection	State Protection	Regional Status	Grank	Srank	Identified	Last Observed	Location
Vascular Plants									
Cercis canadensis	Redbud		E	LP, HL	G5T5	S1	Y - Yes	2005-04-22	First Watchung Mountain, west of Warrenville Road, approximately 1.3 miles west-northwest of Dunellen.
Ranunculus pusillus var. pusillus	Low Spearwort			HL	G5T4?	S2	Y - Yes	2007-06-05	N. SIDE OF RR, S. SIDE OF CENTER ST., CA. 0.2 MI. SW OF FABER SCHOOL, DUNELLEN.

Total number of records: 2

Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.1 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection	State Protection	Grank	Srank
Aves								
	Bald Eagle	Haliaeetus leucocephalus	Foraging	4	NA	State Endangered	G5	S1B,S2N
	Cooper's Hawk	Accipiter cooperii	Nest	2	NA	Special Concern	G5	S3B,S4N
	Great Blue Heron	Ardea herodias	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Loggerhead Shrike	Lanius ludovicianus migrans	Non-breeding Sighting	4	NA	State Endangered	G4T3Q	S1B,S1N
	Northern Harrier	Circus cyaneus	Breeding Sighting	4	NA	State Endangered	G5	S1B,S3N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Wood Thrush	Hylocichla	Breeding Sighting	2	NA	Special Concern	G5	S3B

Vernal Pool Habitat
In the Immediate Vicinity of Project Site
Based on Search of
Landscape Project 3.1

Vernal Pool Habitat Type	Vernal Pool Habitat ID
Vernal habitat area	2117
Vernal habitat area	2125
Potential vernal habitat area	2103
Potential vernal habitat area	2127
Potential vernal habitat area	2130
Potential vernal habitat area	2133
Potential vernal habitat area	2136

Total number of records: 7

Other Animal Species
In the Immediate Vicinity of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program

Scientific Name	Common Name	Federal Protection Status	State Protection Status	Grank	Srank
Invertebrate Animals					
Metarranthis pilosaria	Coastal Bog Metarranthis			G3G4	S3S4

Total number of records: 1

Summary of Reference Area Sediment and Floodplain Soil Data

Table B-1: Reference Area Sediment and Floodplain Soil Data
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical	Units	Ambrose Brook Sediment					Lake Nelson Sediment					Ambrose Brook Floodplain Soil				
		Detection Frequency	Range of Detected Concentrations				Detection Frequency	Range of Detected Concentrations				Detection Frequency	Range of Detected Concentrations			
Semi-volatile Organic Compounds (SVOCs)																
Anthracene	mg/kg	1 / 7		-	0.11	J	1 / 3		-	0.25	J	1 / 5		-	0.36	
Benzo(a)anthracene	mg/kg	6 / 7	0.02	-	1.7	J	3 / 3	0.17	J -	1.1		5 / 5	0.09	J -	0.87	
Benzo(a)pyrene	mg/kg	6 / 7	0.03	-	2.0	J	3 / 3	0.18	J -	1.2		5 / 5	0.12	J -	0.94	
Benzo(b)fluoranthene	mg/kg	6 / 7	0.03	J -	1.9	J	3 / 3	0.17	J -	1.4		5 / 5	0.11	J -	0.97	
Benzo(g,h,i)perylene	mg/kg	3 / 7	0.08	J -	1.1	J	3 / 3	0.12	J -	0.76		5 / 5	0.09	J -	0.58	
Benzo(k)fluoranthene	mg/kg	5 / 7	0.01	-	2.2	J	3 / 3	0.16	J -	1.2		5 / 5	0.11	J -	0.98	
Bis(2-ethylhexyl)phthalate	mg/kg	1 / 7		-	0.99	J	2 / 3	0.66	-	2.4		0 / 5		-		
Chrysene	mg/kg	4 / 7	0.13	J -	2.6	J	3 / 3	0.22	J -	1.4		5 / 5	0.14	J -	1.1	
Dibenzo(a,h)anthracene	mg/kg	1 / 7		-	0.62	J	2 / 3	0.23	J -	0.4		2 / 5	0.13	J -	0.35	
Di-n-butylphthalate	mg/kg	0 / 7		-			1 / 3		-	0.31	J	0 / 5		-		
Fluoranthene	mg/kg	5 / 7	0.10	J -	5.0	J	3 / 3	0.43	-	2.6		5 / 5	0.23	-	1.8	
Fluorene	mg/kg	0 / 7		-			0 / 3		-			1 / 5		-	0.16	J
Indeno(1,2,3-cd)pyrene	mg/kg	5 / 7	0.03	-	1.5	J	3 / 3	0.14	J -	0.83		4 / 5	0.16	J -	0.56	
Naphthalene	mg/kg	3 / 7	0.004	J -	0.03	J	2 / 3	0.01	-	0.01		5 / 5	0.005	-	0.02	J
Phenanthrene	mg/kg	3 / 7	0.15	J -	2.1	J	3 / 3	0.16	J -	1		4 / 5	0.36	-	0.97	
Pyrene	mg/kg	4 / 7	0.15	J -	3.2	J	3 / 3	0.29	-	1.8		5 / 5	0.16	J -	1.4	
Total LMW PAHs	mg/kg	4 / 7	0.0044	-	2.13		3 / 3	0.16	-	1.26		5 / 5	0.0046	-	1.2	
Total HMW PAHs	mg/kg	7 / 7	0.099	-	21.82		3 / 3	1.88	-	12.69		5 / 5	1.05	-	9.4	
Pesticides																
4,4'-DDD	mg/kg	1 / 7		-	0.02	NJ	1 / 3		-	0.012	J	0 / 5		-		
4,4'-DDE	mg/kg	0 / 7		-			0 / 3		-			3 / 5	0.0028	J -	0.0092	
4,4'-DDT	mg/kg	0 / 6		-			0 / 3		-			3 / 5	0.013	-	0.35	J
Total DDx	mg/kg	1 / 7		-	0.02		1 / 3		-	0.012		4 / 5	0.003	-	0.044	
alpha-Chlordane	mg/kg	0 / 7		-			1 / 3		-	0.0047		0 / 5		-		
delta-BHC	mg/kg	0 / 7		-			0 / 3		-			3 / 5	0.0019	J -	0.0027	J
Heptachlor epoxide	mg/kg	0 / 7		-			0 / 3		-			1 / 5		-	0.0014	J
Polychlorinated Biphenyls (PCBs)																
Total PCB Aroclors	mg/kg	3 / 3	0.00261	-	0.0298		1 / 1		-	0.064		4 / 4	0.029	-	1.59	

Table B-1: Reference Area Sediment and Floodplain Soil Data
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical	Units	Ambrose Brook Sediment				Lake Nelson Sediment				Ambrose Brook Floodplain Soil			
		Detection Frequency	Range of Detected Concentrations			Detection Frequency	Range of Detected Concentrations			Detection Frequency	Range of Detected Concentrations		
Metals													
Aluminum	mg/kg	7 / 7	5030	-	8310	3 / 3	7520	-	12300	5 / 5	8190	-	13050
Antimony	mg/kg	1 / 7		-	1.2 E	2 / 3	1.5 E	-	1.6 E	5 / 5	0.99 E	-	2.15 J
Arsenic	mg/kg	7 / 7	6.6 E	-	10.1 E	3 / 3	8 E	-	10.6 E	5 / 5	7.8 E	-	13.55 J
Barium	mg/kg	7 / 7	87.6 E	-	173 J	3 / 3	124 E	-	273 E	5 / 5	142 E	-	238
Beryllium	mg/kg	7 / 7	0.79	-	1.2	3 / 3	0.72	-	1.2	5 / 5	0.87	-	1.4
Cadmium	mg/kg	1 / 7		-	1.1	2 / 3	1.8	-	3	5 / 5	0.6	-	2.2
Calcium	mg/kg	7 / 7	2190 E	-	4970 E	3 / 3	3240 E	-	5110 E	5 / 5	3335 J	-	5670 E
Chromium	mg/kg	7 / 7	19.7 E	-	32.4 E	3 / 3	27.9 E	-	49 J	5 / 5	22.7 E	-	39.8 E
Cobalt	mg/kg	7 / 7	12.1 E	-	18.7 ED	3 / 3	12.3 E	-	15.9 E	5 / 5	10 E	-	16. 8 E
Copper	mg/kg	7 / 7	10 E	-	53.5 J	3 / 3	26.9 E	-	147 E	5 / 5	30.2 E	-	315 ED
Cyanide	mg/kg	1 / 7		-	0.77 J	2 / 3	0.53 J	-	0.6 J	4 / 5	0.37 J	-	0.65 J
Iron	mg/kg	7 / 7	23600 E	-	32100 ED	3 / 3	27200 E	-	38800 ED	5 / 5	20200 E	-	29800 J
Lead	mg/kg	7 / 7	27.2 E	-	71.4 J	3 / 3	45 E	-	173 ED	5 / 5	62.7 E	-	270 ED
Magnesium	mg/kg	7 / 7	3610	-	4760	3 / 3	3920	-	5390	5 / 5	3470	-	4670
Manganese	mg/kg	7 / 7	345 ED	-	975 ED	3 / 3	428 ED	-	877 ED	5 / 5	662 ED	-	1650 ED
Mercury	mg/kg	0 / 7		-		0 / 3		-		4 / 5	0.18	-	0.26
Nickel	mg/kg	7 / 7	23.5	-	39.9 D	3 / 3	31.9	-	36.9	5 / 5	22.9	-	34.3
Potassium	mg/kg	7 / 7	832	-	1060	3 / 3	525	-	1190	5 / 5	701	-	929.5 E
Selenium	mg/kg	4 / 7	0.11 J	-	0.44 J	3 / 3	0.15 J	-	0.94 J	5 / 5	0.55	-	0.96 J
Silver	mg/kg	1 / 7		-	0.22 J	2 / 3	0.42	-	0.93	4 / 5	0.54	-	0.72
Sodium	mg/kg	7 / 7	207 J	-	554	3 / 3	220 J	-	679	5 / 5	266 J	-	660
Vanadium	mg/kg	7 / 7	25.5	-	49 D	3 / 3	34	-	47.3	5 / 5	31.1	-	51.9
Zinc	mg/kg	7 / 7	100 E	-	411 J	3 / 3	210 E	-	761 ED	5 / 5	114 E	-	376 ED

Notes

Qualifier Codes:

D = Sample dilution was performed.

E = For inorganics, Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.

J = Estimated concentration.

APPENDIX C

ProUCL Version 4.1.00 Output Files for HHRA

Surface Water

Arsenic

General Statistics (µg/L)

Number of Valid Observations	11	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	1.9	Minimum of Log Data	0.642
Maximum	4.7	Maximum of Log Data	1.548
Mean	3.541	Mean of log Data	1.242
Geometric Mean	3.462	SD of log Data	0.235
Median	3.5		
SD	0.726		
Std. Error of Mean	0.219		
Coefficient of Variation	0.205		
Skewness	-0.752		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.928	Shapiro Wilk Test Statistic	0.846
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	3.937	95% H-UCL	4.094
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.65
95% Adjusted-CLT UCL (Chen-1995)	3.848	97.5% Chebyshev (MVUE) UCL	5.126
95% Modified-t UCL (Johnson-1978)	3.929	99% Chebyshev (MVUE) UCL	6.061

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	16.24	Data appear Normal at 5% Significance Level	
Theta Star	0.218		
MLE of Mean	3.541		
MLE of Standard Deviation	0.879		
nu star	357.3		
Approximate Chi Square Value (.05)	314.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	3.901
Adjusted Chi Square Value	307.9	95% Jackknife UCL	3.937
		95% Standard Bootstrap UCL	3.893
Anderson-Darling Test Statistic	0.564	95% Bootstrap-t UCL	3.917
Anderson-Darling 5% Critical Value	0.729	95% Hall's Bootstrap UCL	3.913
Kolmogorov-Smirnov Test Statistic	0.228	95% Percentile Bootstrap UCL	3.864
Kolmogorov-Smirnov 5% Critical Value	0.255	95% BCA Bootstrap UCL	3.836
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	4.494
		97.5% Chebyshev(Mean, Sd) UCL	4.907
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.718
95% Approximate Gamma UCL (Use when n >= 40)	4.023		
95% Adjusted Gamma UCL (Use when n < 40)	4.108		

Potential UCL to Use	Use 95% Student's-t UCL	3.937

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Cyanide

General Statistics (µg/L)

Number of Valid Observations	11	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	6	Minimum of Log Data	1.792
Maximum	12.1	Maximum of Log Data	2.493
Mean	9.727	Mean of log Data	2.255
Geometric Mean	9.532	SD of log Data	0.218
Median	10.6		
SD	1.931		
Std. Error of Mean	0.582		
Coefficient of Variation	0.198		
Skewness	-0.731		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.926	Shapiro Wilk Test Statistic	0.891
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	10.78	95% H-UCL	11.11
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	12.55
95% Adjusted-CLT UCL (Chen-1995)	10.55	97.5% Chebyshev (MVUE) UCL	13.76
95% Modified-t UCL (Johnson-1978)	10.76	99% Chebyshev (MVUE) UCL	16.15

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	18.1	Data appear Normal at 5% Significance Level	
Theta Star	0.537		
MLE of Mean	9.727		
MLE of Standard Deviation	2.286		
nu star	398.2		
Approximate Chi Square Value (.05)	353	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	10.68
Adjusted Chi Square Value	346	95% Jackknife UCL	10.78
		95% Standard Bootstrap UCL	10.68
Anderson-Darling Test Statistic	0.488	95% Bootstrap-t UCL	10.68
Anderson-Darling 5% Critical Value	0.729	95% Hall's Bootstrap UCL	10.56
Kolmogorov-Smirnov Test Statistic	0.237	95% Percentile Bootstrap UCL	10.6
Kolmogorov-Smirnov 5% Critical Value	0.255	95% BCA Bootstrap UCL	10.55
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	12.26
		97.5% Chebyshev(Mean, Sd) UCL	13.36
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	15.52
95% Approximate Gamma UCL (Use when n >= 40)	10.97		
95% Adjusted Gamma UCL (Use when n < 40)	11.19		

Potential UCL to Use	Use 95% Student's-t UCL	10.78

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Manganese

General Statistics (µg/L)

Number of Valid Observations	11	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	86.1	Minimum of Log Data	4.456
Maximum	277	Maximum of Log Data	5.624
Mean	174	Mean of log Data	5.097
Geometric Mean	163.6	SD of log Data	0.374
Median	172		
SD	62.5		
Std. Error of Mean	18.85		
Coefficient of Variation	0.359		
Skewness	0.332		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.947	Shapiro Wilk Test Statistic	0.955
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	208.1	95% H-UCL	222.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	261
95% Adjusted-CLT UCL (Chen-1995)	207	97.5% Chebyshev (MVUE) UCL	298.5
95% Modified-t UCL (Johnson-1978)	208.4	99% Chebyshev (MVUE) UCL	372.2
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	6.088	Data appear Normal at 5% Significance Level	
Theta Star	28.58		
MLE of Mean	174		
MLE of Standard Deviation	70.51		
nu star	133.9		
Approximate Chi Square Value (.05)	108.2	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	205
Adjusted Chi Square Value	104.4	95% Jackknife UCL	208.1
		95% Standard Bootstrap UCL	203.4
Anderson-Darling Test Statistic	0.264	95% Bootstrap-t UCL	213.9
Anderson-Darling 5% Critical Value	0.73	95% Hall's Bootstrap UCL	209.5
Kolmogorov-Smirnov Test Statistic	0.182	95% Percentile Bootstrap UCL	204.4
Kolmogorov-Smirnov 5% Critical Value	0.256	95% BCA Bootstrap UCL	204.1
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	256.1
		97.5% Chebyshev(Mean, Sd) UCL	291.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	361.5
95% Approximate Gamma UCL (Use when n >= 40)	215.3		
95% Adjusted Gamma UCL (Use when n < 40)	223.1		
Potential UCL to Use		Use 95% Student's-t UCL	208.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Congeners

General Statistics (µg/L)

Number of Valid Observations	19	Number of Distinct Observations	19

Raw Statistics		Log-transformed Statistics	
Minimum	0.00479	Minimum of Log Data	-5.342
Maximum	0.257	Maximum of Log Data	-1.36
Mean	0.0789	Mean of log Data	-2.874
Geometric Mean	0.0565	SD of log Data	0.981
Median	0.0659		
SD	0.0592		
Std. Error of Mean	0.0136		
Coefficient of Variation	0.751		
Skewness	1.566		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.869	Shapiro Wilk Test Statistic	0.88
Shapiro Wilk Critical Value	0.901	Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.102	95% H-UCL	0.166
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.184
95% Adjusted-CLT UCL (Chen-1995)	0.106	97.5% Chebyshev (MVUE) UCL	0.226
95% Modified-t UCL (Johnson-1978)	0.103	99% Chebyshev (MVUE) UCL	0.308

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.419	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0556		
MLE of Mean	0.0789		
MLE of Standard Deviation	0.0662		
nu star	53.92		
Approximate Chi Square Value (.05)	38.05	Nonparametric Statistics	
Adjusted Level of Significance	0.0369	95% CLT UCL	0.101
Adjusted Chi Square Value	36.88	95% Jackknife UCL	0.102
		95% Standard Bootstrap UCL	0.1
Anderson-Darling Test Statistic	0.532	95% Bootstrap-t UCL	0.112
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL	0.122
Kolmogorov-Smirnov Test Statistic	0.195	95% Percentile Bootstrap UCL	0.102
Kolmogorov-Smirnov 5% Critical Value	0.202	95% BCA Bootstrap UCL	0.107
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.138
		97.5% Chebyshev(Mean, Sd) UCL	0.164
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.214
95% Approximate Gamma UCL (Use when n >= 40)	0.112		
95% Adjusted Gamma UCL (Use when n < 40)	0.115		

Potential UCL to Use	Use 95% Approximate Gamma UCL	0.112

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Sediment

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	7	Number of Distinct Observations	7

Raw Statistics		Log-transformed Statistics	
Minimum	5610	Minimum of Log Data	8.632
Maximum	11400	Maximum of Log Data	9.341
Mean	8341	Mean of log Data	8.997
Geometric Mean	8078	SD of log Data	0.279
Median	8990		
SD	2206		
Std. Error of Mean	833.7		
Coefficient of Variation	0.264		
Skewness	-0.143		

Warning: A sample size of 'n' = 7 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 7 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.923	Shapiro Wilk Test Statistic	0.898
Shapiro Wilk Critical Value	0.803	Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	9961	95% H-UCL	10736
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	12193
95% Adjusted-CLT UCL (Chen-1995)	9665	97.5% Chebyshev (MVUE) UCL	13856
95% Modified-t UCL (Johnson-1978)	9954	99% Chebyshev (MVUE) UCL	17122

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	9.079	Data appear Normal at 5% Significance Level	
Theta Star	918.8		
MLE of Mean	8341		
MLE of Standard Deviation	2768		
nu star	127.1		
Approximate Chi Square Value (.05)	102.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0158	95% CLT UCL	9713
Adjusted Chi Square Value	95.29	95% Jackknife UCL	9961
		95% Standard Bootstrap UCL	9600
Anderson-Darling Test Statistic	0.39	95% Bootstrap-t UCL	9807
Anderson-Darling 5% Critical Value	0.707	95% Hall's Bootstrap UCL	9473
Kolmogorov-Smirnov Test Statistic	0.221	95% Percentile Bootstrap UCL	9569
Kolmogorov-Smirnov 5% Critical Value	0.312	95% BCA Bootstrap UCL	9533
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	11975
		97.5% Chebyshev(Mean, Sd) UCL	13548
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	16637
95% Approximate Gamma UCL (Use when n >= 40)	10388		
95% Adjusted Gamma UCL (Use when n < 40)	11126		

Potential UCL to Use	Use 95% Student's-t UCL	9961

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Observations	7	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	1.1	Minimum of Log Data	0.0953
Maximum	2.6	Maximum of Log Data	0.956
Mean	1.729	Mean of log Data	0.507
Geometric Mean	1.661	SD of log Data	0.303
Median	1.5		
SD	0.541		
Std. Error of Mean	0.204		
Coefficient of Variation	0.313		
Skewness	0.764		

Warning: A sample size of 'n' = 7 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 7 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.91	Shapiro Wilk Test Statistic	0.944
Shapiro Wilk Critical Value	0.803	Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.126	95% H-UCL	2.289
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2.592
95% Adjusted-CLT UCL (Chen-1995)	2.128	97.5% Chebyshev (MVUE) UCL	2.966
95% Modified-t UCL (Johnson-1978)	2.136	99% Chebyshev (MVUE) UCL	3.701

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	7.303	Data appear Normal at 5% Significance Level	
Theta Star	0.237		
MLE of Mean	1.729		
MLE of Standard Deviation	0.64		
nu star	102.2		
Approximate Chi Square Value (.05)	79.91	Nonparametric Statistics	
Adjusted Level of Significance	0.0158	95% CLT UCL	2.065
Adjusted Chi Square Value	73.97	95% Jackknife UCL	2.126
		95% Standard Bootstrap UCL	2.042
Anderson-Darling Test Statistic	0.34	95% Bootstrap-t UCL	2.438
Anderson-Darling 5% Critical Value	0.708	95% Hall's Bootstrap UCL	2.557
Kolmogorov-Smirnov Test Statistic	0.226	95% Percentile Bootstrap UCL	2.057
Kolmogorov-Smirnov 5% Critical Value	0.312	95% BCA Bootstrap UCL	2.057
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.619
		97.5% Chebyshev(Mean, Sd) UCL	3.005
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.762
95% Approximate Gamma UCL (Use when n >= 40)	2.212		
95% Adjusted Gamma UCL (Use when n < 40)	2.389		

Potential UCL to Use	Use 95% Student's-t UCL	2.126

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.18	Minimum Detected	-1.715
Maximum Detected	0.74	Maximum Detected	-0.301
Mean of Detected	0.37	Mean of Detected	-1.226
SD of Detected	0.32	SD of Detected	0.801
Minimum Non-Detect	0.011	Minimum Non-Detect	-4.51
Maximum Non-Detect	0.013	Maximum Non-Detect	-4.343

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	57.14%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.763	Shapiro Wilk Test Statistic	0.779
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.162	Mean	-3.45
SD	0.268	SD	2.132
95% DL/2 (t) UCL	0.359	95% H-Stat (DL/2) UCL	157.2

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.404	Mean in Log Scale	-2.748
SD	0.262	SD in Log Scale	1.53
95% MLE (t) UCL	0.596	Mean in Original Scale	0.171
95% MLE (Tiku) UCL	0.689	SD in Original Scale	0.262
		95% t UCL	0.364
		95% Percentile Bootstrap UCL	0.331
		95% BCA Bootstrap UCL	0.4
		95% H UCL	5.56

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Lognormal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.261
5% K-S Critical Value	N/A	SD	0.195
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0905
		95% KM (t) UCL	0.437
Assuming Gamma Distribution		95% KM (z) UCL	0.41
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.413
Minimum	N/A	95% KM (bootstrap t) UCL	5
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.74
Median	N/A	95% KM (Chebyshev) UCL	0.656
SD	N/A	97.5% KM (Chebyshev) UCL	0.826
k star	N/A	99% KM (Chebyshev) UCL	1.161
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.437
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.74
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.18	Minimum Detected	-1.715
Maximum Detected	0.77	Maximum Detected	-0.261
Mean of Detected	0.38	Mean of Detected	-1.212
SD of Detected	0.338	SD of Detected	0.824
Minimum Non-Detect	0.013	Minimum Non-Detect	-4.343
Maximum Non-Detect	0.014	Maximum Non-Detect	-4.269

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	57.14%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.763	Shapiro Wilk Test Statistic	0.778
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.167	Mean	-3.387
SD	0.279	SD	2.089
95% DL/2 (t) UCL	0.372	95% H-Stat (DL/2) UCL	120.2

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.418	Mean in Log Scale	-2.796
SD	0.276	SD in Log Scale	1.635
95% MLE (t) UCL	0.62	Mean in Original Scale	0.175
95% MLE (Tiku) UCL	0.718	SD in Original Scale	0.273
		95% t UCL	0.376
		95% Percentile Bootstrap UCL	0.364
		95% BCA Bootstrap UCL	0.408
		95% H UCL	9.74

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Lognormal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.266
5% K-S Critical Value	N/A	SD	0.206
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0953
		95% KM (t) UCL	0.451
Assuming Gamma Distribution		95% KM (z) UCL	0.422
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.426
Minimum	N/A	95% KM (bootstrap t) UCL	5.526
Maximum	N/A	95% KM (BCA) UCL	0.77
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.77
Median	N/A	95% KM (Chebyshev) UCL	0.681
SD	N/A	97.5% KM (Chebyshev) UCL	0.861
k star	N/A	99% KM (Chebyshev) UCL	1.214
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.451
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.77
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.28	Minimum Detected	-1.273
Maximum Detected	1.2	Maximum Detected	0.182
Mean of Detected	0.603	Mean of Detected	-0.733
SD of Detected	0.517	SD of Detected	0.797
Minimum Non-Detect	0.016	Minimum Non-Detect	-4.135
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	57.14%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.791	Shapiro Wilk Test Statistic	0.833
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.263	Mean	-3.039
SD	0.436	SD	2.206
95% DL/2 (t) UCL	0.584	95% H-Stat (DL/2) UCL	427.2

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.657	Mean in Log Scale	-2.288
SD	0.422	SD in Log Scale	1.559
95% MLE (t) UCL	0.967	Mean in Original Scale	0.278
95% MLE (Tiku) UCL	1.118	SD in Original Scale	0.427
		95% t UCL	0.591
		95% Percentile Bootstrap UCL	0.564
		95% BCA Bootstrap UCL	0.656
		95% H UCL	10.4

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.419
5% K-S Critical Value	N/A	SD	0.319
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.148
		95% KM (t) UCL	0.706
Assuming Gamma Distribution		95% KM (z) UCL	0.662
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.659
Minimum	N/A	95% KM (bootstrap t) UCL	2.964
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	1.2
Median	N/A	95% KM (Chebyshev) UCL	1.063
SD	N/A	97.5% KM (Chebyshev) UCL	1.342
k star	N/A	99% KM (Chebyshev) UCL	1.89
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.706
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	1.2
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	7	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	5	Minimum of Log Data	1.609
Maximum	9.2	Maximum of Log Data	2.219
Mean	6.443	Mean of log Data	1.839
Geometric Mean	6.292	SD of log Data	0.229
Median	5.7		
SD	1.597		
Std. Error of Mean	0.604		
Coefficient of Variation	0.248		
Skewness	1.216		

Warning: A sample size of 'n' = 7 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 7 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.804	Shapiro Wilk Test Statistic	0.835
Shapiro Wilk Critical Value	0.803	Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	7.616	95% H-UCL	7.822
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8.869
95% Adjusted-CLT UCL (Chen-1995)	7.732	97.5% Chebyshev (MVUE) UCL	9.922
95% Modified-t UCL (Johnson-1978)	7.662	99% Chebyshev (MVUE) UCL	11.99

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	12.22	Data appear Normal at 5% Significance Level	
Theta Star	0.527		
MLE of Mean	6.443		
MLE of Standard Deviation	1.843		
nu star	171		
Approximate Chi Square Value (.05)	141.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0158	95% CLT UCL	7.436
Adjusted Chi Square Value	133.7	95% Jackknife UCL	7.616
		95% Standard Bootstrap UCL	7.367
Anderson-Darling Test Statistic	0.718	95% Bootstrap-t UCL	10.82
Anderson-Darling 5% Critical Value	0.707	95% Hall's Bootstrap UCL	16.1
Kolmogorov-Smirnov Test Statistic	0.313	95% Percentile Bootstrap UCL	7.429
Kolmogorov-Smirnov 5% Critical Value	0.311	95% BCA Bootstrap UCL	7.557
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9.073
		97.5% Chebyshev(Mean, Sd) UCL	10.21
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	12.45
95% Approximate Gamma UCL (Use when n >= 40)	7.772		
95% Adjusted Gamma UCL (Use when n < 40)	8.24		

Potential UCL to Use	Use 95% Student's-t UCL	7.616

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.12	Minimum Detected	-2.12
Maximum Detected	0.44	Maximum Detected	-0.821
Mean of Detected	0.23	Mean of Detected	-1.66
SD of Detected	0.182	SD of Detected	0.728
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.016	Maximum Non-Detect	-4.135

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	57.14%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.773	Shapiro Wilk Test Statistic	0.796
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.103	Mean	-3.518
SD	0.159	SD	1.788
95% DL/2 (t) UCL	0.219	95% H-Stat (DL/2) UCL	12.42

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.247	Mean in Log Scale	-3.056
SD	0.149	SD in Log Scale	1.401
95% MLE (t) UCL	0.357	Mean in Original Scale	0.109
95% MLE (Tiku) UCL	0.41	SD in Original Scale	0.155
		95% t UCL	0.222
		95% Percentile Bootstrap UCL	0.214
		95% BCA Bootstrap UCL	0.245
		95% H UCL	2.051

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.167
5% K-S Critical Value	N/A	SD	0.111
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0516
		95% KM (t) UCL	0.267
Assuming Gamma Distribution		95% KM (z) UCL	0.252
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.252
Minimum	N/A	95% KM (bootstrap t) UCL	1.711
Maximum	N/A	95% KM (BCA) UCL	0.44
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.44
Median	N/A	95% KM (Chebyshev) UCL	0.392
SD	N/A	97.5% KM (Chebyshev) UCL	0.489
k star	N/A	99% KM (Chebyshev) UCL	0.68
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.267
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	0.44
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	7	Number of Distinct Observations	7

Raw Statistics		Log-transformed Statistics	
Minimum	11900	Minimum of Log Data	9.384
Maximum	25000	Maximum of Log Data	10.13
Mean	15743	Mean of log Data	9.635
Geometric Mean	15290	SD of log Data	0.251
Median	15300		
SD	4457		
Std. Error of Mean	1685		
Coefficient of Variation	0.283		
Skewness	1.808		

Warning: A sample size of 'n' = 7 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 7 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.806	Shapiro Wilk Test Statistic	0.877
Shapiro Wilk Critical Value	0.803	Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	19016	95% H-UCL	19547
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	22209
95% Adjusted-CLT UCL (Chen-1995)	19744	97.5% Chebyshev (MVUE) UCL	25022
95% Modified-t UCL (Johnson-1978)	19208	99% Chebyshev (MVUE) UCL	30549

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	9.987	Data appear Normal at 5% Significance Level	
Theta Star	1576		
MLE of Mean	15743		
MLE of Standard Deviation	4982		
nu star	139.8		
Approximate Chi Square Value (.05)	113.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0158	95% CLT UCL	18514
Adjusted Chi Square Value	106.3	95% Jackknife UCL	19016
		95% Standard Bootstrap UCL	18262
Anderson-Darling Test Statistic	0.502	95% Bootstrap-t UCL	21390
Anderson-Darling 5% Critical Value	0.707	95% Hall's Bootstrap UCL	30412
Kolmogorov-Smirnov Test Statistic	0.219	95% Percentile Bootstrap UCL	18457
Kolmogorov-Smirnov 5% Critical Value	0.312	95% BCA Bootstrap UCL	19386
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	23086
		97.5% Chebyshev(Mean, Sd) UCL	26263
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	32505
95% Approximate Gamma UCL (Use when n >= 40)	19394		
95% Adjusted Gamma UCL (Use when n < 40)	20701		

Potential UCL to Use	Use 95% Student's-t UCL	19016

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	7	Number of Distinct Observations	7

Raw Statistics		Log-transformed Statistics	
Minimum	73	Minimum of Log Data	4.29
Maximum	299	Maximum of Log Data	5.7
Mean	170.7	Mean of log Data	5.027
Geometric Mean	152.4	SD of log Data	0.51
Median	132		
SD	89.81		
Std. Error of Mean	33.95		
Coefficient of Variation	0.526		
Skewness	0.915		

Warning: A sample size of 'n' = 7 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 7 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.812	Shapiro Wilk Test Statistic	0.896
Shapiro Wilk Critical Value	0.803	Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	236.7	95% H-UCL	291.2
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	313.8
95% Adjusted-CLT UCL (Chen-1995)	239.1	97.5% Chebyshev (MVUE) UCL	376
95% Modified-t UCL (Johnson-1978)	238.6	99% Chebyshev (MVUE) UCL	498.1

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.711	Data appear Normal at 5% Significance Level	
Theta Star	62.97		
MLE of Mean	170.7		
MLE of Standard Deviation	103.7		
nu star	37.95		
Approximate Chi Square Value (.05)	24.85	Nonparametric Statistics	
Adjusted Level of Significance	0.0158	95% CLT UCL	226.6
Adjusted Chi Square Value	21.7	95% Jackknife UCL	236.7
		95% Standard Bootstrap UCL	221.1
Anderson-Darling Test Statistic	0.552	95% Bootstrap-t UCL	344.3
Anderson-Darling 5% Critical Value	0.71	95% Hall's Bootstrap UCL	810.1
Kolmogorov-Smirnov Test Statistic	0.248	95% Percentile Bootstrap UCL	225.1
Kolmogorov-Smirnov 5% Critical Value	0.313	95% BCA Bootstrap UCL	228.6
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	318.7
		97.5% Chebyshev(Mean, Sd) UCL	382.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	508.5
95% Approximate Gamma UCL (Use when n >= 40)	260.8		
95% Adjusted Gamma UCL (Use when n < 40)	298.6		

Potential UCL to Use	Use 95% Student's-t UCL	236.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.17	Minimum Detected	-1.772
Maximum Detected	0.72	Maximum Detected	-0.329
Mean of Detected	0.36	Mean of Detected	-1.254
SD of Detected	0.312	SD of Detected	0.803
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.016	Maximum Non-Detect	-4.135

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	57.14%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.777	Shapiro Wilk Test Statistic	0.807
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.159	Mean	-3.344
SD	0.261	SD	2.01
95% DL/2 (t) UCL	0.35	95% H-Stat (DL/2) UCL	69.2

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.394	Mean in Log Scale	-2.802
SD	0.255	SD in Log Scale	1.554
95% MLE (t) UCL	0.581	Mean in Original Scale	0.166
95% MLE (Tiku) UCL	0.671	SD in Original Scale	0.256
		95% t UCL	0.354
		95% Percentile Bootstrap UCL	0.34
		95% BCA Bootstrap UCL	0.443
		95% H UCL	6.036

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.251
5% K-S Critical Value	N/A	SD	0.191
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0886
		95% KM (t) UCL	0.424
Assuming Gamma Distribution		95% KM (z) UCL	0.397
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.397
Minimum	N/A	95% KM (bootstrap t) UCL	2.531
Maximum	N/A	95% KM (BCA) UCL	0.72
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.72
Median	N/A	95% KM (Chebyshev) UCL	0.638
SD	N/A	97.5% KM (Chebyshev) UCL	0.805
k star	N/A	99% KM (Chebyshev) UCL	1.133
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.424
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	0.72
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	7	Number of Distinct Observations	7

Raw Statistics		Log-transformed Statistics	
Minimum	11.6	Minimum of Log Data	2.451
Maximum	54.4	Maximum of Log Data	3.996
Mean	20.46	Mean of log Data	2.863
Geometric Mean	17.51	SD of log Data	0.54
Median	17.1		
SD	15.26		
Std. Error of Mean	5.77		
Coefficient of Variation	0.746		
Skewness	2.435		

Warning: A sample size of 'n' = 7 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 7 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.624	Shapiro Wilk Test Statistic	0.764
Shapiro Wilk Critical Value	0.803	Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	31.67	95% H-UCL	35.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	37.51
95% Adjusted-CLT UCL (Chen-1995)	35.62	97.5% Chebyshev (MVUE) UCL	45.17
95% Modified-t UCL (Johnson-1978)	32.55	99% Chebyshev (MVUE) UCL	60.22

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.022	Data do not follow a Discernable Distribution (0.05)	
Theta Star	10.12		
MLE of Mean	20.46		
MLE of Standard Deviation	14.38		
nu star	28.31		
Approximate Chi Square Value (.05)	17.17	Nonparametric Statistics	
Adjusted Level of Significance	0.0158	95% CLT UCL	29.95
Adjusted Chi Square Value	14.62	95% Jackknife UCL	31.67
		95% Standard Bootstrap UCL	29.51
Anderson-Darling Test Statistic	0.955	95% Bootstrap-t UCL	61.19
Anderson-Darling 5% Critical Value	0.711	95% Hall's Bootstrap UCL	72.49
Kolmogorov-Smirnov Test Statistic	0.341	95% Percentile Bootstrap UCL	31.29
Kolmogorov-Smirnov 5% Critical Value	0.313	95% BCA Bootstrap UCL	33.07
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	45.61
		97.5% Chebyshev(Mean, Sd) UCL	56.49
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	77.86
95% Approximate Gamma UCL (Use when n >= 40)	33.73		
95% Adjusted Gamma UCL (Use when n < 40)	39.63		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	45.61

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	4270	Minimum of Log Data	8.359
Maximum	11900	Maximum of Log Data	9.384
Mean	7697	Mean of log Data	8.909
Geometric Mean	7396	SD of log Data	0.293
Median	7785		
SD	2159		
Std. Error of Mean	440.8		
Coefficient of Variation	0.281		
Skewness	0.127		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.958	Shapiro Wilk Test Statistic	0.952
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	8452	95% H-UCL	8631
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9747
95% Adjusted-CLT UCL (Chen-1995)	8434	97.5% Chebyshev (MVUE) UCL	10629
95% Modified-t UCL (Johnson-1978)	8454	99% Chebyshev (MVUE) UCL	12363

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	11.15	Data appear Normal at 5% Significance Level	
Theta Star	690.3		
MLE of Mean	7697		
MLE of Standard Deviation	2305		
nu star	535.2		
Approximate Chi Square Value (.05)	482.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	8422
Adjusted Chi Square Value	479	95% Jackknife UCL	8452
		95% Standard Bootstrap UCL	8401
Anderson-Darling Test Statistic	0.432	95% Bootstrap-t UCL	8457
Anderson-Darling 5% Critical Value	0.744	95% Hall's Bootstrap UCL	8441
Kolmogorov-Smirnov Test Statistic	0.146	95% Percentile Bootstrap UCL	8388
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	8408
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9618
		97.5% Chebyshev(Mean, Sd) UCL	10449
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	12082
95% Approximate Gamma UCL (Use when n >= 40)	8536		
95% Adjusted Gamma UCL (Use when n < 40)	8599		

Potential UCL to Use	Use 95% Student's-t UCL	8452

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	23
Number of Distinct Detected Data	16	Number of Non-Detect Data	1
		Percent Non-Detects	4.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.53	Minimum Detected	-0.635
Maximum Detected	4.1	Maximum Detected	1.411
Mean of Detected	1.902	Mean of Detected	0.527
SD of Detected	0.951	SD of Detected	0.501
Minimum Non-Detect	0.11	Minimum Non-Detect	-2.207
Maximum Non-Detect	0.11	Maximum Non-Detect	-2.207

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.897	Shapiro Wilk Test Statistic	0.966
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.825	Mean	0.384
SD	1.003	SD	0.854
95% DL/2 (t) UCL	2.176	95% H-Stat (DL/2) UCL	3.216

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.81	Mean in Log Scale	0.476
SD	1.015	SD in Log Scale	0.55
95% MLE (t) UCL	2.165	Mean in Original Scale	1.844
95% MLE (Tiku) UCL	2.165	SD in Original Scale	0.973
		95% t UCL	2.184
		95% Percentile Bootstrap UCL	2.185
		95% BCA Bootstrap UCL	2.209
		95% H UCL	2.362

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	3.911	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.486	
nu star	179.9	

		Nonparametric Statistics	
A-D Test Statistic	0.443		
5% A-D Critical Value	0.748	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.748	Mean	1.845
5% K-S Critical Value	0.182	SD	0.951
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.198
		95% KM (t) UCL	2.185
Assuming Gamma Distribution		95% KM (z) UCL	2.171
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.181
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.221
Maximum	4.1	95% KM (BCA) UCL	2.184
Mean	1.823	95% KM (Percentile Bootstrap) UCL	2.177
Median	1.6	95% KM (Chebyshev) UCL	2.71
SD	1.008	97.5% KM (Chebyshev) UCL	3.084
k star	0.793	99% KM (Chebyshev) UCL	3.819
Theta star	2.3		
Nu star	38.05	Potential UCLs to Use	
AppChi2	24.92	95% KM (BCA) UCL	2.184
95% Gamma Approximate UCL (Use when n >= 40)	2.783		
95% Adjusted Gamma UCL (Use when n < 40)	2.869		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	15
		Percent Non-Detects	62.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.13	Minimum Detected	-2.04
Maximum Detected	1.7	Maximum Detected	0.531
Mean of Detected	0.65	Mean of Detected	-0.817
SD of Detected	0.556	SD of Detected	0.975
Minimum Non-Detect	0.011	Minimum Non-Detect	-4.51
Maximum Non-Detect	0.014	Maximum Non-Detect	-4.269

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	9
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	62.50%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.873	Shapiro Wilk Test Statistic	0.887
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.248	Mean	-3.502
SD	0.457	SD	2.202
95% DL/2 (t) UCL	0.407	95% H-Stat (DL/2) UCL	2.6

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.768
		SD in Log Scale	1.805
		Mean in Original Scale	0.261
		SD in Original Scale	0.45
		95% t UCL	0.419
		95% Percentile Bootstrap UCL	0.422
		95% BCA Bootstrap UCL	0.464
		95% H-UCL	1.322

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.033	Data appear Normal at 5% Significance Level
Theta Star	0.629	
nu star	18.59	

A-D Test Statistic	0.5	Nonparametric Statistics	
5% A-D Critical Value	0.735	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.735	Mean	0.325
5% K-S Critical Value	0.284	SD	0.408
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0883
		95% KM (t) UCL	0.476
Assuming Gamma Distribution		95% KM (z) UCL	0.47
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.454
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.549
Maximum	1.7	95% KM (BCA) UCL	0.598
Mean	0.244	95% KM (Percentile Bootstrap) UCL	0.5
Median	1.00E-06	95% KM (Chebyshev) UCL	0.71
SD	0.459	97.5% KM (Chebyshev) UCL	0.877
k star	0.121	99% KM (Chebyshev) UCL	1.204
Theta star	2.009		
Nu star	5.825	Potential UCLs to Use	
AppChi2	1.551	95% KM (t) UCL	0.476
95% Gamma Approximate UCL (Use when n >= 40)	0.915	95% KM (Percentile Bootstrap) UCL	0.5
95% Adjusted Gamma UCL (Use when n < 40)	1.013		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	15
		Percent Non-Detects	62.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.11	Minimum Detected	-2.207
Maximum Detected	1.5	Maximum Detected	0.405
Mean of Detected	0.6	Mean of Detected	-0.881
SD of Detected	0.501	SD of Detected	0.959
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	0.016	Maximum Non-Detect	-4.135

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	9
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	62.50%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.873	Shapiro Wilk Test Statistic	0.902
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.229	Mean	-3.46
SD	0.416	SD	2.118
95% DL/2 (t) UCL	0.375	95% H-Stat (DL/2) UCL	1.968

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.803
		SD in Log Scale	1.792
		Mean in Original Scale	0.242
		SD in Original Scale	0.409
		95% t UCL	0.386
		95% Percentile Bootstrap UCL	0.385
		95% BCA Bootstrap UCL	0.411
		95% H-UCL	1.222

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.07	Data appear Normal at 5% Significance Level
Theta Star	0.561	
nu star	19.26	

		Nonparametric Statistics	
A-D Test Statistic	0.471		
5% A-D Critical Value	0.734	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.734	Mean	0.294
5% K-S Critical Value	0.284	SD	0.374
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0809
		95% KM (t) UCL	0.432
Assuming Gamma Distribution		95% KM (z) UCL	0.427
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.41
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.496
Maximum	1.5	95% KM (BCA) UCL	0.525
Mean	0.225	95% KM (Percentile Bootstrap) UCL	0.463
Median	1.00E-06	95% KM (Chebyshev) UCL	0.647
SD	0.419	97.5% KM (Chebyshev) UCL	0.799
k star	0.122	99% KM (Chebyshev) UCL	1.099
Theta star	1.845		
Nu star	5.855	Potential UCLs to Use	
AppChi2	1.566	95% KM (t) UCL	0.432
95% Gamma Approximate UCL (Use when n >= 40)	0.841	95% KM (Percentile Bootstrap) UCL	0.463
95% Adjusted Gamma UCL (Use when n < 40)	0.93		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	15
		Percent Non-Detects	62.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.16	Minimum Detected	-1.833
Maximum Detected	2.1	Maximum Detected	0.742
Mean of Detected	0.897	Mean of Detected	-0.464
SD of Detected	0.729	SD of Detected	0.941
Minimum Non-Detect	0.016	Minimum Non-Detect	-4.135
Maximum Non-Detect	0.02	Maximum Non-Detect	-3.912

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	9
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	62.50%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.872	Shapiro Wilk Test Statistic	0.918
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.342	Mean	-3.153
SD	0.615	SD	2.199
95% DL/2 (t) UCL	0.557	95% H-Stat (DL/2) UCL	3.65

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.346
		SD in Log Scale	1.74
		Mean in Original Scale	0.363
		SD in Original Scale	0.603
		95% t UCL	0.574
		95% Percentile Bootstrap UCL	0.578
		95% BCA Bootstrap UCL	0.622
		95% H-UCL	1.642

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.11	Data appear Normal at 5% Significance Level
Theta Star	0.808	
nu star	19.98	

		Nonparametric Statistics	
A-D Test Statistic	0.404		
5% A-D Critical Value	0.734	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.734	Mean	0.436
5% K-S Critical Value	0.284	SD	0.552
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.119
		95% KM (t) UCL	0.641
Assuming Gamma Distribution		95% KM (z) UCL	0.633
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.608
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.737
Maximum	2.1	95% KM (BCA) UCL	0.76
Mean	0.336	95% KM (Percentile Bootstrap) UCL	0.684
Median	1.00E-06	95% KM (Chebyshev) UCL	0.957
SD	0.618	97.5% KM (Chebyshev) UCL	1.182
k star	0.119	99% KM (Chebyshev) UCL	1.625
Theta star	2.818		
Nu star	5.727	Potential UCLs to Use	
AppChi2	1.502	95% KM (t) UCL	0.641
95% Gamma Approximate UCL (Use when n >= 40)	1.282	95% KM (Percentile Bootstrap) UCL	0.684
95% Adjusted Gamma UCL (Use when n < 40)	1.42		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	19

Raw Statistics		Log-transformed Statistics	
Minimum	3.7	Minimum of Log Data	1.308
Maximum	9.2	Maximum of Log Data	2.219
Mean	5.833	Mean of log Data	1.74
Geometric Mean	5.699	SD of log Data	0.217
Median	5.5		
SD	1.341		
Std. Error of Mean	0.274		
Coefficient of Variation	0.23		
Skewness	1.095		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.893	Shapiro Wilk Test Statistic	0.943
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	6.302	95% H-UCL	6.323
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	6.964
95% Adjusted-CLT UCL (Chen-1995)	6.349	97.5% Chebyshev (MVUE) UCL	7.455
95% Modified-t UCL (Johnson-1978)	6.313	99% Chebyshev (MVUE) UCL	8.419

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	18.95	Data appear Lognormal at 5% Significance Level	
Theta Star	0.308		
MLE of Mean	5.833		
MLE of Standard Deviation	1.34		
nu star	909.6		
Approximate Chi Square Value (.05)	840.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	6.284
Adjusted Chi Square Value	836	95% Jackknife UCL	6.302
		95% Standard Bootstrap UCL	6.275
Anderson-Darling Test Statistic	0.808	95% Bootstrap-t UCL	6.4
Anderson-Darling 5% Critical Value	0.742	95% Hall's Bootstrap UCL	6.374
Kolmogorov-Smirnov Test Statistic	0.19	95% Percentile Bootstrap UCL	6.317
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	6.338
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	7.026
		97.5% Chebyshev(Mean, Sd) UCL	7.543
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	8.557
95% Approximate Gamma UCL (Use when n >= 40)	6.312		
95% Adjusted Gamma UCL (Use when n < 40)	6.347		

Potential UCL to Use		
	Use 95% Student's-t UCL	6.302
	or 95% Modified-t UCL	6.313
	or 95% H-UCL	6.323

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	16
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.11	Minimum Detected	-2.207
Maximum Detected	0.87	Maximum Detected	-0.139
Mean of Detected	0.386	Mean of Detected	-1.217
SD of Detected	0.28	SD of Detected	0.813
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	8
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	66.67%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.894	Shapiro Wilk Test Statistic	0.894
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.134	Mean	-3.686
SD	0.239	SD	1.839
95% DL/2 (t) UCL	0.217	95% H-Stat (DL/2) UCL	0.589

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.073
		SD in Log Scale	1.596
		Mean in Original Scale	0.146
		SD in Original Scale	0.233
		95% t UCL	0.227
		95% Percentile Bootstrap UCL	0.227
		95% BCA Bootstrap UCL	0.243
		95% H-UCL	0.516

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.353	Data appear Normal at 5% Significance Level
Theta Star	0.286	
nu star	21.64	

		Nonparametric Statistics	
A-D Test Statistic	0.393		
5% A-D Critical Value	0.724	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.724	Mean	0.202
5% K-S Critical Value	0.297	SD	0.2
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0436
		95% KM (t) UCL	0.277
Assuming Gamma Distribution		95% KM (z) UCL	0.274
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.269
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.303
Maximum	0.87	95% KM (BCA) UCL	0.377
Mean	0.129	95% KM (Percentile Bootstrap) UCL	0.318
Median	1.00E-06	95% KM (Chebyshev) UCL	0.392
SD	0.242	97.5% KM (Chebyshev) UCL	0.474
k star	0.121	99% KM (Chebyshev) UCL	0.635
Theta star	1.065		
Nu star	5.805	Potential UCLs to Use	
AppChi2	1.541	95% KM (t) UCL	0.277
95% Gamma Approximate UCL (Use when n >= 40)	0.485	95% KM (Percentile Bootstrap) UCL	0.318
95% Adjusted Gamma UCL (Use when n < 40)	0.537		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	7890	Minimum of Log Data	8.973
Maximum	27000	Maximum of Log Data	10.2
Mean	14299	Mean of log Data	9.525
Geometric Mean	13694	SD of log Data	0.294
Median	13250		
SD	4559		
Std. Error of Mean	930.7		
Coefficient of Variation	0.319		
Skewness	1.345		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.889	Shapiro Wilk Test Statistic	0.97
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	15894	95% H-UCL	15991
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	18063
95% Adjusted-CLT UCL (Chen-1995)	16103	97.5% Chebyshev (MVUE) UCL	19703
95% Modified-t UCL (Johnson-1978)	15937	99% Chebyshev (MVUE) UCL	22924

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	10.29	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1389		
MLE of Mean	14299		
MLE of Standard Deviation	4457		
nu star	494.2		
Approximate Chi Square Value (.05)	443.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	15830
Adjusted Chi Square Value	440.2	95% Jackknife UCL	15894
		95% Standard Bootstrap UCL	15803
Anderson-Darling Test Statistic	0.369	95% Bootstrap-t UCL	16291
Anderson-Darling 5% Critical Value	0.744	95% Hall's Bootstrap UCL	16572
Kolmogorov-Smirnov Test Statistic	0.0957	95% Percentile Bootstrap UCL	15916
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	16029
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	18356
		97.5% Chebyshev(Mean, Sd) UCL	20111
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23559
95% Approximate Gamma UCL (Use when n >= 40)	15929		
95% Adjusted Gamma UCL (Use when n < 40)	16050		

Potential UCL to Use	Use 95% Approximate Gamma UCL	15929

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	47.8	Minimum of Log Data	3.867
Maximum	299	Maximum of Log Data	5.7
Mean	132.6	Mean of log Data	4.75
Geometric Mean	115.6	SD of log Data	0.522
Median	112		
SD	76.19		
Std. Error of Mean	15.55		
Coefficient of Variation	0.575		
Skewness	1.254		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.823	Shapiro Wilk Test Statistic	0.942
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	159.2	95% H-UCL	164.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	195.4
95% Adjusted-CLT UCL (Chen-1995)	162.4	97.5% Chebyshev (MVUE) UCL	223
95% Modified-t UCL (Johnson-1978)	159.9	99% Chebyshev (MVUE) UCL	277.3

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.353	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	39.53		
MLE of Mean	132.6		
MLE of Standard Deviation	72.39		
nu star	161		
Approximate Chi Square Value (.05)	132.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	158.1
Adjusted Chi Square Value	130.8	95% Jackknife UCL	159.2
		95% Standard Bootstrap UCL	157.3
Anderson-Darling Test Statistic	0.815	95% Bootstrap-t UCL	166
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	160.7
Kolmogorov-Smirnov Test Statistic	0.155	95% Percentile Bootstrap UCL	157.7
Kolmogorov-Smirnov 5% Critical Value	0.179	95% BCA Bootstrap UCL	161.9
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	200.4
		97.5% Chebyshev(Mean, Sd) UCL	229.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	287.3
95% Approximate Gamma UCL (Use when n >= 40)	160.9		
95% Adjusted Gamma UCL (Use when n < 40)	163.1		

Potential UCL to Use	Use 95% Approximate Gamma UCL	160.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	15
		Percent Non-Detects	62.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.17	Minimum Detected	-1.772
Maximum Detected	3	Maximum Detected	1.099
Mean of Detected	0.971	Mean of Detected	-0.588
SD of Detected	1.027	SD of Detected	1.157
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	62.50%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.809	Shapiro Wilk Test Statistic	0.861
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.369	Mean	-3.296
SD	0.771	SD	2.25
95% DL/2 (t) UCL	0.638	95% H-Stat (DL/2) UCL	3.861

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.935
		SD in Log Scale	2.185
		Mean in Original Scale	0.378
		SD in Original Scale	0.767
		95% t UCL	0.646
		95% Percentile Bootstrap UCL	0.665
		95% BCA Bootstrap UCL	0.733
		95% H-UCL	4.305

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.761	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.277	
nu star	13.69	

		Nonparametric Statistics	
A-D Test Statistic	0.575		
5% A-D Critical Value	0.743	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.743	Mean	0.47
5% K-S Critical Value	0.287	SD	0.709
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.153
		95% KM (t) UCL	0.733
Assuming Gamma Distribution		95% KM (z) UCL	0.723
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.724
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.992
Maximum	3	95% KM (BCA) UCL	0.799
Mean	0.364	95% KM (Percentile Bootstrap) UCL	0.743
Median	1.00E-06	95% KM (Chebyshev) UCL	1.139
SD	0.773	97.5% KM (Chebyshev) UCL	1.429
k star	0.118	99% KM (Chebyshev) UCL	1.997
Theta star	3.086		
Nu star	5.664	Potential UCLs to Use	
AppChi2	1.471	95% KM (t) UCL	0.733
95% Gamma Approximate UCL (Use when n >= 40)	1.402		
95% Adjusted Gamma UCL (Use when n < 40)	1.554		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	9.4	Minimum of Log Data	2.241
Maximum	54.4	Maximum of Log Data	3.996
Mean	19.23	Mean of log Data	2.868
Geometric Mean	17.61	SD of log Data	0.405
Median	17.25		
SD	9.592		
Std. Error of Mean	1.958		
Coefficient of Variation	0.499		
Skewness	2.346		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.777	Shapiro Wilk Test Statistic	0.948
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	22.58	95% H-UCL	22.45
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	26.1
95% Adjusted-CLT UCL (Chen-1995)	23.45	97.5% Chebyshev (MVUE) UCL	29.15
95% Modified-t UCL (Johnson-1978)	22.74	99% Chebyshev (MVUE) UCL	35.15

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.145	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.738		
MLE of Mean	19.23		
MLE of Standard Deviation	8.478		
nu star	246.9		
Approximate Chi Square Value (.05)	211.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	22.45
Adjusted Chi Square Value	209.3	95% Jackknife UCL	22.58
		95% Standard Bootstrap UCL	22.41
Anderson-Darling Test Statistic	0.615	95% Bootstrap-t UCL	24.59
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL	33.37
Kolmogorov-Smirnov Test Statistic	0.165	95% Percentile Bootstrap UCL	22.73
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	23.46
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	27.76
		97.5% Chebyshev(Mean, Sd) UCL	31.46
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	38.71
95% Approximate Gamma UCL (Use when n >= 40)	22.45		
95% Adjusted Gamma UCL (Use when n < 40)	22.69		

Potential UCL to Use	Use 95% Approximate Gamma UCL	22.45

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	18
Number of Distinct Detected Data	18	Number of Non-Detect Data	7
		Percent Non-Detects	28.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	9.20E-04	Minimum Detected	-6.991
Maximum Detected	3.1	Maximum Detected	1.131
Mean of Detected	0.242	Mean of Detected	-4.36
SD of Detected	0.73	SD of Detected	2.376
Minimum Non-Detect	7.40E-04	Minimum Non-Detect	-7.209
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	96.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.375	Shapiro Wilk Test Statistic	0.873
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.407	Mean	-3.501
SD	0.725	SD	2.866
95% DL/2 (t) UCL	0.655	95% H-Stat (DL/2) UCL	43.59

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.703
		SD in Log Scale	2.269
		Mean in Original Scale	0.176
		SD in Original Scale	0.624
		95% t UCL	0.39
		95% Percentile Bootstrap UCL	0.413
		95% BCA Bootstrap UCL	0.583
		95% H-UCL	0.921

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.239	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.013		
nu star	8.609		

A-D Test Statistic	2.222	Nonparametric Statistics	
5% A-D Critical Value	0.866	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.866	Mean	0.19
5% K-S Critical Value	0.223	SD	0.612
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.127
		95% KM (t) UCL	0.407
Assuming Gamma Distribution		95% KM (z) UCL	0.399
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.406
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.125
Maximum	3.1	95% KM (BCA) UCL	0.403
Mean	0.174	95% KM (Percentile Bootstrap) UCL	0.425
Median	0.0027	95% KM (Chebyshev) UCL	0.743
SD	0.624	97.5% KM (Chebyshev) UCL	0.983
k star	0.156	99% KM (Chebyshev) UCL	1.453
Theta star	1.121		
Nu star	7.782	Potential UCLs to Use	
AppChi2	2.609	99% KM (Chebyshev) UCL	1.453
95% Gamma Approximate UCL (Use when n >= 40)	0.52		
95% Adjusted Gamma UCL (Use when n < 40)	0.564		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	25	Number of Distinct Observations	25

Raw Statistics		Log-transformed Statistics	
Minimum	3090	Minimum of Log Data	8.036
Maximum	72500	Maximum of Log Data	11.19
Mean	10455	Mean of log Data	8.923
Geometric Mean	7504	SD of log Data	0.698
Median	6510		
SD	13722		
Std. Error of Mean	2744		
Coefficient of Variation	1.312		
Skewness	4.164		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.473	Shapiro Wilk Test Statistic	0.875
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	15150	95% H-UCL	12990
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	15649
95% Adjusted-CLT UCL (Chen-1995)	17411	97.5% Chebyshev (MVUE) UCL	18326
95% Modified-t UCL (Johnson-1978)	15531	99% Chebyshev (MVUE) UCL	23585

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.483	Data do not follow a Discernable Distribution (0.05)	
Theta Star	7050		
MLE of Mean	10455		
MLE of Standard Deviation	8586		
nu star	74.15		
Approximate Chi Square Value (.05)	55.32	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	14969
Adjusted Chi Square Value	54.21	95% Jackknife UCL	15150
		95% Standard Bootstrap UCL	14930
Anderson-Darling Test Statistic	1.881	95% Bootstrap-t UCL	23217
Anderson-Darling 5% Critical Value	0.76	95% Hall's Bootstrap UCL	30570
Kolmogorov-Smirnov Test Statistic	0.222	95% Percentile Bootstrap UCL	15306
Kolmogorov-Smirnov 5% Critical Value	0.177	95% BCA Bootstrap UCL	18959
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	22417
		97.5% Chebyshev(Mean, Sd) UCL	27594
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	37761
95% Approximate Gamma UCL (Use when n >= 40)	14014		
95% Adjusted Gamma UCL (Use when n < 40)	14301		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	22417

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	18	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.62	Minimum Detected	-0.478
Maximum Detected	23	Maximum Detected	3.135
Mean of Detected	3.895	Mean of Detected	0.877
SD of Detected	5.18	SD of Detected	0.902
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.599	Shapiro Wilk Test Statistic	0.925
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.739	Mean	0.594
SD	5.131	SD	1.671
95% DL/2 (t) UCL	5.495	95% H-Stat (DL/2) UCL	23.76

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.617	Mean in Log Scale	0.789
SD	5.177	SD in Log Scale	0.987
95% MLE (t) UCL	5.388	Mean in Original Scale	3.75
95% MLE (Tiku) UCL	5.259	SD in Original Scale	5.123
		95% t UCL	5.503
		95% Percentile Bootstrap UCL	5.542
		95% BCA Bootstrap UCL	6.122
		95% H UCL	5.904

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.056	Data appear Lognormal at 5% Significance Level
Theta Star	3.689	
nu star	50.68	

		Nonparametric Statistics	
A-D Test Statistic	1.564		
5% A-D Critical Value	0.768	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.768	Mean	3.764
5% K-S Critical Value	0.182	SD	5.01
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.024
		95% KM (t) UCL	5.515
Assuming Gamma Distribution		95% KM (z) UCL	5.448
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.508
Minimum	1.00E-06	95% KM (bootstrap t) UCL	8.111
Maximum	23	95% KM (BCA) UCL	5.706
Mean	3.739	95% KM (Percentile Bootstrap) UCL	5.599
Median	1.7	95% KM (Chebyshev) UCL	8.226
SD	5.131	97.5% KM (Chebyshev) UCL	10.16
k star	0.555	99% KM (Chebyshev) UCL	13.95
Theta star	6.739		
Nu star	27.74	Potential UCLs to Use	
AppChi2	16.73	95% KM (Chebyshev) UCL	8.226
95% Gamma Approximate UCL (Use when n >= 40)	6.201		
95% Adjusted Gamma UCL (Use when n < 40)	6.425		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	20	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0112	Minimum Detected	-4.496
Maximum Detected	8.3	Maximum Detected	2.116
Mean of Detected	1.833	Mean of Detected	-0.029
SD of Detected	1.913	SD of Detected	1.457
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.785	Shapiro Wilk Test Statistic	0.887
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.768	Mean	-0.0903
SD	1.901	SD	1.459
95% DL/2 (t) UCL	2.419	95% H-Stat (DL/2) UCL	6.735

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.48	Mean in Log Scale	-0.103
SD	2.229	SD in Log Scale	1.473
95% MLE (t) UCL	2.243	Mean in Original Scale	1.766
95% MLE (Tiku) UCL	2.258	SD in Original Scale	1.903
		95% t UCL	2.417
		95% Percentile Bootstrap UCL	2.401
		95% BCA Bootstrap UCL	2.643
		95% H UCL	6.901

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.831	Data appear Gamma Distributed at 5% Significance Level
Theta Star	2.205	
nu star	39.9	

A-D Test Statistic	0.294	Nonparametric Statistics	
5% A-D Critical Value	0.775	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.775	Mean	1.766
5% K-S Critical Value	0.184	SD	1.864
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.381
		95% KM (t) UCL	2.418
Assuming Gamma Distribution		95% KM (z) UCL	2.393
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.418
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.876
Maximum	8.3	95% KM (BCA) UCL	2.396
Mean	1.76	95% KM (Percentile Bootstrap) UCL	2.443
Median	1.3	95% KM (Chebyshev) UCL	3.427
SD	1.908	97.5% KM (Chebyshev) UCL	4.145
k star	0.508	99% KM (Chebyshev) UCL	5.556
Theta star	3.465		
Nu star	25.39	Potential UCLs to Use	
AppChi2	14.91	95% KM (Chebyshev) UCL	3.427
95% Gamma Approximate UCL (Use when n >= 40)	2.996		
95% Adjusted Gamma UCL (Use when n < 40)	3.111		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	22	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.514
Maximum Detected	13	Maximum Detected	2.565
Mean of Detected	2.001	Mean of Detected	-0.0588
SD of Detected	2.686	SD of Detected	1.505
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.638	Shapiro Wilk Test Statistic	0.923
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.93	Mean	-0.119
SD	2.654	SD	1.504
95% DL/2 (t) UCL	2.838	95% H-Stat (DL/2) UCL	7.349

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.477	Mean in Log Scale	-0.136
SD	3.112	SD in Log Scale	1.524
95% MLE (t) UCL	2.542	Mean in Original Scale	1.927
95% MLE (Tiku) UCL	2.551	SD in Original Scale	2.656
		95% t UCL	2.836
		95% Percentile Bootstrap UCL	2.878
		95% BCA Bootstrap UCL	3.493
		95% H UCL	7.609

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.719	Data appear Gamma Distributed at 5% Significance Level
Theta Star	2.784	
nu star	34.51	

		Nonparametric Statistics	
A-D Test Statistic	0.298		
5% A-D Critical Value	0.781	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.781	Mean	1.928
5% K-S Critical Value	0.185	SD	2.602
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.532
		95% KM (t) UCL	2.837
Assuming Gamma Distribution		95% KM (z) UCL	2.802
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.836
Minimum	1.00E-06	95% KM (bootstrap t) UCL	3.754
Maximum	13	95% KM (BCA) UCL	2.805
Mean	1.921	95% KM (Percentile Bootstrap) UCL	2.895
Median	1.1	95% KM (Chebyshev) UCL	4.245
SD	2.66	97.5% KM (Chebyshev) UCL	5.247
k star	0.469	99% KM (Chebyshev) UCL	7.217
Theta star	4.095		
Nu star	23.46	Potential UCLs to Use	
AppChi2	13.44	95% KM (Chebyshev) UCL	4.245
95% Gamma Approximate UCL (Use when n >= 40)	3.354		
95% Adjusted Gamma UCL (Use when n < 40)	3.488		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	20	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0245	Minimum Detected	-3.709
Maximum Detected	11	Maximum Detected	2.398
Mean of Detected	2.369	Mean of Detected	0.274
SD of Detected	2.497	SD of Detected	1.339
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.774	Shapiro Wilk Test Statistic	0.911
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.283	Mean	0.201
SD	2.482	SD	1.361
95% DL/2 (t) UCL	3.132	95% H-Stat (DL/2) UCL	7.079

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.06	Mean in Log Scale	0.191
SD	2.726	SD in Log Scale	1.375
95% MLE (t) UCL	2.992	Mean in Original Scale	2.281
95% MLE (Tiku) UCL	2.975	SD in Original Scale	2.484
		95% t UCL	3.131
		95% Percentile Bootstrap UCL	3.129
		95% BCA Bootstrap UCL	3.307
		95% H UCL	7.25

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.888	Data appear Gamma Distributed at 5% Significance Level
Theta Star	2.668	
nu star	42.62	

A-D Test Statistic	0.3	Nonparametric Statistics	
5% A-D Critical Value	0.773	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.773	Mean	2.279
5% K-S Critical Value	0.183	SD	2.435
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.498
		95% KM (t) UCL	3.13
Assuming Gamma Distribution		95% KM (z) UCL	3.097
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.129
Minimum	1.00E-06	95% KM (bootstrap t) UCL	3.482
Maximum	11	95% KM (BCA) UCL	3.245
Mean	2.274	95% KM (Percentile Bootstrap) UCL	3.163
Median	1.7	95% KM (Chebyshev) UCL	4.447
SD	2.49	97.5% KM (Chebyshev) UCL	5.386
k star	0.521	99% KM (Chebyshev) UCL	7.229
Theta star	4.366		
Nu star	26.04	Potential UCLs to Use	
AppChi2	15.41	95% KM (Chebyshev) UCL	4.447
95% Gamma Approximate UCL (Use when n >= 40)	3.843		
95% Adjusted Gamma UCL (Use when n < 40)	3.987		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	23
Number of Distinct Detected Data	22	Number of Non-Detect Data	2
		Percent Non-Detects	8.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.008	Minimum Detected	-4.828
Maximum Detected	9	Maximum Detected	2.197
Mean of Detected	1.186	Mean of Detected	-0.676
SD of Detected	1.84	SD of Detected	1.59
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	2.3	Maximum Non-Detect	0.833

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	92.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.551	Shapiro Wilk Test Statistic	0.916
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.146	Mean	-0.679
SD	1.773	SD	1.542
95% DL/2 (t) UCL	1.753	95% H-Stat (DL/2) UCL	4.639

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.746
		SD in Log Scale	1.551
		Mean in Original Scale	1.112
		SD in Original Scale	1.781
		95% t UCL	1.721
		95% Percentile Bootstrap UCL	1.729
		95% BCA Bootstrap UCL	2.136
		95% H-UCL	4.455

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.648	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.831	
nu star	29.8	

A-D Test Statistic	0.383	Nonparametric Statistics	
5% A-D Critical Value	0.786	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.786	Mean	1.129
5% K-S Critical Value	0.189	SD	1.744
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.358
		95% KM (t) UCL	1.741
Assuming Gamma Distribution		95% KM (z) UCL	1.717
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.74
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.576
Maximum	9	95% KM (BCA) UCL	1.825
Mean	1.121	95% KM (Percentile Bootstrap) UCL	1.778
Median	0.6	95% KM (Chebyshev) UCL	2.688
SD	1.78	97.5% KM (Chebyshev) UCL	3.362
k star	0.458	99% KM (Chebyshev) UCL	4.688
Theta star	2.449		
Nu star	22.88	Potential UCLs to Use	
AppChi2	13	95% KM (Chebyshev) UCL	2.688
95% Gamma Approximate UCL (Use when n >= 40)	1.973		
95% Adjusted Gamma UCL (Use when n < 40)	2.053		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	21
Number of Distinct Detected Data	18	Number of Non-Detect Data	4
		Percent Non-Detects	16.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00915	Minimum Detected	-4.694
Maximum Detected	9.1	Maximum Detected	2.208
Mean of Detected	1.563	Mean of Detected	-0.247
SD of Detected	1.98	SD of Detected	1.445
Minimum Non-Detect	0.06	Minimum Non-Detect	-2.813
Maximum Non-Detect	1.5	Maximum Non-Detect	0.405

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	64.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.664	Shapiro Wilk Test Statistic	0.901
5% Shapiro Wilk Critical Value	0.908	5% Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.354	Mean	-0.562
SD	1.877	SD	1.61
95% DL/2 (t) UCL	1.996	95% H-Stat (DL/2) UCL	6.296

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.122	Mean in Log Scale	-0.583
SD	3.045	SD in Log Scale	1.564
95% MLE (t) UCL	1.164	Mean in Original Scale	1.333
95% MLE (Tiku) UCL	1.74	SD in Original Scale	1.887
		95% t UCL	1.978
		95% Percentile Bootstrap UCL	1.957
		95% BCA Bootstrap UCL	2.323
		95% H UCL	5.423

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.759	Data appear Gamma Distributed at 5% Significance Level
Theta Star	2.058	
nu star	31.89	

A-D Test Statistic	0.367	Nonparametric Statistics	
5% A-D Critical Value	0.778	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.778	Mean	1.337
5% K-S Critical Value	0.196	SD	1.848
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.379
		95% KM (t) UCL	1.985
Assuming Gamma Distribution		95% KM (z) UCL	1.96
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.97
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.48
Maximum	9.1	95% KM (BCA) UCL	2.021
Mean	1.318	95% KM (Percentile Bootstrap) UCL	2.021
Median	0.55	95% KM (Chebyshev) UCL	2.989
SD	1.897	97.5% KM (Chebyshev) UCL	3.704
k star	0.298	99% KM (Chebyshev) UCL	5.109
Theta star	4.418		
Nu star	14.92	Potential UCLs to Use	
AppChi2	7.203	95% KM (Chebyshev) UCL	2.989
95% Gamma Approximate UCL (Use when n >= 40)	2.729		
95% Adjusted Gamma UCL (Use when n < 40)	2.874		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics

Number of Valid Data	18	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	12
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.059	Minimum Detected	-2.83
Maximum Detected	0.29	Maximum Detected	-1.238
Mean of Detected	0.131	Mean of Detected	-2.24
SD of Detected	0.0965	SD of Detected	0.673
Minimum Non-Detect	0.051	Minimum Non-Detect	-2.976
Maximum Non-Detect	0.54	Maximum Non-Detect	-0.616

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	18
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.78	Shapiro Wilk Test Statistic	0.828
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0797	Mean	-2.92
SD	0.0854	SD	0.835
95% DL/2 (t) UCL	0.115	95% H-Stat (DL/2) UCL	0.124

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.361
		SD in Log Scale	0.94
		Mean in Original Scale	0.0574
		SD in Original Scale	0.0748
		95% t UCL	0.0881
		95% Percentile Bootstrap UCL	0.0874
		95% BCA Bootstrap UCL	0.102
		95% H-UCL	0.0965

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.417	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.0921	
nu star	17	

		Nonparametric Statistics	
A-D Test Statistic	0.665		
5% A-D Critical Value	0.702	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.702	Mean	0.0846
5% K-S Critical Value	0.335	SD	0.0624
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0166
		95% KM (t) UCL	0.113
Assuming Gamma Distribution		95% KM (z) UCL	0.112
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.109
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.248
Maximum	0.29	95% KM (BCA) UCL	0.129
Mean	0.0435	95% KM (Percentile Bootstrap) UCL	0.118
Median	1.00E-06	95% KM (Chebyshev) UCL	0.157
SD	0.0821	97.5% KM (Chebyshev) UCL	0.188
k star	0.134	99% KM (Chebyshev) UCL	0.25
Theta star	0.324		
Nu star	4.834	Potential UCLs to Use	
AppChi2	1.076	95% KM (t) UCL	0.113
95% Gamma Approximate UCL (Use when n >= 40)	0.195		
95% Adjusted Gamma UCL (Use when n < 40)	0.229		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	25	Number of Distinct Observations	22

Raw Statistics		Log-transformed Statistics	
Minimum	3.8	Minimum of Log Data	1.335
Maximum	45.8	Maximum of Log Data	3.824
Mean	11.69	Mean of log Data	2.149
Geometric Mean	8.577	SD of log Data	0.717
Median	6.5		
SD	11.65		
Std. Error of Mean	2.33		
Coefficient of Variation	0.996		
Skewness	1.992		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.643	Shapiro Wilk Test Statistic	0.8
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	15.68	95% H-UCL	15.22
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	18.33
95% Adjusted-CLT UCL (Chen-1995)	16.52	97.5% Chebyshev (MVUE) UCL	21.53
95% Modified-t UCL (Johnson-1978)	15.83	99% Chebyshev (MVUE) UCL	27.8

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.577	Data do not follow a Discernable Distribution (0.05)	
Theta Star	7.412		
MLE of Mean	11.69		
MLE of Standard Deviation	9.309		
nu star	78.87		
Approximate Chi Square Value (.05)	59.41	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	15.52
Adjusted Chi Square Value	58.26	95% Jackknife UCL	15.68
		95% Standard Bootstrap UCL	15.45
Anderson-Darling Test Statistic	2.84	95% Bootstrap-t UCL	18.25
Anderson-Darling 5% Critical Value	0.759	95% Hall's Bootstrap UCL	16.07
Kolmogorov-Smirnov Test Statistic	0.277	95% Percentile Bootstrap UCL	15.52
Kolmogorov-Smirnov 5% Critical Value	0.177	95% BCA Bootstrap UCL	16.81
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	21.85
		97.5% Chebyshev(Mean, Sd) UCL	26.24
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	34.87
95% Approximate Gamma UCL (Use when n >= 40)	15.52		
95% Adjusted Gamma UCL (Use when n < 40)	15.83		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	21.85

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg)

Number of Valid Observations	25	Number of Distinct Observations	25

Raw Statistics		Log-transformed Statistics	
Minimum	5	Minimum of Log Data	1.609
Maximum	829	Maximum of Log Data	6.72
Mean	68.21	Mean of log Data	3.226
Geometric Mean	25.17	SD of log Data	1.272
Median	23		
SD	162.7		
Std. Error of Mean	32.55		
Coefficient of Variation	2.386		
Skewness	4.604		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.38	Shapiro Wilk Test Statistic	0.937
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	123.9	95% H-UCL	118.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	124.4
95% Adjusted-CLT UCL (Chen-1995)	153.8	97.5% Chebyshev (MVUE) UCL	155.1
95% Modified-t UCL (Johnson-1978)	128.9	99% Chebyshev (MVUE) UCL	215.3

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.57	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	119.7		
MLE of Mean	68.21		
MLE of Standard Deviation	90.35		
nu star	28.49		
Approximate Chi Square Value (.05)	17.31	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	121.7
Adjusted Chi Square Value	16.72	95% Jackknife UCL	123.9
		95% Standard Bootstrap UCL	119.6
Anderson-Darling Test Statistic	1.522	95% Bootstrap-t UCL	277.6
Anderson-Darling 5% Critical Value	0.796	95% Hall's Bootstrap UCL	312.4
Kolmogorov-Smirnov Test Statistic	0.173	95% Percentile Bootstrap UCL	131
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	170
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	210.1
		97.5% Chebyshev(Mean, Sd) UCL	271.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	392
95% Approximate Gamma UCL (Use when n >= 40)	112.3		
95% Adjusted Gamma UCL (Use when n < 40)	116.2		

Potential UCL to Use	Use 95% Approximate Gamma UCL	112.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	18
Number of Distinct Detected Data	17	Number of Non-Detect Data	7
		Percent Non-Detects	28.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0027	Minimum Detected	-5.915
Maximum Detected	2.4	Maximum Detected	0.875
Mean of Detected	0.335	Mean of Detected	-2.151
SD of Detected	0.565	SD of Detected	1.653
Minimum Non-Detect	0.04	Minimum Non-Detect	-3.219
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.582	Shapiro Wilk Test Statistic	0.982
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.475	Mean	-1.75
SD	0.594	SD	1.722
95% DL/2 (t) UCL	0.678	95% H-Stat (DL/2) UCL	2.652

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.3
		SD in Log Scale	1.444
		Mean in Original Scale	0.263
		SD in Original Scale	0.49
		95% t UCL	0.43
		95% Percentile Bootstrap UCL	0.444
		95% BCA Bootstrap UCL	0.518
		95% H-UCL	0.711

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.526	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.638	
nu star	18.92	

A-D Test Statistic	0.376	Nonparametric Statistics	
5% A-D Critical Value	0.792	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.792	Mean	0.29
5% K-S Critical Value	0.214	SD	0.492
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.106
		95% KM (t) UCL	0.471
Assuming Gamma Distribution		95% KM (z) UCL	0.464
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.47
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.671
Maximum	2.4	95% KM (BCA) UCL	0.493
Mean	0.277	95% KM (Percentile Bootstrap) UCL	0.474
Median	0.158	95% KM (Chebyshev) UCL	0.751
SD	0.486	97.5% KM (Chebyshev) UCL	0.95
k star	0.461	99% KM (Chebyshev) UCL	1.342
Theta star	0.6		
Nu star	23.04	Potential UCLs to Use	
AppChi2	13.12	95% KM (Chebyshev) UCL	0.751
95% Gamma Approximate UCL (Use when n >= 40)	0.486		
95% Adjusted Gamma UCL (Use when n < 40)	0.505		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	23
Number of Distinct Detected Data	22	Number of Non-Detect Data	2
		Percent Non-Detects	8.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0101	Minimum Detected	-4.595
Maximum Detected	7.5	Maximum Detected	2.015
Mean of Detected	1.241	Mean of Detected	-0.422
SD of Detected	1.547	SD of Detected	1.379
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	2.3	Maximum Non-Detect	0.833

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	88.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.646	Shapiro Wilk Test Statistic	0.911
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.196	Mean	-0.445
SD	1.496	SD	1.345
95% DL/2 (t) UCL	1.707	95% H-Stat (DL/2) UCL	3.571

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.502
		SD in Log Scale	1.363
		Mean in Original Scale	1.166
		SD in Original Scale	1.505
		95% t UCL	1.68
		95% Percentile Bootstrap UCL	1.705
		95% BCA Bootstrap UCL	1.918
		95% H-UCL	3.523

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.824	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.505	
nu star	37.92	

A-D Test Statistic	0.323	Nonparametric Statistics	
5% A-D Critical Value	0.774	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.774	Mean	1.177
5% K-S Critical Value	0.187	SD	1.475
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.303
		95% KM (t) UCL	1.695
Assuming Gamma Distribution		95% KM (z) UCL	1.675
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.694
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.239
Maximum	7.5	95% KM (BCA) UCL	1.736
Mean	1.175	95% KM (Percentile Bootstrap) UCL	1.707
Median	0.82	95% KM (Chebyshev) UCL	2.496
SD	1.504	97.5% KM (Chebyshev) UCL	3.067
k star	0.522	99% KM (Chebyshev) UCL	4.188
Theta star	2.253		
Nu star	26.08	Potential UCLs to Use	
AppChi2	15.44	95% KM (Chebyshev) UCL	2.496
95% Gamma Approximate UCL (Use when n >= 40)	1.985		
95% Adjusted Gamma UCL (Use when n < 40)	2.059		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	25	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	7740	Minimum of Log Data	8.954
Maximum	281000	Maximum of Log Data	12.55
Mean	28844	Mean of log Data	9.851
Geometric Mean	18985	SD of log Data	0.692
Median	19100		
SD	52988		
Std. Error of Mean	10598		
Coefficient of Variation	1.837		
Skewness	4.862		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.318	Shapiro Wilk Test Statistic	0.777
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	46976	95% H-UCL	32634
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	39311
95% Adjusted-CLT UCL (Chen-1995)	57286	97.5% Chebyshev (MVUE) UCL	46001
95% Modified-t UCL (Johnson-1978)	48693	99% Chebyshev (MVUE) UCL	59143

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.204	Data do not follow a Discernable Distribution (0.05)	
Theta Star	23963		
MLE of Mean	28844		
MLE of Standard Deviation	26291		
nu star	60.18		
Approximate Chi Square Value (.05)	43.34	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	46276
Adjusted Chi Square Value	42.37	95% Jackknife UCL	46976
		95% Standard Bootstrap UCL	45771
Anderson-Darling Test Statistic	3.228	95% Bootstrap-t UCL	131801
Anderson-Darling 5% Critical Value	0.765	95% Hall's Bootstrap UCL	122866
Kolmogorov-Smirnov Test Statistic	0.307	95% Percentile Bootstrap UCL	49862
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	62152
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	75038
		97.5% Chebyshev(Mean, Sd) UCL	95027
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	134289
95% Approximate Gamma UCL (Use when n >= 40)	40051		
95% Adjusted Gamma UCL (Use when n < 40)	40972		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	75038

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	25	Number of Distinct Observations	25

Raw Statistics		Log-transformed Statistics	
Minimum	91.6	Minimum of Log Data	4.517
Maximum	2410	Maximum of Log Data	7.787
Mean	312.2	Mean of log Data	5.381
Geometric Mean	217.2	SD of log Data	0.708
Median	190		
SD	455.9		
Std. Error of Mean	91.19		
Coefficient of Variation	1.46		
Skewness	4.393		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.43	Shapiro Wilk Test Statistic	0.86
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	468.2	95% H-UCL	380.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	458.8
95% Adjusted-CLT UCL (Chen-1995)	547.8	97.5% Chebyshev (MVUE) UCL	538
95% Modified-t UCL (Johnson-1978)	481.6	99% Chebyshev (MVUE) UCL	693.7

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.367	Data do not follow a Discernable Distribution (0.05)	
Theta Star	228.4		
MLE of Mean	312.2		
MLE of Standard Deviation	267		
nu star	68.35		
Approximate Chi Square Value (.05)	50.32	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	462.2
Adjusted Chi Square Value	49.26	95% Jackknife UCL	468.2
		95% Standard Bootstrap UCL	460
Anderson-Darling Test Statistic	2.07	95% Bootstrap-t UCL	848.4
Anderson-Darling 5% Critical Value	0.761	95% Hall's Bootstrap UCL	1032
Kolmogorov-Smirnov Test Statistic	0.222	95% Percentile Bootstrap UCL	483.6
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	594.1
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	709.7
		97.5% Chebyshev(Mean, Sd) UCL	881.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1220
95% Approximate Gamma UCL (Use when n >= 40)	424.1		
95% Adjusted Gamma UCL (Use when n < 40)	433.2		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	709.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	21	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.01	Minimum Detected	-4.605
Maximum Detected	17	Maximum Detected	2.833
Mean of Detected	2.119	Mean of Detected	-0.156
SD of Detected	3.466	SD of Detected	1.621
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.544	Shapiro Wilk Test Statistic	0.935
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.043	Mean	-0.212
SD	3.414	SD	1.612
95% DL/2 (t) UCL	3.211	95% H-Stat (DL/2) UCL	8.971

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.43	Mean in Log Scale	-0.24
SD	3.989	SD in Log Scale	1.642
95% MLE (t) UCL	2.795	Mean in Original Scale	2.039
95% MLE (Tiku) UCL	2.798	SD in Original Scale	3.417
		95% t UCL	3.208
		95% Percentile Bootstrap UCL	3.21
		95% BCA Bootstrap UCL	3.922
		95% H UCL	9.503

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.614	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.45	
nu star	29.48	

		Nonparametric Statistics	
A-D Test Statistic	0.388		
5% A-D Critical Value	0.79	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.79	Mean	2.039
5% K-S Critical Value	0.186	SD	3.347
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.684
		95% KM (t) UCL	3.209
Assuming Gamma Distribution		95% KM (z) UCL	3.164
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.208
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.071
Maximum	17	95% KM (BCA) UCL	3.263
Mean	2.034	95% KM (Percentile Bootstrap) UCL	3.307
Median	0.99	95% KM (Chebyshev) UCL	5.02
SD	3.419	97.5% KM (Chebyshev) UCL	6.31
k star	0.428	99% KM (Chebyshev) UCL	8.844
Theta star	4.753		
Nu star	21.4	Potential UCLs to Use	
AppChi2	11.89	95% KM (Chebyshev) UCL	5.02
95% Gamma Approximate UCL (Use when n >= 40)	3.662		
95% Adjusted Gamma UCL (Use when n < 40)	3.817		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	25	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	8.3	Minimum of Log Data	2.116
Maximum	76.6	Maximum of Log Data	4.339
Mean	19.17	Mean of log Data	2.741
Geometric Mean	15.51	SD of log Data	0.605
Median	12.5		
SD	15.78		
Std. Error of Mean	3.155		
Coefficient of Variation	0.823		
Skewness	2.389		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.682	Shapiro Wilk Test Statistic	0.855
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	24.57	95% H-UCL	24
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	28.78
95% Adjusted-CLT UCL (Chen-1995)	25.97	97.5% Chebyshev (MVUE) UCL	33.24
95% Modified-t UCL (Johnson-1978)	24.82	99% Chebyshev (MVUE) UCL	42

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.238	Data do not follow a Discernable Distribution (0.05)	
Theta Star	8.568		
MLE of Mean	19.17		
MLE of Standard Deviation	12.82		
nu star	111.9		
Approximate Chi Square Value (.05)	88.46	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	24.36
Adjusted Chi Square Value	87.04	95% Jackknife UCL	24.57
		95% Standard Bootstrap UCL	24.17
Anderson-Darling Test Statistic	1.87	95% Bootstrap-t UCL	28.22
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	28.1
Kolmogorov-Smirnov Test Statistic	0.235	95% Percentile Bootstrap UCL	24.64
Kolmogorov-Smirnov 5% Critical Value	0.176	95% BCA Bootstrap UCL	26.14
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	32.93
		97.5% Chebyshev(Mean, Sd) UCL	38.88
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	50.57
95% Approximate Gamma UCL (Use when n >= 40)	24.25		
95% Adjusted Gamma UCL (Use when n < 40)	24.64		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	32.93

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)			
Number of Valid Data	29	Number of Detected Data	25
Number of Distinct Detected Data	22	Number of Non-Detect Data	4
		Percent Non-Detects	13.79%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.03	Minimum Detected	-3.507
Maximum Detected	11	Maximum Detected	2.398
Mean of Detected	1.322	Mean of Detected	-1.215
SD of Detected	3.014	SD of Detected	1.61
Minimum Non-Detect	0.043	Minimum Non-Detect	-3.147
Maximum Non-Detect	0.15	Maximum Non-Detect	-1.897
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	15
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	48.28%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.453	Shapiro Wilk Test Statistic	0.927
5% Shapiro Wilk Critical Value	0.918	5% Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.145	Mean	-1.518
SD	2.826	SD	1.688
95% DL/2 (t) UCL	2.038	95% H-Stat (DL/2) UCL	2.721
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.544
		SD in Log Scale	1.721
		Mean in Original Scale	1.144
		SD in Original Scale	2.827
		95% t UCL	2.037
		95% Percentile Bootstrap UCL	2.054
		95% BCA Bootstrap UCL	2.401
		95% H-UCL	2.909
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.409	Data appear Lognormal at 5% Significance Level	
Theta Star	3.231		
nu star	20.46		
A-D Test Statistic	2.221	Nonparametric Statistics	
5% A-D Critical Value	0.822	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.822	Mean	1.146
5% K-S Critical Value	0.186	SD	2.777
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.526
		95% KM (t) UCL	2.042
Assuming Gamma Distribution		95% KM (z) UCL	2.012
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.039
Minimum	1.00E-06	95% KM (bootstrap t) UCL	4.207
Maximum	11	95% KM (BCA) UCL	2.032
Mean	1.14	95% KM (Percentile Bootstrap) UCL	2.063
Median	0.16	95% KM (Chebyshev) UCL	3.44
SD	2.829	97.5% KM (Chebyshev) UCL	4.433
k star	0.232	99% KM (Chebyshev) UCL	6.383
Theta star	4.916		
Nu star	13.45	Potential UCLs to Use	
AppChi2	6.195	99% KM (Chebyshev) UCL	6.383
95% Gamma Approximate UCL (Use when n >= 40)	2.474		
95% Adjusted Gamma UCL (Use when n < 40)	2.597		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)			
Number of Valid Data	51	Number of Detected Data	34
Number of Distinct Detected Data	31	Number of Non-Detect Data	17
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	8.10E-04	Minimum Detected	-7.118
Maximum Detected	3.1	Maximum Detected	1.131
Mean of Detected	0.133	Mean of Detected	-4.76
SD of Detected	0.537	SD of Detected	1.909
Minimum Non-Detect	6.90E-04	Minimum Non-Detect	-7.279
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	50
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	98.04%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.268	Shapiro Wilk Test Statistic	0.871
5% Shapiro Wilk Critical Value	0.933	5% Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.204	Mean	-4.69
SD	0.541	SD	2.57
95% DL/2 (t) UCL	0.331	95% H-Stat (DL/2) UCL	1.204
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.58
		SD in Log Scale	2.123
		Mean in Original Scale	0.0889
		SD in Original Scale	0.441
		95% t UCL	0.192
		95% Percentile Bootstrap UCL	0.208
		95% BCA Bootstrap UCL	0.315
		95% H-UCL	0.109
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.255	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.52		
nu star	17.33		
A-D Test Statistic	5.372	Nonparametric Statistics	
5% A-D Critical Value	0.874	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.874	Mean	0.0923
5% K-S Critical Value	0.165	SD	0.437
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0623
		95% KM (t) UCL	0.197
Assuming Gamma Distribution		95% KM (z) UCL	0.195
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.196
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.632
Maximum	3.1	95% KM (BCA) UCL	0.211
Mean	0.0883	95% KM (Percentile Bootstrap) UCL	0.209
Median	0.0024	95% KM (Chebyshev) UCL	0.364
SD	0.441	97.5% KM (Chebyshev) UCL	0.481
k star	0.149	99% KM (Chebyshev) UCL	0.712
Theta star	0.593		
Nu star	15.2	Potential UCLs to Use	
AppChi2	7.398	97.5% KM (Chebyshev) UCL	0.481
95% Gamma Approximate UCL (Use when n >= 40)	0.181		
95% Adjusted Gamma UCL (Use when n < 40)	0.185		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	51	Number of Distinct Observations	50
Raw Statistics		Log-transformed Statistics	
Minimum	3090	Minimum of Log Data	8.036
Maximum	72500	Maximum of Log Data	11.19
Mean	9728	Mean of log Data	8.96
Geometric Mean	7787	SD of log Data	0.565
Median	7090		
SD	10573		
Std. Error of Mean	1480		
Coefficient of Variation	1.087		
Skewness	4.793		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.307	Lilliefors Test Statistic	0.155
Lilliefors Critical Value	0.124	Lilliefors Critical Value	0.124
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	12209	95% H-UCL	10647
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	12436
95% Adjusted-CLT UCL (Chen-1995)	13225	97.5% Chebyshev (MVUE) UCL	13879
95% Modified-t UCL (Johnson-1978)	12374	99% Chebyshev (MVUE) UCL	16714
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.273	Data do not follow a Discernable Distribution (0.05)	
Theta Star	4280		
MLE of Mean	9728		
MLE of Standard Deviation	6452		
nu star	231.8		
Approximate Chi Square Value (.05)	197.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0453	95% CLT UCL	12163
Adjusted Chi Square Value	196.7	95% Jackknife UCL	12209
		95% Standard Bootstrap UCL	12183
Anderson-Darling Test Statistic	3.534	95% Bootstrap-t UCL	16440
Anderson-Darling 5% Critical Value	0.761	95% Hall's Bootstrap UCL	23158
Kolmogorov-Smirnov Test Statistic	0.212	95% Percentile Bootstrap UCL	12543
Kolmogorov-Smirnov 5% Critical Value	0.126	95% BCA Bootstrap UCL	13816
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16181
		97.5% Chebyshev(Mean, Sd) UCL	18973
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	24458
95% Approximate Gamma UCL (Use when n >= 40)	11414		
95% Adjusted Gamma UCL (Use when n < 40)	11467		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	16181

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Data	51	Number of Detected Data	47
Number of Distinct Detected Data	33	Number of Non-Detect Data	4
		Percent Non-Detects	7.84%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.6	Minimum Detected	-0.511
Maximum Detected	23	Maximum Detected	3.135
Mean of Detected	2.995	Mean of Detected	0.673
SD of Detected	4.002	SD of Detected	0.815
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.563	Shapiro Wilk Test Statistic	0.903
5% Shapiro Wilk Critical Value	0.946	5% Shapiro Wilk Critical Value	0.946
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.761	Mean	0.132
SD	3.924	SD	2.027
95% DL/2 (t) UCL	3.681	95% H-Stat (DL/2) UCL	24.77

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.564	Mean in Log Scale	0.527
SD	4.119	SD in Log Scale	0.933
95% MLE (t) UCL	3.53	Mean in Original Scale	2.785
95% MLE (Tiku) UCL	3.471	SD in Original Scale	3.908
		95% t UCL	3.702
		95% Percentile Bootstrap UCL	3.778
		95% BCA Bootstrap UCL	4.133
		95% H UCL	3.515

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.249	Data do not follow a Discernable Distribution (0.05)
Theta Star	2.397	
nu star	117.4	

		Nonparametric Statistics	
A-D Test Statistic	3.221		
5% A-D Critical Value	0.771	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.771	Mean	2.807
5% K-S Critical Value	0.132	SD	3.855
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.546
		95% KM (t) UCL	3.722
Assuming Gamma Distribution		95% KM (z) UCL	3.705
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.72
Minimum	1.00E-06	95% KM (bootstrap t) UCL	4.459
Maximum	23	95% KM (BCA) UCL	3.727
Mean	2.76	95% KM (Percentile Bootstrap) UCL	3.798
Median	1.5	95% KM (Chebyshev) UCL	5.186
SD	3.924	97.5% KM (Chebyshev) UCL	6.215
k star	0.426	99% KM (Chebyshev) UCL	8.237
Theta star	6.485		
Nu star	43.42	Potential UCLs to Use	
AppChi2	29.31	95% KM (Chebyshev) UCL	5.186
95% Gamma Approximate UCL (Use when n >= 40)	4.089		
95% Adjusted Gamma UCL (Use when n < 40)	4.137		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	51	Number of Detected Data	42
Number of Distinct Detected Data	32	Number of Non-Detect Data	9
		Percent Non-Detects	17.65%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0061	Minimum Detected	-5.099
Maximum Detected	8.3	Maximum Detected	2.116
Mean of Detected	1.481	Mean of Detected	-0.377
SD of Detected	1.636	SD of Detected	1.637
Minimum Non-Detect	5.60E-04	Minimum Non-Detect	-7.488
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	28
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	45.10%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.75	Shapiro Wilk Test Statistic	0.844
5% Shapiro Wilk Critical Value	0.942	5% Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.225	Mean	-1.414
SD	1.584	SD	2.873
95% DL/2 (t) UCL	1.596	95% H-Stat (DL/2) UCL	104.2
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.544	Mean in Log Scale	-0.921
SD	2.316	SD in Log Scale	1.91
95% MLE (t) UCL	1.087	Mean in Original Scale	1.226
95% MLE (Tiku) UCL	1.182	SD in Original Scale	1.583
		95% t UCL	1.598
		95% Percentile Bootstrap UCL	1.602
		95% BCA Bootstrap UCL	1.645
		95% H UCL	6.198
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.734	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.017		
nu star	61.7		
A-D Test Statistic	0.391	Nonparametric Statistics	
5% A-D Critical Value	0.788	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.788	Mean	1.223
5% K-S Critical Value	0.142	SD	1.569
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.222
		95% KM (t) UCL	1.596
Assuming Gamma Distribution		95% KM (z) UCL	1.589
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.595
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.727
Maximum	8.3	95% KM (BCA) UCL	1.616
Mean	1.22	95% KM (Percentile Bootstrap) UCL	1.599
Median	0.73	95% KM (Chebyshev) UCL	2.193
SD	1.588	97.5% KM (Chebyshev) UCL	2.613
k star	0.241	99% KM (Chebyshev) UCL	3.437
Theta star	5.061		
Nu star	24.59	Potential UCLs to Use	
AppChi2	14.29	95% KM (Chebyshev) UCL	2.193
95% Gamma Approximate UCL (Use when n >= 40)	2.098		
95% Adjusted Gamma UCL (Use when n < 40)	2.132		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	51	Number of Detected Data	42
Number of Distinct Detected Data	34	Number of Non-Detect Data	9
		Percent Non-Detects	17.65%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0054	Minimum Detected	-5.221
Maximum Detected	13	Maximum Detected	2.565
Mean of Detected	1.539	Mean of Detected	-0.439
SD of Detected	2.174	SD of Detected	1.67
Minimum Non-Detect	5.50E-04	Minimum Non-Detect	-7.506
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	28
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	45.10%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.605	Shapiro Wilk Test Statistic	0.87
5% Shapiro Wilk Critical Value	0.942	5% Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.272	Mean	-1.376
SD	2.053	SD	2.725
95% DL/2 (t) UCL	1.754	95% H-Stat (DL/2) UCL	59.73

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.317	Mean in Log Scale	-0.999
SD	2.991	SD in Log Scale	1.954
95% MLE (t) UCL	1.019	Mean in Original Scale	1.273
95% MLE (Tiku) UCL	1.143	SD in Original Scale	2.053
		95% t UCL	1.754
		95% Percentile Bootstrap UCL	1.785
		95% BCA Bootstrap UCL	1.939
		95% H UCL	6.478

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.661	Data appear Gamma Distributed at 5% Significance Level
Theta Star	2.327	
nu star	55.54	

		Nonparametric Statistics	
A-D Test Statistic	0.338		
5% A-D Critical Value	0.795	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.795	Mean	1.27
5% K-S Critical Value	0.142	SD	2.034
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.288
		95% KM (t) UCL	1.753
Assuming Gamma Distribution		95% KM (z) UCL	1.744
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.752
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.086
Maximum	13	95% KM (BCA) UCL	1.793
Mean	1.267	95% KM (Percentile Bootstrap) UCL	1.807
Median	0.71	95% KM (Chebyshev) UCL	2.527
SD	2.056	97.5% KM (Chebyshev) UCL	3.071
k star	0.235	99% KM (Chebyshev) UCL	4.138
Theta star	5.387		
Nu star	24	Potential UCLs to Use	
AppChi2	13.85	95% KM (Chebyshev) UCL	2.527
95% Gamma Approximate UCL (Use when n >= 40)	2.196		
95% Adjusted Gamma UCL (Use when n < 40)	2.233		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	51	Number of Detected Data	42
Number of Distinct Detected Data	36	Number of Non-Detect Data	9
		Percent Non-Detects	17.65%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.012	Minimum Detected	-4.423
Maximum Detected	11	Maximum Detected	2.398
Mean of Detected	1.95	Mean of Detected	-0.0418
SD of Detected	2.133	SD of Detected	1.513
Minimum Non-Detect	9.00E-04	Minimum Non-Detect	-7.013
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	30
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	41.18%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.756	Shapiro Wilk Test Statistic	0.867
5% Shapiro Wilk Critical Value	0.942	5% Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.612	Mean	-0.994
SD	2.068	SD	2.65
95% DL/2 (t) UCL	2.097	95% H-Stat (DL/2) UCL	65.55
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.816	Mean in Log Scale	-0.555
SD	2.932	SD in Log Scale	1.777
95% MLE (t) UCL	1.504	Mean in Original Scale	1.616
95% MLE (Tiku) UCL	1.597	SD in Original Scale	2.064
		95% t UCL	2.1
		95% Percentile Bootstrap UCL	2.109
		95% BCA Bootstrap UCL	2.15
		95% H UCL	6.275

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.788	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.474		
nu star	66.22		
A-D Test Statistic	0.257	Nonparametric Statistics	
5% A-D Critical Value	0.786	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.786	Mean	1.611
5% K-S Critical Value	0.141	SD	2.048
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.29
		95% KM (t) UCL	2.097
Assuming Gamma Distribution		95% KM (z) UCL	2.088
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.096
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.239
Maximum	11	95% KM (BCA) UCL	2.106
Mean	1.606	95% KM (Percentile Bootstrap) UCL	2.133
Median	1	95% KM (Chebyshev) UCL	2.876
SD	2.072	97.5% KM (Chebyshev) UCL	3.424
k star	0.241	99% KM (Chebyshev) UCL	4.499
Theta star	6.661		
Nu star	24.59	Potential UCLs to Use	
AppChi2	14.3	95% KM (Chebyshev) UCL	2.876
95% Gamma Approximate UCL (Use when n >= 40)	2.762		
95% Adjusted Gamma UCL (Use when n < 40)	2.807		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)			
Number of Valid Data	51	Number of Detected Data	42
Number of Distinct Detected Data	35	Number of Non-Detect Data	9
		Percent Non-Detects	17.65%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0011	Minimum Detected	-6.812
Maximum Detected	9	Maximum Detected	2.197
Mean of Detected	0.891	Mean of Detected	-1.128
SD of Detected	1.438	SD of Detected	1.871
Minimum Non-Detect	7.90E-04	Minimum Non-Detect	-7.143
Maximum Non-Detect	2.3	Maximum Non-Detect	0.833

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	49
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	96.08%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.524	Shapiro Wilk Test Statistic	0.861
5% Shapiro Wilk Critical Value	0.942	5% Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.762	Mean	-1.735
SD	1.341	SD	2.431
95% DL/2 (t) UCL	1.076	95% H-Stat (DL/2) UCL	13.99
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.652
		SD in Log Scale	2.092
		Mean in Original Scale	0.739
		SD in Original Scale	1.344
		95% t UCL	1.055
		95% Percentile Bootstrap UCL	1.085
		95% BCA Bootstrap UCL	1.268
		95% H-UCL	5.047
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.581	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.532		
nu star	48.83		
A-D Test Statistic	0.413	Nonparametric Statistics	
5% A-D Critical Value	0.803	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.803	Mean	0.747
5% K-S Critical Value	0.143	SD	1.331
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.189
		95% KM (t) UCL	1.063
Assuming Gamma Distribution		95% KM (z) UCL	1.058
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.062
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.356
Maximum	9	95% KM (BCA) UCL	1.113
Mean	0.741	95% KM (Percentile Bootstrap) UCL	1.084
Median	0.39	95% KM (Chebyshev) UCL	1.571
SD	1.344	97.5% KM (Chebyshev) UCL	1.927
k star	0.25	99% KM (Chebyshev) UCL	2.628
Theta star	2.961		
Nu star	25.52	Potential UCLs to Use	
AppChi2	15.01	95% KM (Chebyshev) UCL	1.571
95% Gamma Approximate UCL (Use when n >= 40)	1.26		
95% Adjusted Gamma UCL (Use when n < 40)	1.28		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	51	Number of Detected Data	39
Number of Distinct Detected Data	35	Number of Non-Detect Data	12
		Percent Non-Detects	23.53%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0042	Minimum Detected	-5.473
Maximum Detected	9.1	Maximum Detected	2.208
Mean of Detected	1.222	Mean of Detected	-0.723
SD of Detected	1.634	SD of Detected	1.721
Minimum Non-Detect	9.50E-04	Minimum Non-Detect	-6.959
Maximum Non-Detect	1.5	Maximum Non-Detect	0.405

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	38
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	13
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	74.51%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.681	Shapiro Wilk Test Statistic	0.912
5% Shapiro Wilk Critical Value	0.939	5% Shapiro Wilk Critical Value	0.939
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.956	Mean	-1.643
SD	1.508	SD	2.533
95% DL/2 (t) UCL	1.31	95% H-Stat (DL/2) UCL	22.11
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.459
		SD in Log Scale	2.044
		Mean in Original Scale	0.942
		SD in Original Scale	1.513
		95% t UCL	1.297
		95% Percentile Bootstrap UCL	1.283
		95% BCA Bootstrap UCL	1.523
		95% H-UCL	5.305
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.626	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.952		
nu star	48.84		
A-D Test Statistic	0.366	Nonparametric Statistics	
5% A-D Critical Value	0.798	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.798	Mean	0.943
5% K-S Critical Value	0.148	SD	1.499
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.213
		95% KM (t) UCL	1.3
Assuming Gamma Distribution		95% KM (z) UCL	1.293
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.299
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.464
Maximum	9.1	95% KM (BCA) UCL	1.3
Mean	0.935	95% KM (Percentile Bootstrap) UCL	1.303
Median	0.32	95% KM (Chebyshev) UCL	1.871
SD	1.518	97.5% KM (Chebyshev) UCL	2.272
k star	0.199	99% KM (Chebyshev) UCL	3.06
Theta star	4.701		
Nu star	20.28	Potential UCLs to Use	
AppChi2	11.06	95% KM (Chebyshev) UCL	1.871
95% Gamma Approximate UCL (Use when n >= 40)	1.714		
95% Adjusted Gamma UCL (Use when n < 40)	1.746		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	51	Number of Detected Data	27
Number of Distinct Detected Data	25	Number of Non-Detect Data	24
		Percent Non-Detects	47.06%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.66	Minimum Detected	-0.416
Maximum Detected	24.6	Maximum Detected	3.203
Mean of Detected	2.745	Mean of Detected	0.531
SD of Detected	4.561	SD of Detected	0.838
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.38	Maximum Non-Detect	-0.968

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	27
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	47.06%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.429	Shapiro Wilk Test Statistic	0.887
5% Shapiro Wilk Critical Value	0.923	5% Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.458	Mean	-2.813
SD	3.566	SD	3.721
95% DL/2 (t) UCL	2.295	95% H-Stat (DL/2) UCL	1437

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.519
		SD in Log Scale	1.371
		Mean in Original Scale	1.56
		SD in Original Scale	3.527
		95% t UCL	2.387
		95% Percentile Bootstrap UCL	2.446
		95% BCA Bootstrap UCL	3.163
		95% H-UCL	2.581

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.076	Data do not follow a Discernable Distribution (0.05)
Theta Star	2.55	
nu star	58.13	

		Nonparametric Statistics	
A-D Test Statistic	1.783		
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	1.764
5% K-S Critical Value	0.172	SD	3.419
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.488
		95% KM (t) UCL	2.581
Assuming Gamma Distribution		95% KM (z) UCL	2.566
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.561
Minimum	1.00E-06	95% KM (bootstrap t) UCL	4.178
Maximum	24.6	95% KM (BCA) UCL	2.86
Mean	1.453	95% KM (Percentile Bootstrap) UCL	2.707
Median	0.69	95% KM (Chebyshev) UCL	3.89
SD	3.568	97.5% KM (Chebyshev) UCL	4.81
k star	0.126	99% KM (Chebyshev) UCL	6.618
Theta star	11.51		
Nu star	12.88	Potential UCLs to Use	
AppChi2	5.809	95% KM (t) UCL	2.581
95% Gamma Approximate UCL (Use when n >= 40)	3.221	95% KM (% Bootstrap) UCL	2.707
95% Adjusted Gamma UCL (Use when n < 40)	3.3		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	51	Number of Distinct Observations	42
Raw Statistics		Log-transformed Statistics	
Minimum	3.35	Minimum of Log Data	1.209
Maximum	230	Maximum of Log Data	5.438
Mean	14.18	Mean of log Data	2.065
Geometric Mean	7.886	SD of log Data	0.814
Median	6		
SD	32.46		
Std. Error of Mean	4.545		
Coefficient of Variation	2.289		
Skewness	6.153		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.382	Lilliefors Test Statistic	0.267
Lilliefors Critical Value	0.124	Lilliefors Critical Value	0.124
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	21.79	95% H-UCL	14.03
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16.98
95% Adjusted-CLT UCL (Chen-1995)	25.84	97.5% Chebyshev (MVUE) UCL	19.62
95% Modified-t UCL (Johnson-1978)	22.45	99% Chebyshev (MVUE) UCL	24.79
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.941	Data do not follow a Discernable Distribution (0.05)	
Theta Star	15.07		
MLE of Mean	14.18		
MLE of Standard Deviation	14.62		
nu star	95.96		
Approximate Chi Square Value (.05)	74.37	Nonparametric Statistics	
Adjusted Level of Significance	0.0453	95% CLT UCL	21.65
Adjusted Chi Square Value	73.81	95% Jackknife UCL	21.79
		95% Standard Bootstrap UCL	21.77
Anderson-Darling Test Statistic	7.413	95% Bootstrap-t UCL	38.85
Anderson-Darling 5% Critical Value	0.781	95% Hall's Bootstrap UCL	46.28
Kolmogorov-Smirnov Test Statistic	0.351	95% Percentile Bootstrap UCL	22.38
Kolmogorov-Smirnov 5% Critical Value	0.128	95% BCA Bootstrap UCL	28.52
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	33.99
		97.5% Chebyshev(Mean, Sd) UCL	42.56
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	59.4
95% Approximate Gamma UCL (Use when n >= 40)	18.29		
95% Adjusted Gamma UCL (Use when n < 40)	18.43		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	33.99

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg)

Number of Valid Observations	51	Number of Distinct Observations	47
Raw Statistics		Log-transformed Statistics	
Minimum	2.4	Minimum of Log Data	0.875
Maximum	6550	Maximum of Log Data	8.787
Mean	193.1	Mean of log Data	3.028
Geometric Mean	20.65	SD of log Data	1.56
Median	15.9		
SD	928.1		
Std. Error of Mean	130		
Coefficient of Variation	4.807		
Skewness	6.711		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.466	Lilliefors Test Statistic	0.118
Lilliefors Critical Value	0.124	Lilliefors Critical Value	0.124
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	410.9	95% H-UCL	133.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	151.4
95% Adjusted-CLT UCL (Chen-1995)	537.4	97.5% Chebyshev (MVUE) UCL	188.3
95% Modified-t UCL (Johnson-1978)	431.2	99% Chebyshev (MVUE) UCL	260.6
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.302	Data appear Lognormal at 5% Significance Level	
Theta Star	638.7		
MLE of Mean	193.1		
MLE of Standard Deviation	351.2		
nu star	30.83		
Approximate Chi Square Value (.05)	19.15	Nonparametric Statistics	
Adjusted Level of Significance	0.0453	95% CLT UCL	406.9
Adjusted Chi Square Value	18.88	95% Jackknife UCL	410.9
		95% Standard Bootstrap UCL	407.6
Anderson-Darling Test Statistic	8.056	95% Bootstrap-t UCL	1436
Anderson-Darling 5% Critical Value	0.861	95% Hall's Bootstrap UCL	1427
Kolmogorov-Smirnov Test Statistic	0.3	95% Percentile Bootstrap UCL	436.4
Kolmogorov-Smirnov 5% Critical Value	0.135	95% BCA Bootstrap UCL	605.1
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	759.6
		97.5% Chebyshev(Mean, Sd) UCL	1005
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1486
95% Approximate Gamma UCL (Use when n >= 40)	310.9		
95% Adjusted Gamma UCL (Use when n < 40)	315.3		
Potential UCL to Use		Use 95% H-UCL	133.8

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	51	Number of Detected Data	33
Number of Distinct Detected Data	30	Number of Non-Detect Data	18
		Percent Non-Detects	35.29%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0027	Minimum Detected	-5.915
Maximum Detected	2.4	Maximum Detected	0.875
Mean of Detected	0.26	Mean of Detected	-2.217
SD of Detected	0.432	SD of Detected	1.432
Minimum Non-Detect	7.90E-04	Minimum Non-Detect	-7.143
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	51
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.549	Shapiro Wilk Test Statistic	0.984
5% Shapiro Wilk Critical Value	0.931	5% Shapiro Wilk Critical Value	0.931
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.285	Mean	-2.713
SD	0.463	SD	2.164
95% DL/2 (t) UCL	0.393	95% H-Stat (DL/2) UCL	2.175

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.93
		SD in Log Scale	1.614
		Mean in Original Scale	0.176
		SD in Original Scale	0.364
		95% t UCL	0.261
		95% Percentile Bootstrap UCL	0.261
		95% BCA Bootstrap UCL	0.318
		95% H-UCL	0.392

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.653	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.398	
nu star	43.11	

		Nonparametric Statistics	
A-D Test Statistic	0.509		
5% A-D Critical Value	0.793	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.793	Mean	0.187
5% K-S Critical Value	0.16	SD	0.366
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0532
		95% KM (t) UCL	0.276
Assuming Gamma Distribution		95% KM (z) UCL	0.274
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.274
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.355
Maximum	2.4	95% KM (BCA) UCL	0.288
Mean	0.175	95% KM (Percentile Bootstrap) UCL	0.28
Median	0.063	95% KM (Chebyshev) UCL	0.419
SD	0.365	97.5% KM (Chebyshev) UCL	0.519
k star	0.221	99% KM (Chebyshev) UCL	0.716
Theta star	0.794		
Nu star	22.5	Potential UCLs to Use	
AppChi2	12.71	95% KM (BCA) UCL	0.288
95% Gamma Approximate UCL (Use when n >= 40)	0.31		
95% Adjusted Gamma UCL (Use when n < 40)	0.315		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	51	Number of Detected Data	41
Number of Distinct Detected Data	34	Number of Non-Detect Data	10
		Percent Non-Detects	19.61%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0053	Minimum Detected	-5.24
Maximum Detected	7.5	Maximum Detected	2.015
Mean of Detected	1.008	Mean of Detected	-0.739
SD of Detected	1.271	SD of Detected	1.548
Minimum Non-Detect	8.10E-04	Minimum Non-Detect	-7.118
Maximum Non-Detect	2.3	Maximum Non-Detect	0.833

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	47
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	92.16%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.665	Shapiro Wilk Test Statistic	0.893
5% Shapiro Wilk Critical Value	0.941	5% Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.838	Mean	-1.578
SD	1.199	SD	2.503
95% DL/2 (t) UCL	1.119	95% H-Stat (DL/2) UCL	21.16
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.257
		SD in Log Scale	1.778
		Mean in Original Scale	0.821
		SD in Original Scale	1.2
		95% t UCL	1.102
		95% Percentile Bootstrap UCL	1.102
		95% BCA Bootstrap UCL	1.212
		95% H-UCL	3.117
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.753	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.338		
nu star	61.78		
A-D Test Statistic	0.388	Nonparametric Statistics	
5% A-D Critical Value	0.787	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.787	Mean	0.825
5% K-S Critical Value	0.143	SD	1.191
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.169
		95% KM (t) UCL	1.108
Assuming Gamma Distribution		95% KM (z) UCL	1.103
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.107
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.257
Maximum	7.5	95% KM (BCA) UCL	1.124
Mean	0.819	95% KM (Percentile Bootstrap) UCL	1.118
Median	0.48	95% KM (Chebyshev) UCL	1.562
SD	1.202	97.5% KM (Chebyshev) UCL	1.881
k star	0.248	99% KM (Chebyshev) UCL	2.508
Theta star	3.306		
Nu star	25.28	Potential UCLs to Use	
AppChi2	14.83	95% KM (Chebyshev) UCL	1.562
95% Gamma Approximate UCL (Use when n >= 40)	1.397		
95% Adjusted Gamma UCL (Use when n < 40)	1.419		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	51	Number of Distinct Observations	48
Raw Statistics		Log-transformed Statistics	
Minimum	7740	Minimum of Log Data	8.954
Maximum	281000	Maximum of Log Data	12.55
Mean	24360	Mean of log Data	9.843
Geometric Mean	18822	SD of log Data	0.546
Median	17400		
SD	37464		
Std. Error of Mean	5246		
Coefficient of Variation	1.538		
Skewness	6.68		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.35	Lilliefors Test Statistic	0.126
Lilliefors Critical Value	0.124	Lilliefors Critical Value	0.124
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	33152	95% H-UCL	25324
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	29479
95% Adjusted-CLT UCL (Chen-1995)	38232	97.5% Chebyshev (MVUE) UCL	32810
95% Modified-t UCL (Johnson-1978)	33969	99% Chebyshev (MVUE) UCL	39353
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.98	Data do not follow a Discernable Distribution (0.05)	
Theta Star	12301		
MLE of Mean	24360		
MLE of Standard Deviation	17310		
nu star	202		
Approximate Chi Square Value (.05)	170.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0453	95% CLT UCL	32989
Adjusted Chi Square Value	169.3	95% Jackknife UCL	33152
		95% Standard Bootstrap UCL	33087
Anderson-Darling Test Statistic	4.457	95% Bootstrap-t UCL	58612
Anderson-Darling 5% Critical Value	0.762	95% Hall's Bootstrap UCL	67147
Kolmogorov-Smirnov Test Statistic	0.217	95% Percentile Bootstrap UCL	34383
Kolmogorov-Smirnov 5% Critical Value	0.126	95% BCA Bootstrap UCL	39143
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	47227
		97.5% Chebyshev(Mean, Sd) UCL	57121
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	76557
95% Approximate Gamma UCL (Use when n >= 40)	28926		
95% Adjusted Gamma UCL (Use when n < 40)	29071		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	47227

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	51	Number of Distinct Observations	49

Raw Statistics		Log-transformed Statistics	
Minimum	46.6	Minimum of Log Data	3.842
Maximum	2410	Maximum of Log Data	7.787
Mean	223.4	Mean of log Data	5.036
Geometric Mean	153.9	SD of log Data	0.746
Median	139		
SD	338.3		
Std. Error of Mean	47.37		
Coefficient of Variation	1.514		
Skewness	5.668		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.301	Lilliefors Test Statistic	0.0985
Lilliefors Critical Value	0.124	Lilliefors Critical Value	0.124
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	302.8	95% H-UCL	252.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	303.6
95% Adjusted-CLT UCL (Chen-1995)	341.5	97.5% Chebyshev (MVUE) UCL	347.6
95% Modified-t UCL (Johnson-1978)	309.1	99% Chebyshev (MVUE) UCL	434.1

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.412	Data appear Lognormal at 5% Significance Level	
Theta Star	158.3		
MLE of Mean	223.4		
MLE of Standard Deviation	188		
nu star	144		
Approximate Chi Square Value (.05)	117.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0453	95% CLT UCL	301.3
Adjusted Chi Square Value	116.6	95% Jackknife UCL	302.8
		95% Standard Bootstrap UCL	299.7
Anderson-Darling Test Statistic	2.329	95% Bootstrap-t UCL	426.9
Anderson-Darling 5% Critical Value	0.768	95% Hall's Bootstrap UCL	598
Kolmogorov-Smirnov Test Statistic	0.18	95% Percentile Bootstrap UCL	306.8
Kolmogorov-Smirnov 5% Critical Value	0.126	95% BCA Bootstrap UCL	368.4
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	429.9
		97.5% Chebyshev(Mean, Sd) UCL	519.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	694.7
95% Approximate Gamma UCL (Use when n >= 40)	274.3		
95% Adjusted Gamma UCL (Use when n < 40)	276		

Potential UCL to Use	Use 95% H-UCL	252.7

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	51	Number of Detected Data	42
Number of Distinct Detected Data	35	Number of Non-Detect Data	9
		Percent Non-Detects	17.65%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0045	Minimum Detected	-5.404
Maximum Detected	17	Maximum Detected	2.833
Mean of Detected	1.592	Mean of Detected	-0.532
SD of Detected	2.737	SD of Detected	1.773
Minimum Non-Detect	9.50E-04	Minimum Non-Detect	-6.959
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	29
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	43.14%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.506	Shapiro Wilk Test Statistic	0.878
5% Shapiro Wilk Critical Value	0.942	5% Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.316	Mean	-1.478
SD	2.551	SD	2.76
95% DL/2 (t) UCL	1.915	95% H-Stat (DL/2) UCL	61.82

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.174	Mean in Log Scale	-1.136
SD	3.604	SD in Log Scale	2.088
95% MLE (t) UCL	1.02	Mean in Original Scale	1.315
95% MLE (Tiku) UCL	1.154	SD in Original Scale	2.551
		95% t UCL	1.914
		95% Percentile Bootstrap UCL	1.942
		95% BCA Bootstrap UCL	2.313
		95% H UCL	8.359

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.589	Data appear Gamma Distributed at 5% Significance Level
Theta Star	2.704	
nu star	49.45	

A-D Test Statistic	0.373	Nonparametric Statistics	
5% A-D Critical Value	0.802	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.802	Mean	1.314
5% K-S Critical Value	0.143	SD	2.527
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.358
		95% KM (t) UCL	1.914
Assuming Gamma Distribution		95% KM (z) UCL	1.903
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.913
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.628
Maximum	17	95% KM (BCA) UCL	1.936
Mean	1.311	95% KM (Percentile Bootstrap) UCL	1.958
Median	0.53	95% KM (Chebyshev) UCL	2.875
SD	2.553	97.5% KM (Chebyshev) UCL	3.55
k star	0.228	99% KM (Chebyshev) UCL	4.877
Theta star	5.738		
Nu star	23.31	Potential UCLs to Use	
AppChi2	13.32	95% KM (Chebyshev) UCL	2.875
95% Gamma Approximate UCL (Use when n >= 40)	2.294		
95% Adjusted Gamma UCL (Use when n < 40)	2.332		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	51	Number of Distinct Observations	45
Raw Statistics		Log-transformed Statistics	
Minimum	6.7	Minimum of Log Data	1.902
Maximum	76.6	Maximum of Log Data	4.339
Mean	15.96	Mean of log Data	2.615
Geometric Mean	13.67	SD of log Data	0.495
Median	12.2		
SD	12.1		
Std. Error of Mean	1.694		
Coefficient of Variation	0.758		
Skewness	3.203		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.324	Lilliefors Test Statistic	0.211
Lilliefors Critical Value	0.124	Lilliefors Critical Value	0.124
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	18.8	95% H-UCL	17.62
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	20.3
95% Adjusted-CLT UCL (Chen-1995)	19.56	97.5% Chebyshev (MVUE) UCL	22.41
95% Modified-t UCL (Johnson-1978)	18.93	99% Chebyshev (MVUE) UCL	26.57
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.195	Data do not follow a Discernable Distribution (0.05)	
Theta Star	4.995		
MLE of Mean	15.96		
MLE of Standard Deviation	8.929		
nu star	325.9		
Approximate Chi Square Value (.05)	285.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0453	95% CLT UCL	18.75
Adjusted Chi Square Value	284	95% Jackknife UCL	18.8
		95% Standard Bootstrap UCL	18.73
Anderson-Darling Test Statistic	4.359	95% Bootstrap-t UCL	20.29
Anderson-Darling 5% Critical Value	0.756	95% Hall's Bootstrap UCL	20.92
Kolmogorov-Smirnov Test Statistic	0.26	95% Percentile Bootstrap UCL	18.89
Kolmogorov-Smirnov 5% Critical Value	0.125	95% BCA Bootstrap UCL	19.92
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	23.35
		97.5% Chebyshev(Mean, Sd) UCL	26.54
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	32.82
95% Approximate Gamma UCL (Use when n >= 40)	18.25		
95% Adjusted Gamma UCL (Use when n < 40)	18.32		
Potential UCL to Use		Use 95% Student's-t UCL	18.8
		or 95% Modified-t UCL	18.93

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)			
Number of Valid Data	59	Number of Detected Data	44
Number of Distinct Detected Data	39	Number of Non-Detect Data	15
		Percent Non-Detects	25.42%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0066	Minimum Detected	-5.021
Maximum Detected	11	Maximum Detected	2.398
Mean of Detected	0.833	Mean of Detected	-1.648
SD of Detected	2.326	SD of Detected	1.516
Minimum Non-Detect	0.011	Minimum Non-Detect	-4.51
Maximum Non-Detect	0.15	Maximum Non-Detect	-1.897
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	35
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	24
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	59.32%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.359	Shapiro Wilk Test Statistic	0.955
5% Shapiro Wilk Critical Value	0.944	5% Shapiro Wilk Critical Value	0.944
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.626	Mean	-2.364
SD	2.034	SD	1.842
95% DL/2 (t) UCL	1.068	95% H-Stat (DL/2) UCL	1.232
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.411
		SD in Log Scale	1.877
		Mean in Original Scale	0.624
		SD in Original Scale	2.035
		95% t UCL	1.067
		95% Percentile Bootstrap UCL	1.104
		95% BCA Bootstrap UCL	1.307
		95% H-UCL	1.292
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.427	Data appear Lognormal at 5% Significance Level	
Theta Star	1.952		
nu star	37.56		
A-D Test Statistic	4.021	Nonparametric Statistics	
5% A-D Critical Value	0.827	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.827	Mean	0.624
5% K-S Critical Value	0.142	SD	2.017
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.266
		95% KM (t) UCL	1.068
Assuming Gamma Distribution		95% KM (z) UCL	1.061
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.065
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.899
Maximum	11	95% KM (BCA) UCL	1.121
Mean	0.621	95% KM (Percentile Bootstrap) UCL	1.137
Median	0.088	95% KM (Chebyshev) UCL	1.782
SD	2.036	97.5% KM (Chebyshev) UCL	2.284
k star	0.178	99% KM (Chebyshev) UCL	3.268
Theta star	3.485		
Nu star	21.04	Potential UCLs to Use	
AppChi2	11.62	97.5% KM (Chebyshev) UCL	2.284
95% Gamma Approximate UCL (Use when n >= 40)	1.125		
95% Adjusted Gamma UCL (Use when n < 40)	1.142		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	4
		Percent Non-Detects	36.36%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0026	Minimum Detected	-5.952
Maximum Detected	0.024	Maximum Detected	-3.73
Mean of Detected	0.0133	Mean of Detected	-4.577
SD of Detected	0.00867	SD of Detected	0.86
Minimum Non-Detect	0.0075	Minimum Non-Detect	-4.893
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.903	Shapiro Wilk Test Statistic	0.892
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.419	Mean	-3.684
SD	0.912	SD	2.338
95% DL/2 (t) UCL	0.917	95% H-Stat (DL/2) UCL	30.99

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.738
		SD in Log Scale	0.732
		Mean in Original Scale	0.011
		SD in Original Scale	0.00755
		95% t UCL	0.0151
		95% Percentile Bootstrap UCL	0.0147
		95% BCA Bootstrap UCL	0.015
		95% H-UCL	0.0205

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.279	Data appear Normal at 5% Significance Level
Theta Star	0.0104	
nu star	17.91	

		Nonparametric Statistics	
A-D Test Statistic	0.372		
5% A-D Critical Value	0.715	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.715	Mean	0.0117
5% K-S Critical Value	0.315	SD	0.00807
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00301
		95% KM (t) UCL	0.0172
Assuming Gamma Distribution		95% KM (z) UCL	0.0167
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0172
Minimum	0.0026	95% KM (bootstrap t) UCL	0.0178
Maximum	0.024	95% KM (BCA) UCL	0.0166
Mean	0.0117	95% KM (Percentile Bootstrap) UCL	0.0166
Median	0.011	95% KM (Chebyshev) UCL	0.0248
SD	0.00747	97.5% KM (Chebyshev) UCL	0.0305
k star	1.715	99% KM (Chebyshev) UCL	0.0417
Theta star	0.00684		
Nu star	37.72	Potential UCLs to Use	
AppChi2	24.66	95% KM (t) UCL	0.0172
95% Gamma Approximate UCL (Use when n >= 40)	0.0179	95% KM (Percentile Bootstrap) UCL	0.0166
95% Adjusted Gamma UCL (Use when n < 40)	0.0193		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	5450	Minimum of Log Data	8.603
Maximum	22300	Maximum of Log Data	10.01
Mean	13779	Mean of log Data	9.423
Geometric Mean	12375	SD of log Data	0.501
Median	11000		
SD	6353		
Std. Error of Mean	1916		
Coefficient of Variation	0.461		
Skewness	0.21		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.893	Shapiro Wilk Test Statistic	0.917
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	17251	95% H-UCL	19798
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	23160
95% Adjusted-CLT UCL (Chen-1995)	17059	97.5% Chebyshev (MVUE) UCL	27186
95% Modified-t UCL (Johnson-1978)	17271	99% Chebyshev (MVUE) UCL	35096

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.561	Data appear Normal at 5% Significance Level	
Theta Star	3869		
MLE of Mean	13779		
MLE of Standard Deviation	7301		
nu star	78.35		
Approximate Chi Square Value (.05)	58.96	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	16930
Adjusted Chi Square Value	56.22	95% Jackknife UCL	17251
		95% Standard Bootstrap UCL	16780
Anderson-Darling Test Statistic	0.427	95% Bootstrap-t UCL	17401
Anderson-Darling 5% Critical Value	0.732	95% Hall's Bootstrap UCL	16617
Kolmogorov-Smirnov Test Statistic	0.191	95% Percentile Bootstrap UCL	16814
Kolmogorov-Smirnov 5% Critical Value	0.256	95% BCA Bootstrap UCL	16682
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	22129
		97.5% Chebyshev(Mean, Sd) UCL	25742
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	32839
95% Approximate Gamma UCL (Use when n >= 40)	18311		
95% Adjusted Gamma UCL (Use when n < 40)	19202		

Potential UCL to Use	Use 95% Student's-t UCL	17251

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	0.69	Minimum of Log Data	-0.371
Maximum	13	Maximum of Log Data	2.565
Mean	4.399	Mean of log Data	1.132
Geometric Mean	3.101	SD of log Data	0.888
Median	3.8		
SD	4.007		
Std. Error of Mean	1.208		
Coefficient of Variation	0.911		
Skewness	1.51		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.791	Shapiro Wilk Test Statistic	0.964
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	6.589	95% H-UCL	10.05
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9.78
95% Adjusted-CLT UCL (Chen-1995)	6.974	97.5% Chebyshev (MVUE) UCL	12.11
95% Modified-t UCL (Johnson-1978)	6.68	99% Chebyshev (MVUE) UCL	16.69

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.206	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.646		
MLE of Mean	4.399		
MLE of Standard Deviation	4.005		
nu star	26.54		
Approximate Chi Square Value (.05)	15.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	6.386
Adjusted Chi Square Value	14.46	95% Jackknife UCL	6.589
		95% Standard Bootstrap UCL	6.293
Anderson-Darling Test Statistic	0.393	95% Bootstrap-t UCL	9.211
Anderson-Darling 5% Critical Value	0.742	95% Hall's Bootstrap UCL	19.06
Kolmogorov-Smirnov Test Statistic	0.181	95% Percentile Bootstrap UCL	6.409
Kolmogorov-Smirnov 5% Critical Value	0.26	95% BCA Bootstrap UCL	6.799
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9.665
		97.5% Chebyshev(Mean, Sd) UCL	11.94
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	16.42
95% Approximate Gamma UCL (Use when n >= 40)	7.391		
95% Adjusted Gamma UCL (Use when n < 40)	8.074		

Potential UCL to Use	Use 95% Approximate Gamma UCL	7.391

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	9	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.16	Minimum Detected	-1.833
Maximum Detected	3.4	Maximum Detected	1.224
Mean of Detected	1.688	Mean of Detected	0.197
SD of Detected	1.131	SD of Detected	0.998
Minimum Non-Detect	0.0017	Minimum Non-Detect	-6.377
Maximum Non-Detect	0.0017	Maximum Non-Detect	-6.377

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.938	Shapiro Wilk Test Statistic	0.878
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.535	Mean	-0.463
SD	1.188	SD	2.387
95% DL/2 (t) UCL	2.184	95% H-Stat (DL/2) UCL	1045

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.481	Mean in Log Scale	-0.0112
SD	1.225	SD in Log Scale	1.173
95% MLE (t) UCL	2.15	Mean in Original Scale	1.546
95% MLE (Tiku) UCL	2.15	SD in Original Scale	1.172
		95% t UCL	2.186
		95% Percentile Bootstrap UCL	2.109
		95% BCA Bootstrap UCL	2.126
		95% H UCL	6.791

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.243	Data appear Normal at 5% Significance Level
Theta Star	1.358	
nu star	24.86	

		Nonparametric Statistics	
A-D Test Statistic	0.352		
5% A-D Critical Value	0.738	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.738	Mean	1.549
5% K-S Critical Value	0.271	SD	1.113
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.354
		95% KM (t) UCL	2.19
Assuming Gamma Distribution		95% KM (z) UCL	2.131
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.184
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.261
Maximum	3.4	95% KM (BCA) UCL	2.138
Mean	1.535	95% KM (Percentile Bootstrap) UCL	2.133
Median	1.2	95% KM (Chebyshev) UCL	3.092
SD	1.188	97.5% KM (Chebyshev) UCL	3.759
k star	0.375	99% KM (Chebyshev) UCL	5.07
Theta star	4.095		
Nu star	8.245	Potential UCLs to Use	
AppChi2	2.878	95% KM (t) UCL	2.19
95% Gamma Approximate UCL (Use when n >= 40)	4.397	95% KM (Percentile Bootstrap) UCL	2.133
95% Adjusted Gamma UCL (Use when n < 40)	5.302		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.18	Minimum Detected	-1.715
Maximum Detected	3.5	Maximum Detected	1.253
Mean of Detected	1.851	Mean of Detected	0.291
SD of Detected	1.228	SD of Detected	0.998
Minimum Non-Detect	0.0017	Minimum Non-Detect	-6.377
Maximum Non-Detect	0.0017	Maximum Non-Detect	-6.377

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.909	Shapiro Wilk Test Statistic	0.86
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.683	Mean	-0.378
SD	1.292	SD	2.413
95% DL/2 (t) UCL	2.389	95% H-Stat (DL/2) UCL	1334

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.624	Mean in Log Scale	0.0846
SD	1.333	SD in Log Scale	1.169
95% MLE (t) UCL	2.353	Mean in Original Scale	1.695
95% MLE (Tiku) UCL	2.353	SD in Original Scale	1.275
		95% t UCL	2.392
		95% Percentile Bootstrap UCL	2.321
		95% BCA Bootstrap UCL	2.315
		95% H UCL	7.393

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.249	Data appear Normal at 5% Significance Level
Theta Star	1.482	
nu star	24.97	

		Nonparametric Statistics	
A-D Test Statistic	0.422		
5% A-D Critical Value	0.738	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.738	Mean	1.699
5% K-S Critical Value	0.271	SD	1.21
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.385
		95% KM (t) UCL	2.396
Assuming Gamma Distribution		95% KM (z) UCL	2.332
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.389
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.486
Maximum	3.5	95% KM (BCA) UCL	2.412
Mean	1.683	95% KM (Percentile Bootstrap) UCL	2.362
Median	1.5	95% KM (Chebyshev) UCL	3.376
SD	1.292	97.5% KM (Chebyshev) UCL	4.102
k star	0.374	99% KM (Chebyshev) UCL	5.527
Theta star	4.505		
Nu star	8.218	Potential UCLs to Use	
AppChi2	2.862	95% KM (t) UCL	2.396
95% Gamma Approximate UCL (Use when n >= 40)	4.832	95% KM (Percentile Bootstrap) UCL	2.362
95% Adjusted Gamma UCL (Use when n < 40)	5.83		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.39	Minimum Detected	-0.942
Maximum Detected	5.7	Maximum Detected	1.74
Mean of Detected	2.925	Mean of Detected	0.744
SD of Detected	2.046	SD of Detected	0.961
Minimum Non-Detect	0.0027	Minimum Non-Detect	-5.915
Maximum Non-Detect	0.0027	Maximum Non-Detect	-5.915

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.889	Shapiro Wilk Test Statistic	0.893
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.659	Mean	0.0759
SD	2.132	SD	2.397
95% DL/2 (t) UCL	3.824	95% H-Stat (DL/2) UCL	1899

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.561	Mean in Log Scale	0.538
SD	2.198	SD in Log Scale	1.14
95% MLE (t) UCL	3.762	Mean in Original Scale	2.679
95% MLE (Tiku) UCL	3.757	SD in Original Scale	2.106
		95% t UCL	3.83
		95% Percentile Bootstrap UCL	3.665
		95% BCA Bootstrap UCL	3.732
		95% H UCL	10.66

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.234	Data appear Normal at 5% Significance Level
Theta Star	2.371	
nu star	24.67	

		Nonparametric Statistics	
A-D Test Statistic	0.412		
5% A-D Critical Value	0.738	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.738	Mean	2.695
5% K-S Critical Value	0.271	SD	1.989
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.632
		95% KM (t) UCL	3.84
Assuming Gamma Distribution		95% KM (z) UCL	3.734
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.83
Minimum	1.00E-06	95% KM (bootstrap t) UCL	3.912
Maximum	5.7	95% KM (BCA) UCL	3.78
Mean	2.659	95% KM (Percentile Bootstrap) UCL	3.742
Median	2.1	95% KM (Chebyshev) UCL	5.45
SD	2.132	97.5% KM (Chebyshev) UCL	6.642
k star	0.366	99% KM (Chebyshev) UCL	8.985
Theta star	7.273		
Nu star	8.043	Potential UCLs to Use	
AppChi2	2.76	95% KM (t) UCL	3.84
95% Gamma Approximate UCL (Use when n >= 40)	7.749	95% KM (Percentile Bootstrap) UCL	3.742
95% Adjusted Gamma UCL (Use when n < 40)	9.375		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	2
		Percent Non-Detects	18.18%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.2	Minimum Detected	-1.609
Maximum Detected	2.4	Maximum Detected	0.875
Mean of Detected	1.272	Mean of Detected	-0.1
SD of Detected	0.88	SD of Detected	0.993
Minimum Non-Detect	0.0024	Minimum Non-Detect	-6.032
Maximum Non-Detect	0.11	Maximum Non-Detect	-2.207

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	2
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	18.18%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.893	Shapiro Wilk Test Statistic	0.853
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.046	Mean	-0.957
SD	0.935	SD	2.27
95% DL/2 (t) UCL	1.557	95% H-Stat (DL/2) UCL	319.8

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.956	Mean in Log Scale	-0.507
SD	1.028	SD in Log Scale	1.269
95% MLE (t) UCL	1.518	Mean in Original Scale	1.058
95% MLE (Tiku) UCL	1.527	SD in Original Scale	0.92
		95% t UCL	1.561
		95% Percentile Bootstrap UCL	1.499
		95% BCA Bootstrap UCL	1.553
		95% H UCL	5.572

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.15	Data appear Normal at 5% Significance Level
Theta Star	1.106	
nu star	20.7	

		Nonparametric Statistics	
A-D Test Statistic	0.493		
5% A-D Critical Value	0.733	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.733	Mean	1.077
5% K-S Critical Value	0.284	SD	0.857
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.274
		95% KM (t) UCL	1.574
Assuming Gamma Distribution		95% KM (z) UCL	1.528
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.568
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.572
Maximum	2.4	95% KM (BCA) UCL	1.56
Mean	1.041	95% KM (Percentile Bootstrap) UCL	1.542
Median	0.89	95% KM (Chebyshev) UCL	2.272
SD	0.941	97.5% KM (Chebyshev) UCL	2.789
k star	0.255	99% KM (Chebyshev) UCL	3.805
Theta star	4.087		
Nu star	5.603	Potential UCLs to Use	
AppChi2	1.44	95% KM (t) UCL	1.574
95% Gamma Approximate UCL (Use when n >= 40)	4.049	95% KM (Percentile Bootstrap) UCL	1.542
95% Adjusted Gamma UCL (Use when n < 40)	5.177		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	8	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.14	Minimum Detected	-1.966
Maximum Detected	4.5	Maximum Detected	1.504
Mean of Detected	1.783	Mean of Detected	0.15
SD of Detected	1.45	SD of Detected	1.128
Minimum Non-Detect	0.0029	Minimum Non-Detect	-5.843
Maximum Non-Detect	0.0029	Maximum Non-Detect	-5.843

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.913	Shapiro Wilk Test Statistic	0.911
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.621	Mean	-0.458
SD	1.477	SD	2.283
95% DL/2 (t) UCL	2.428	95% H-Stat (DL/2) UCL	564.9

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.549	Mean in Log Scale	-0.0918
SD	1.52	SD in Log Scale	1.338
95% MLE (t) UCL	2.38	Mean in Original Scale	1.628
95% MLE (Tiku) UCL	2.366	SD in Original Scale	1.468
		95% t UCL	2.431
		95% Percentile Bootstrap UCL	2.345
		95% BCA Bootstrap UCL	2.388
		95% H UCL	10.6

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.983	Data appear Normal at 5% Significance Level
Theta Star	1.814	
nu star	19.66	

		Nonparametric Statistics	
A-D Test Statistic	0.253		
5% A-D Critical Value	0.743	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.743	Mean	1.634
5% K-S Critical Value	0.272	SD	1.394
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.443
		95% KM (t) UCL	2.437
Assuming Gamma Distribution		95% KM (z) UCL	2.363
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.43
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.711
Maximum	4.5	95% KM (BCA) UCL	2.412
Mean	1.621	95% KM (Percentile Bootstrap) UCL	2.371
Median	1.3	95% KM (Chebyshev) UCL	3.565
SD	1.477	97.5% KM (Chebyshev) UCL	4.401
k star	0.358	99% KM (Chebyshev) UCL	6.043
Theta star	4.526		
Nu star	7.879	Potential UCLs to Use	
AppChi2	2.665	95% KM (t) UCL	2.437
95% Gamma Approximate UCL (Use when n >= 40)	4.792	95% KM (Percentile Bootstrap) UCL	2.371
95% Adjusted Gamma UCL (Use when n < 40)	5.813		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

bis(2-Ethylhexyl) phthalate

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	0.15	Minimum of Log Data	-1.897
Maximum	47	Maximum of Log Data	3.85
Mean	17.42	Mean of log Data	2.159
Geometric Mean	8.664	SD of log Data	1.687
Median	18		
SD	14.97		
Std. Error of Mean	4.515		
Coefficient of Variation	0.859		
Skewness	0.753		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.929	Shapiro Wilk Test Statistic	0.85
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25.61	95% H-UCL	384.4
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	95.28
95% Adjusted-CLT UCL (Chen-1995)	25.94	97.5% Chebyshev (MVUE) UCL	124.3
95% Modified-t UCL (Johnson-1978)	25.78	99% Chebyshev (MVUE) UCL	181.3

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.674	Data appear Normal at 5% Significance Level	
Theta Star	25.84		
MLE of Mean	17.42		
MLE of Standard Deviation	21.22		
nu star	14.83		
Approximate Chi Square Value (.05)	7.145	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	24.85
Adjusted Chi Square Value	6.294	95% Jackknife UCL	25.61
		95% Standard Bootstrap UCL	24.58
Anderson-Darling Test Statistic	0.316	95% Bootstrap-t UCL	27.66
Anderson-Darling 5% Critical Value	0.758	95% Hall's Bootstrap UCL	26.66
Kolmogorov-Smirnov Test Statistic	0.2	95% Percentile Bootstrap UCL	24.5
Kolmogorov-Smirnov 5% Critical Value	0.264	95% BCA Bootstrap UCL	25.53
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	37.1
		97.5% Chebyshev(Mean, Sd) UCL	45.62
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	62.35
95% Approximate Gamma UCL (Use when n >= 40)	36.17		
95% Adjusted Gamma UCL (Use when n < 40)	41.05		

Potential UCL to Use	Use 95% Student's-t UCL	25.61

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	1.4	Minimum of Log Data	0.336
Maximum	68	Maximum of Log Data	4.22
Mean	15.53	Mean of log Data	2.198
Geometric Mean	9.008	SD of log Data	1.16
Median	14.8		
SD	18.5		
Std. Error of Mean	5.577		
Coefficient of Variation	1.191		
Skewness	2.625		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.648	Shapiro Wilk Test Statistic	0.901
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25.64	95% H-UCL	59.52
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	42.45
95% Adjusted-CLT UCL (Chen-1995)	29.42	97.5% Chebyshev (MVUE) UCL	53.83
95% Modified-t UCL (Johnson-1978)	26.37	99% Chebyshev (MVUE) UCL	76.19

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.827	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	18.78		
MLE of Mean	15.53		
MLE of Standard Deviation	17.07		
nu star	18.19		
Approximate Chi Square Value (.05)	9.531	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	24.7
Adjusted Chi Square Value	8.527	95% Jackknife UCL	25.64
		95% Standard Bootstrap UCL	24.52
Anderson-Darling Test Statistic	0.62	95% Bootstrap-t UCL	36.66
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	61.97
Kolmogorov-Smirnov Test Statistic	0.246	95% Percentile Bootstrap UCL	25.61
Kolmogorov-Smirnov 5% Critical Value	0.262	95% BCA Bootstrap UCL	28.17
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	39.84
		97.5% Chebyshev(Mean, Sd) UCL	50.36
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	71.02
95% Approximate Gamma UCL (Use when n >= 40)	29.64		
95% Adjusted Gamma UCL (Use when n < 40)	33.13		

Potential UCL to Use	Use 95% Approximate Gamma UCL	29.64

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	3.2	Minimum of Log Data	1.163
Maximum	21	Maximum of Log Data	3.045
Mean	9.3	Mean of log Data	2.097
Geometric Mean	8.143	SD of log Data	0.541
Median	8.9		
SD	5.213		
Std. Error of Mean	1.572		
Coefficient of Variation	0.561		
Skewness	1.276		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.891	Shapiro Wilk Test Statistic	0.986
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	12.15	95% H-UCL	13.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16.05
95% Adjusted-CLT UCL (Chen-1995)	12.53	97.5% Chebyshev (MVUE) UCL	18.98
95% Modified-t UCL (Johnson-1978)	12.25	99% Chebyshev (MVUE) UCL	24.72

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.912	Data appear Normal at 5% Significance Level	
Theta Star	3.193		
MLE of Mean	9.3		
MLE of Standard Deviation	5.45		
nu star	64.07		
Approximate Chi Square Value (.05)	46.65	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	11.89
Adjusted Chi Square Value	44.24	95% Jackknife UCL	12.15
		95% Standard Bootstrap UCL	11.82
Anderson-Darling Test Statistic	0.217	95% Bootstrap-t UCL	13.54
Anderson-Darling 5% Critical Value	0.733	95% Hall's Bootstrap UCL	27.37
Kolmogorov-Smirnov Test Statistic	0.158	95% Percentile Bootstrap UCL	11.88
Kolmogorov-Smirnov 5% Critical Value	0.257	95% BCA Bootstrap UCL	12.47
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16.15
		97.5% Chebyshev(Mean, Sd) UCL	19.12
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	24.94
95% Approximate Gamma UCL (Use when n >= 40)	12.77		
95% Adjusted Gamma UCL (Use when n < 40)	13.47		

Potential UCL to Use	Use 95% Student's-t UCL	12.15

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

di-n-Octylphthalate

General Statistics (Units in mg/kg)

Number of Valid Observations	9	Number of Distinct Observations	8

Raw Statistics		Log-transformed Statistics	
Minimum	0.044	Minimum of Log Data	-3.124
Maximum	25	Maximum of Log Data	3.219
Mean	5.23	Mean of log Data	0.164
Geometric Mean	1.178	SD of log Data	2.089
Median	1.4		
SD	8.469		
Std. Error of Mean	2.823		
Coefficient of Variation	1.619		
Skewness	2.016		

Warning: There are only 9 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.684	Shapiro Wilk Test Statistic	0.967
Shapiro Wilk Critical Value	0.829	Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	10.48	95% H-UCL	839.4
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	24.98
95% Adjusted-CLT UCL (Chen-1995)	11.9	97.5% Chebyshev (MVUE) UCL	33.09
95% Modified-t UCL (Johnson-1978)	10.8	99% Chebyshev (MVUE) UCL	49.01

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.364	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	14.36		
MLE of Mean	5.23		
MLE of Standard Deviation	8.665		
nu star	6.558		
Approximate Chi Square Value (.05)	1.932	Nonparametric Statistics	
Adjusted Level of Significance	0.0231	95% CLT UCL	9.874
Adjusted Chi Square Value	1.449	95% Jackknife UCL	10.48
		95% Standard Bootstrap UCL	9.642
Anderson-Darling Test Statistic	0.344	95% Bootstrap-t UCL	27.65
Anderson-Darling 5% Critical Value	0.783	95% Hall's Bootstrap UCL	33.24
Kolmogorov-Smirnov Test Statistic	0.213	95% Percentile Bootstrap UCL	10.38
Kolmogorov-Smirnov 5% Critical Value	0.296	95% BCA Bootstrap UCL	11.7
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	17.54
		97.5% Chebyshev(Mean, Sd) UCL	22.86
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	33.32
95% Approximate Gamma UCL (Use when n >= 40)	17.76		
95% Adjusted Gamma UCL (Use when n < 40)	23.68		

Potential UCL to Use		Use 95% Adjusted Gamma UCL	23.68

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	3
		Percent Non-Detects	27.27%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.048	Minimum Detected	-3.037
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.435	Mean of Detected	-1.306
SD of Detected	0.379	SD of Detected	1.158
Minimum Non-Detect	0.0024	Minimum Non-Detect	-6.032
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.845	Shapiro Wilk Test Statistic	0.889
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.725	Mean	-1.415
SD	0.835	SD	2.181
95% DL/2 (t) UCL	1.182	95% H-Stat (DL/2) UCL	122

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.608
		SD in Log Scale	1.273
		Mean in Original Scale	0.355
		SD in Original Scale	0.349
		95% t UCL	0.546
		95% Percentile Bootstrap UCL	0.53
		95% BCA Bootstrap UCL	0.56
		95% H-UCL	1.88

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.83	Data appear Normal at 5% Significance Level
Theta Star	0.524	
nu star	13.28	

		Nonparametric Statistics	
A-D Test Statistic	0.446		
5% A-D Critical Value	0.733	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.733	Mean	0.392
5% K-S Critical Value	0.3	SD	0.356
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.127
		95% KM (t) UCL	0.622
Assuming Gamma Distribution		95% KM (z) UCL	0.6
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.622
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.693
Maximum	1	95% KM (BCA) UCL	0.613
Mean	0.377	95% KM (Percentile Bootstrap) UCL	0.611
Median	0.27	95% KM (Chebyshev) UCL	0.945
SD	0.343	97.5% KM (Chebyshev) UCL	1.184
k star	0.389	99% KM (Chebyshev) UCL	1.653
Theta star	0.97		
Nu star	8.556	Potential UCLs to Use	
AppChi2	3.061	95% KM (t) UCL	0.622
95% Gamma Approximate UCL (Use when n >= 40)	1.054	95% KM (Percentile Bootstrap) UCL	0.611
95% Adjusted Gamma UCL (Use when n < 40)	1.266		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	9
Number of Distinct Detected Data	7	Number of Non-Detect Data	2
		Percent Non-Detects	18.18%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.26	Minimum Detected	-1.347
Maximum Detected	3.1	Maximum Detected	1.131
Mean of Detected	1.601	Mean of Detected	0.178
SD of Detected	1.118	SD of Detected	0.896
Minimum Non-Detect	0.0025	Minimum Non-Detect	-5.991
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.858	Shapiro Wilk Test Statistic	0.88
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.537	Mean	-0.379
SD	1.154	SD	2.251
95% DL/2 (t) UCL	2.168	95% H-Stat (DL/2) UCL	509

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.0302
		SD in Log Scale	1.02
		Mean in Original Scale	1.413
		SD in Original Scale	1.1
		95% t UCL	2.014
		95% Percentile Bootstrap UCL	1.923
		95% BCA Bootstrap UCL	1.991
		95% H-UCL	4.345

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.313	Data appear Normal at 5% Significance Level
Theta Star	1.22	
nu star	23.63	

		Nonparametric Statistics	
A-D Test Statistic	0.46		
5% A-D Critical Value	0.731	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.731	Mean	1.467
5% K-S Critical Value	0.283	SD	1.078
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.362
		95% KM (t) UCL	2.122
Assuming Gamma Distribution		95% KM (z) UCL	2.062
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.119
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.2
Maximum	3.1	95% KM (BCA) UCL	2.095
Mean	1.439	95% KM (Percentile Bootstrap) UCL	2.094
Median	1.3	95% KM (Chebyshev) UCL	3.043
SD	1.109	97.5% KM (Chebyshev) UCL	3.725
k star	0.386	99% KM (Chebyshev) UCL	5.064
Theta star	3.725		
Nu star	8.502	Potential UCLs to Use	
AppChi2	3.029	95% KM (t) UCL	2.122
95% Gamma Approximate UCL (Use when n >= 40)	4.04	95% KM (Percentile Bootstrap) UCL	2.094
95% Adjusted Gamma UCL (Use when n < 40)	4.853		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	11900	Minimum of Log Data	9.384
Maximum	36100	Maximum of Log Data	10.49
Mean	23227	Mean of log Data	9.966
Geometric Mean	21285	SD of log Data	0.45
Median	22000		
SD	9613		
Std. Error of Mean	2898		
Coefficient of Variation	0.414		
Skewness	0.0186		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.877	Shapiro Wilk Test Statistic	0.861
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	28480	95% H-UCL	31830
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	37372
95% Adjusted-CLT UCL (Chen-1995)	28012	97.5% Chebyshev (MVUE) UCL	43449
95% Modified-t UCL (Johnson-1978)	28483	99% Chebyshev (MVUE) UCL	55388

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.343	Data appear Normal at 5% Significance Level	
Theta Star	5348		
MLE of Mean	23227		
MLE of Standard Deviation	11145		
nu star	95.55		
Approximate Chi Square Value (.05)	74.01	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	27995
Adjusted Chi Square Value	70.92	95% Jackknife UCL	28480
		95% Standard Bootstrap UCL	27748
Anderson-Darling Test Statistic	0.617	95% Bootstrap-t UCL	28088
Anderson-Darling 5% Critical Value	0.731	95% Hall's Bootstrap UCL	27452
Kolmogorov-Smirnov Test Statistic	0.195	95% Percentile Bootstrap UCL	27936
Kolmogorov-Smirnov 5% Critical Value	0.256	95% BCA Bootstrap UCL	27773
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	35861
		97.5% Chebyshev(Mean, Sd) UCL	41328
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	52066
95% Approximate Gamma UCL (Use when n >= 40)	29990		
95% Adjusted Gamma UCL (Use when n < 40)	31294		

Potential UCL to Use	Use 95% Student's-t UCL	28480

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	83.5	Minimum of Log Data	4.425
Maximum	642	Maximum of Log Data	6.465
Mean	300.6	Mean of log Data	5.489
Geometric Mean	241.9	SD of log Data	0.735
Median	347		
SD	186		
Std. Error of Mean	56.08		
Coefficient of Variation	0.619		
Skewness	0.364		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.923	Shapiro Wilk Test Statistic	0.897
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	402.2	95% H-UCL	569.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	616.9
95% Adjusted-CLT UCL (Chen-1995)	399.4	97.5% Chebyshev (MVUE) UCL	750.6
95% Modified-t UCL (Johnson-1978)	403.2	99% Chebyshev (MVUE) UCL	1013

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.847	Data appear Normal at 5% Significance Level	
Theta Star	162.7		
MLE of Mean	300.6		
MLE of Standard Deviation	221.2		
nu star	40.63		
Approximate Chi Square Value (.05)	27.03	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	392.8
Adjusted Chi Square Value	25.23	95% Jackknife UCL	402.2
		95% Standard Bootstrap UCL	388.1
Anderson-Darling Test Statistic	0.471	95% Bootstrap-t UCL	413.5
Anderson-Darling 5% Critical Value	0.736	95% Hall's Bootstrap UCL	397.3
Kolmogorov-Smirnov Test Statistic	0.216	95% Percentile Bootstrap UCL	392.6
Kolmogorov-Smirnov 5% Critical Value	0.258	95% BCA Bootstrap UCL	394.7
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	545
		97.5% Chebyshev(Mean, Sd) UCL	650.8
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	858.6
95% Approximate Gamma UCL (Use when n >= 40)	451.9		
95% Adjusted Gamma UCL (Use when n < 40)	484.1		

Potential UCL to Use	Use 95% Student's-t UCL	402.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.18	Minimum Detected	-1.715
Maximum Detected	2	Maximum Detected	0.693
Mean of Detected	1.122	Mean of Detected	-0.106
SD of Detected	0.604	SD of Detected	0.816
Minimum Non-Detect	0.0029	Minimum Non-Detect	-5.843
Maximum Non-Detect	0.0029	Maximum Non-Detect	-5.843

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.956	Shapiro Wilk Test Statistic	0.826
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.02	Mean	-0.69
SD	0.665	SD	2.088
95% DL/2 (t) UCL	1.384	95% H-Stat (DL/2) UCL	151.9

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.992	Mean in Log Scale	-0.271
SD	0.688	SD in Log Scale	0.947
95% MLE (t) UCL	1.368	Mean in Original Scale	1.033
95% MLE (Tiku) UCL	1.374	SD in Original Scale	0.644
		95% t UCL	1.385
		95% Percentile Bootstrap UCL	1.334
		95% BCA Bootstrap UCL	1.34
		95% H UCL	2.848

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.759	Data appear Normal at 5% Significance Level
Theta Star	0.638	
nu star	35.17	

		Nonparametric Statistics	
A-D Test Statistic	0.573		
5% A-D Critical Value	0.734	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.734	Mean	1.036
5% K-S Critical Value	0.269	SD	0.61
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.194
		95% KM (t) UCL	1.388
Assuming Gamma Distribution		95% KM (z) UCL	1.355
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.385
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.398
Maximum	2	95% KM (BCA) UCL	1.373
Mean	1.02	95% KM (Percentile Bootstrap) UCL	1.365
Median	1.1	95% KM (Chebyshev) UCL	1.881
SD	0.666	97.5% KM (Chebyshev) UCL	2.247
k star	0.401	99% KM (Chebyshev) UCL	2.965
Theta star	2.545		
Nu star	8.819	Potential UCLs to Use	
AppChi2	3.218	95% KM (t) UCL	1.388
95% Gamma Approximate UCL (Use when n >= 40)	2.795	95% KM (Percentile Bootstrap) UCL	1.365
95% Adjusted Gamma UCL (Use when n < 40)	3.343		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	5.1	Minimum of Log Data	1.629
Maximum	51	Maximum of Log Data	3.932
Mean	24.75	Mean of log Data	3.016
Geometric Mean	20.42	SD of log Data	0.701
Median	27.2		
SD	14.33		
Std. Error of Mean	4.321		
Coefficient of Variation	0.579		
Skewness	0.326		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.941	Shapiro Wilk Test Statistic	0.928
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	32.58	95% H-UCL	45.09
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	49.7
95% Adjusted-CLT UCL (Chen-1995)	32.31	97.5% Chebyshev (MVUE) UCL	60.2
95% Modified-t UCL (Johnson-1978)	32.65	99% Chebyshev (MVUE) UCL	80.84

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.065	Data appear Normal at 5% Significance Level	
Theta Star	11.98		
MLE of Mean	24.75		
MLE of Standard Deviation	17.22		
nu star	45.43		
Approximate Chi Square Value (.05)	30.97	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	31.85
Adjusted Chi Square Value	29.03	95% Jackknife UCL	32.58
		95% Standard Bootstrap UCL	31.68
Anderson-Darling Test Statistic	0.378	95% Bootstrap-t UCL	33.15
Anderson-Darling 5% Critical Value	0.735	95% Hall's Bootstrap UCL	32.44
Kolmogorov-Smirnov Test Statistic	0.187	95% Percentile Bootstrap UCL	31.48
Kolmogorov-Smirnov 5% Critical Value	0.257	95% BCA Bootstrap UCL	31.48
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	43.58
		97.5% Chebyshev(Mean, Sd) UCL	51.73
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	67.74
95% Approximate Gamma UCL (Use when n >= 40)	36.3		
95% Adjusted Gamma UCL (Use when n < 40)	38.72		

Potential UCL to Use	Use 95% Student's-t UCL	32.58

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	0.27	Minimum of Log Data	-1.309
Maximum	4.7	Maximum of Log Data	1.548
Mean	2.631	Mean of log Data	0.664
Geometric Mean	1.943	SD of log Data	0.98
Median	2.3		
SD	1.589		
Std. Error of Mean	0.479		
Coefficient of Variation	0.604		
Skewness	-0.167		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.92	Shapiro Wilk Test Statistic	0.815
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	3.499	95% H-UCL	7.862
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7.003
95% Adjusted-CLT UCL (Chen-1995)	3.393	97.5% Chebyshev (MVUE) UCL	8.751
95% Modified-t UCL (Johnson-1978)	3.495	99% Chebyshev (MVUE) UCL	12.18

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.369	Data appear Normal at 5% Significance Level	
Theta Star	1.922		
MLE of Mean	2.631		
MLE of Standard Deviation	2.249		
nu star	30.11		
Approximate Chi Square Value (.05)	18.58	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	3.419
Adjusted Chi Square Value	17.12	95% Jackknife UCL	3.499
		95% Standard Bootstrap UCL	3.389
Anderson-Darling Test Statistic	0.609	95% Bootstrap-t UCL	3.491
Anderson-Darling 5% Critical Value	0.74	95% Hall's Bootstrap UCL	3.329
Kolmogorov-Smirnov Test Statistic	0.189	95% Percentile Bootstrap UCL	3.367
Kolmogorov-Smirnov 5% Critical Value	0.259	95% BCA Bootstrap UCL	3.345
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	4.719
		97.5% Chebyshev(Mean, Sd) UCL	5.622
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	7.397
95% Approximate Gamma UCL (Use when n >= 40)	4.264		
95% Adjusted Gamma UCL (Use when n < 40)	4.628		

Potential UCL to Use	Use 95% Student's-t UCL	3.499

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	12
Number of Distinct Detected Data	10	Number of Non-Detect Data	22
		Percent Non-Detects	64.71%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.001	Minimum Detected	-6.908
Maximum Detected	0.024	Maximum Detected	-3.73
Mean of Detected	0.0139	Mean of Detected	-4.59
SD of Detected	0.00813	SD of Detected	1.008
Minimum Non-Detect	7.10E-04	Minimum Non-Detect	-7.25
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	34
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.913	Shapiro Wilk Test Statistic	0.813
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.138	Mean	-5.916
SD	0.54	SD	2.339
95% DL/2 (t) UCL	0.295	95% H-Stat (DL/2) UCL	0.25

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.018
		SD in Log Scale	1.258
		Mean in Original Scale	0.00567
		SD in Original Scale	0.00774
		95% t UCL	0.00792
		95% Percentile Bootstrap UCL	0.00783
		95% BCA Bootstrap UCL	0.0083
		95% H-UCL	0.00987

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.37	Data appear Normal at 5% Significance Level
Theta Star	0.0101	
nu star	32.88	

		Nonparametric Statistics	
A-D Test Statistic	0.736		
5% A-D Critical Value	0.743	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.743	Mean	0.00593
5% K-S Critical Value	0.249	SD	0.00787
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00147
		95% KM (t) UCL	0.00842
Assuming Gamma Distribution		95% KM (z) UCL	0.00835
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00804
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.00849
Maximum	0.024	95% KM (BCA) UCL	0.0132
Mean	0.00489	95% KM (Percentile Bootstrap) UCL	0.01
Median	1.00E-06	95% KM (Chebyshev) UCL	0.0123
SD	0.0082	97.5% KM (Chebyshev) UCL	0.0151
k star	0.154	99% KM (Chebyshev) UCL	0.0205
Theta star	0.0318		
Nu star	10.45	Potential UCLs to Use	
AppChi2	4.227	95% KM (t) UCL	0.00842
95% Gamma Approximate UCL (Use when n >= 40)	0.0121	95% KM (Percentile Bootstrap) UCL	0.01
95% Adjusted Gamma UCL (Use when n < 40)	0.0127		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	34	Number of Distinct Observations	32

Raw Statistics		Log-transformed Statistics	
Minimum	2810	Minimum of Log Data	7.941
Maximum	23800	Maximum of Log Data	10.08
Mean	12310	Mean of log Data	9.282
Geometric Mean	10741	SD of log Data	0.563
Median	11000		
SD	6006		
Std. Error of Mean	1030		
Coefficient of Variation	0.488		
Skewness	0.31		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.943	Shapiro Wilk Test Statistic	0.938
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	14053	95% H-UCL	15292
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	18082
95% Adjusted-CLT UCL (Chen-1995)	14063	97.5% Chebyshev (MVUE) UCL	20490
95% Modified-t UCL (Johnson-1978)	14062	99% Chebyshev (MVUE) UCL	25220

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.509	Data appear Normal at 5% Significance Level	
Theta Star	3508		
MLE of Mean	12310		
MLE of Standard Deviation	6572		
nu star	238.6		
Approximate Chi Square Value (.05)	203.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0422	95% CLT UCL	14004
Adjusted Chi Square Value	202.2	95% Jackknife UCL	14053
		95% Standard Bootstrap UCL	13951
Anderson-Darling Test Statistic	0.384	95% Bootstrap-t UCL	14192
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL	14155
Kolmogorov-Smirnov Test Statistic	0.106	95% Percentile Bootstrap UCL	13973
Kolmogorov-Smirnov 5% Critical Value	0.152	95% BCA Bootstrap UCL	14125
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16800
		97.5% Chebyshev(Mean, Sd) UCL	18743
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	22559
95% Approximate Gamma UCL (Use when n >= 40)	14409		
95% Adjusted Gamma UCL (Use when n < 40)	14522		

Potential UCL to Use	Use 95% Student's-t UCL	14053

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	21
Number of Distinct Detected Data	21	Number of Non-Detect Data	13
		Percent Non-Detects	38.24%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.59	Minimum Detected	-0.528
Maximum Detected	13	Maximum Detected	2.565
Mean of Detected	3.861	Mean of Detected	1.038
SD of Detected	3.229	SD of Detected	0.835
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.821	Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.908	5% Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.385	Mean	-1.735
SD	3.153	SD	3.636
95% DL/2 (t) UCL	3.301	95% H-Stat (DL/2) UCL	8206

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.158	Mean in Log Scale	0.235
SD	4.512	SD in Log Scale	1.282
95% MLE (t) UCL	2.468	Mean in Original Scale	2.54
95% MLE (Tiku) UCL	2.615	SD in Original Scale	3.04
		95% t UCL	3.422
		95% Percentile Bootstrap UCL	3.438
		95% BCA Bootstrap UCL	3.619
		95% H UCL	5.387

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.527	Data appear Gamma Distributed at 5% Significance Level
Theta Star	2.528	
nu star	64.15	

		Nonparametric Statistics	
A-D Test Statistic	0.345		
5% A-D Critical Value	0.756	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.756	Mean	2.61
5% K-S Critical Value	0.192	SD	2.943
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.517
		95% KM (t) UCL	3.486
Assuming Gamma Distribution		95% KM (z) UCL	3.461
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.449
Minimum	1.00E-06	95% KM (bootstrap t) UCL	3.791
Maximum	13	95% KM (BCA) UCL	3.709
Mean	2.385	95% KM (Percentile Bootstrap) UCL	3.532
Median	1.3	95% KM (Chebyshev) UCL	4.865
SD	3.154	97.5% KM (Chebyshev) UCL	5.84
k star	0.148	99% KM (Chebyshev) UCL	7.756
Theta star	16.12		
Nu star	10.06	Potential UCLs to Use	
AppChi2	3.98	95% KM (Percentile Bootstrap) UCL	3.532
95% Gamma Approximate UCL (Use when n >= 40)	6.029		
95% Adjusted Gamma UCL (Use when n < 40)	6.328		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	34	Number of Detected Data	26
Number of Distinct Detected Data	23	Number of Non-Detect Data	8
		Percent Non-Detects	23.53%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	8.90E-04	Minimum Detected	-7.024
Maximum Detected	3.4	Maximum Detected	1.224
Mean of Detected	0.859	Mean of Detected	-2.493
SD of Detected	1.093	SD of Detected	3.055
Minimum Non-Detect	5.80E-04	Minimum Non-Detect	-7.452
Maximum Non-Detect	0.078	Maximum Non-Detect	-2.551
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	14
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	58.82%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.78	Shapiro Wilk Test Statistic	0.85
5% Shapiro Wilk Critical Value	0.92	5% Shapiro Wilk Critical Value	0.92
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.658	Mean	-3.554
SD	1.02	SD	3.372
95% DL/2 (t) UCL	0.954	95% H-Stat (DL/2) UCL	301.1
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.849
		SD in Log Scale	3.677
		Mean in Original Scale	0.657
		SD in Original Scale	1.021
		95% t UCL	0.953
		95% Percentile Bootstrap UCL	0.953
		95% BCA Bootstrap UCL	0.981
		95% H-UCL	1265
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.287	Data do not follow a Discernable Distribution (0.05)	
Theta Star	2.994		
nu star	14.92		
A-D Test Statistic	1.483	Nonparametric Statistics	
5% A-D Critical Value	0.854	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.854	Mean	0.657
5% K-S Critical Value	0.186	SD	1.006
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.176
		95% KM (t) UCL	0.955
Assuming Gamma Distribution		95% KM (z) UCL	0.946
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.953
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.023
Maximum	3.4	95% KM (BCA) UCL	0.968
Mean	0.657	95% KM (Percentile Bootstrap) UCL	0.944
Median	0.00763	95% KM (Chebyshev) UCL	1.424
SD	1.021	97.5% KM (Chebyshev) UCL	1.755
k star	0.166	99% KM (Chebyshev) UCL	2.407
Theta star	3.955		
Nu star	11.29	Potential UCLs to Use	
AppChi2	4.765	99% KM (Chebyshev) UCL	2.407
95% Gamma Approximate UCL (Use when n >= 40)	1.556		
95% Adjusted Gamma UCL (Use when n < 40)	1.628		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	33	Number of Detected Data	22
Number of Distinct Detected Data	22	Number of Non-Detect Data	11
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0034	Minimum Detected	-5.684
Maximum Detected	4.8	Maximum Detected	1.569
Mean of Detected	1.26	Mean of Detected	-1.524
SD of Detected	1.442	SD of Detected	2.729
Minimum Non-Detect	5.70E-04	Minimum Non-Detect	-7.47
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	18
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	15
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	54.55%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.836	Shapiro Wilk Test Statistic	0.828
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.843	Mean	-3.32
SD	1.313	SD	3.572
95% DL/2 (t) UCL	1.23	95% H-Stat (DL/2) UCL	1208

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.396
		SD in Log Scale	3.515
		Mean in Original Scale	0.84
		SD in Original Scale	1.315
		95% t UCL	1.228
		95% Percentile Bootstrap UCL	1.214
		95% BCA Bootstrap UCL	1.279
		95% H-UCL	806.8

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.357	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	3.527	
nu star	15.71	

A-D Test Statistic	1.042	Nonparametric Statistics	
5% A-D Critical Value	0.831	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.831	Mean	0.841
5% K-S Critical Value	0.199	SD	1.294
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.231
		95% KM (t) UCL	1.231
Assuming Gamma Distribution		95% KM (z) UCL	1.22
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.228
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.345
Maximum	4.8	95% KM (BCA) UCL	1.251
Mean	0.84	95% KM (Percentile Bootstrap) UCL	1.222
Median	0.0076	95% KM (Chebyshev) UCL	1.846
SD	1.315	97.5% KM (Chebyshev) UCL	2.281
k star	0.149	99% KM (Chebyshev) UCL	3.135
Theta star	5.618		
Nu star	9.866	Potential UCLs to Use	
AppChi2	3.858	95% KM (BCA) UCL	1.251
95% Gamma Approximate UCL (Use when n >= 40)	2.147		
95% Adjusted Gamma UCL (Use when n < 40)	2.26		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	34	Number of Detected Data	26
Number of Distinct Detected Data	26	Number of Non-Detect Data	8
		Percent Non-Detects	23.53%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0023	Minimum Detected	-6.075
Maximum Detected	5.7	Maximum Detected	1.74
Mean of Detected	1.481	Mean of Detected	-1.658
SD of Detected	1.903	SD of Detected	2.801
Minimum Non-Detect	9.30E-04	Minimum Non-Detect	-6.98
Maximum Non-Detect	0.12	Maximum Non-Detect	-2.12

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	19
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	15
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	55.88%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.774	Shapiro Wilk Test Statistic	0.862
5% Shapiro Wilk Critical Value	0.92	5% Shapiro Wilk Critical Value	0.92
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.136	Mean	-2.719
SD	1.773	SD	3.264
95% DL/2 (t) UCL	1.651	95% H-Stat (DL/2) UCL	391.1
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.931
		SD in Log Scale	3.428
		Mean in Original Scale	1.133
		SD in Original Scale	1.775
		95% t UCL	1.648
		95% Percentile Bootstrap UCL	1.643
		95% BCA Bootstrap UCL	1.733
		95% H-UCL	765
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.318	Data do not follow a Discernable Distribution (0.05)	
Theta Star	4.651		
nu star	16.56		
A-D Test Statistic	1.15	Nonparametric Statistics	
5% A-D Critical Value	0.845	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.845	Mean	1.133
5% K-S Critical Value	0.185	SD	1.748
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.306
		95% KM (t) UCL	1.651
Assuming Gamma Distribution		95% KM (z) UCL	1.636
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.648
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.75
Maximum	5.7	95% KM (BCA) UCL	1.662
Mean	1.132	95% KM (Percentile Bootstrap) UCL	1.659
Median	0.016	95% KM (Chebyshev) UCL	2.466
SD	1.775	97.5% KM (Chebyshev) UCL	3.043
k star	0.169	99% KM (Chebyshev) UCL	4.175
Theta star	6.715		
Nu star	11.47	Potential UCLs to Use	
AppChi2	4.878	99% KM (Chebyshev) UCL	4.175
95% Gamma Approximate UCL (Use when n >= 40)	2.662		
95% Adjusted Gamma UCL (Use when n < 40)	2.783		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	22
Number of Distinct Detected Data	21	Number of Non-Detect Data	12
		Percent Non-Detects	35.29%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0028	Minimum Detected	-5.878
Maximum Detected	2.4	Maximum Detected	0.875
Mean of Detected	0.663	Mean of Detected	-2.328
SD of Detected	0.835	SD of Detected	2.662
Minimum Non-Detect	8.10E-04	Minimum Non-Detect	-7.118
Maximum Non-Detect	0.16	Maximum Non-Detect	-1.833

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	64.71%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.78	Shapiro Wilk Test Statistic	0.832
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.437	Mean	-3.581
SD	0.735	SD	3.068
95% DL/2 (t) UCL	0.651	95% H-Stat (DL/2) UCL	61

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.157
		SD in Log Scale	3.358
		Mean in Original Scale	0.429
		SD in Original Scale	0.739
		95% t UCL	0.644
		95% Percentile Bootstrap UCL	0.638
		95% BCA Bootstrap UCL	0.692
		95% H-UCL	152.7

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.333	Data do not follow a Discernable Distribution (0.05)
Theta Star	1.988	
nu star	14.66	

		Nonparametric Statistics	
A-D Test Statistic	1.191		
5% A-D Critical Value	0.837	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.837	Mean	0.43
5% K-S Critical Value	0.2	SD	0.728
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.128
		95% KM (t) UCL	0.647
Assuming Gamma Distribution		95% KM (z) UCL	0.64
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.645
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.699
Maximum	2.4	95% KM (BCA) UCL	0.645
Mean	0.429	95% KM (Percentile Bootstrap) UCL	0.646
Median	0.0052	95% KM (Chebyshev) UCL	0.987
SD	0.74	97.5% KM (Chebyshev) UCL	1.228
k star	0.147	99% KM (Chebyshev) UCL	1.702
Theta star	2.908		
Nu star	10.03	Potential UCLs to Use	
AppChi2	3.958	99% KM (Chebyshev) UCL	1.702
95% Gamma Approximate UCL (Use when n >= 40)	1.086		
95% Adjusted Gamma UCL (Use when n < 40)	1.14		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	34	Number of Detected Data	24
Number of Distinct Detected Data	21	Number of Non-Detect Data	10
		Percent Non-Detects	29.41%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0025	Minimum Detected	-5.991
Maximum Detected	4.5	Maximum Detected	1.504
Mean of Detected	1.004	Mean of Detected	-2.026
SD of Detected	1.285	SD of Detected	2.856
Minimum Non-Detect	9.90E-04	Minimum Non-Detect	-6.918
Maximum Non-Detect	0.15	Maximum Non-Detect	-1.897
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	13
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	61.76%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.793	Shapiro Wilk Test Statistic	0.836
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.713	Mean	-3.279
SD	1.167	SD	3.262
95% DL/2 (t) UCL	1.052	95% H-Stat (DL/2) UCL	221.3
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.683
		SD in Log Scale	3.587
		Mean in Original Scale	0.709
		SD in Original Scale	1.169
		95% t UCL	1.048
		95% Percentile Bootstrap UCL	1.063
		95% BCA Bootstrap UCL	1.101
		95% H-UCL	878.9
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.32	Data do not follow a Discernable Distribution (0.05)	
Theta Star	3.139		
nu star	15.35		
A-D Test Statistic	1.113	Nonparametric Statistics	
5% A-D Critical Value	0.844	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.844	Mean	0.71
5% K-S Critical Value	0.192	SD	1.151
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.202
		95% KM (t) UCL	1.052
Assuming Gamma Distribution		95% KM (z) UCL	1.042
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.049
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.168
Maximum	4.5	95% KM (BCA) UCL	1.066
Mean	0.709	95% KM (Percentile Bootstrap) UCL	1.051
Median	0.00515	95% KM (Chebyshev) UCL	1.589
SD	1.169	97.5% KM (Chebyshev) UCL	1.97
k star	0.156	99% KM (Chebyshev) UCL	2.717
Theta star	4.55		
Nu star	10.59	Potential UCLs to Use	
AppChi2	4.316	99% KM (Chebyshev) UCL	2.717
95% Gamma Approximate UCL (Use when n >= 40)	1.74		
95% Adjusted Gamma UCL (Use when n < 40)	1.823		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bis(2-ethylhexyl)phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	20
Number of Distinct Detected Data	17	Number of Non-Detect Data	14
		Percent Non-Detects	41.18%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.125	Minimum Detected	-2.079
Maximum Detected	130	Maximum Detected	4.868
Mean of Detected	20.25	Mean of Detected	1.687
SD of Detected	29.57	SD of Detected	2.149
Minimum Non-Detect	0.086	Minimum Non-Detect	-2.453
Maximum Non-Detect	0.23	Maximum Non-Detect	-1.47

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	17
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	50.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.658	Shapiro Wilk Test Statistic	0.898
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	11.94	Mean	-0.148
SD	24.6	SD	2.771
95% DL/2 (t) UCL	19.08	95% H-Stat (DL/2) UCL	469.9

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.309
		SD in Log Scale	2.947
		Mean in Original Scale	11.93
		SD in Original Scale	24.6
		95% t UCL	19.07
		95% Percentile Bootstrap UCL	19.42
		95% BCA Bootstrap UCL	22.85
		95% H-UCL	897.9

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.444	Data appear Gamma Distributed at 5% Significance Level
Theta Star	45.59	
nu star	17.77	

		Nonparametric Statistics	
A-D Test Statistic	0.464		
5% A-D Critical Value	0.806	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.806	Mean	11.97
5% K-S Critical Value	0.205	SD	24.22
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	4.262
		95% KM (t) UCL	19.18
Assuming Gamma Distribution		95% KM (z) UCL	18.98
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	19.09
Minimum	1.00E-06	95% KM (bootstrap t) UCL	25.43
Maximum	130	95% KM (BCA) UCL	20.47
Mean	11.91	95% KM (Percentile Bootstrap) UCL	19.64
Median	0.285	95% KM (Chebyshev) UCL	30.54
SD	24.61	97.5% KM (Chebyshev) UCL	38.58
k star	0.121	99% KM (Chebyshev) UCL	54.37
Theta star	98.15		
Nu star	8.254	Potential UCLs to Use	
AppChi2	2.883	95% KM (BCA) UCL	20.47
95% Gamma Approximate UCL (Use when n >= 40)	34.11		
95% Adjusted Gamma UCL (Use when n < 40)	36.05		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	26
Number of Distinct Detected Data	22	Number of Non-Detect Data	8
		Percent Non-Detects	23.53%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.57	Minimum Detected	-0.562
Maximum Detected	68	Maximum Detected	4.22
Mean of Detected	9.812	Mean of Detected	1.334
SD of Detected	14.33	SD of Detected	1.499
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.002	Maximum Non-Detect	-6.215

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.643	Shapiro Wilk Test Statistic	0.887
5% Shapiro Wilk Critical Value	0.92	5% Shapiro Wilk Critical Value	0.92
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	7.504	Mean	-0.605
SD	13.17	SD	3.781
95% DL/2 (t) UCL	11.33	95% H-Stat (DL/2) UCL	60180

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.95	Mean in Log Scale	0.521
SD	15.65	SD in Log Scale	2.014
95% MLE (t) UCL	9.494	Mean in Original Scale	7.539
95% MLE (Tiku) UCL	9.508	SD in Original Scale	13.15
		95% t UCL	11.35
		95% Percentile Bootstrap UCL	11.66
		95% BCA Bootstrap UCL	12.92
		95% H UCL	50.02

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.595	Data do not follow a Discernable Distribution (0.05)
Theta Star	16.48	
nu star	30.96	

		Nonparametric Statistics	
A-D Test Statistic	1.201		
5% A-D Critical Value	0.795	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.795	Mean	7.638
5% K-S Critical Value	0.179	SD	12.9
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2.255
		95% KM (t) UCL	11.45
Assuming Gamma Distribution		95% KM (z) UCL	11.35
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	11.43
Minimum	1.00E-06	95% KM (bootstrap t) UCL	14.7
Maximum	68	95% KM (BCA) UCL	11.84
Mean	7.504	95% KM (Percentile Bootstrap) UCL	11.7
Median	1.45	95% KM (Chebyshev) UCL	17.47
SD	13.17	97.5% KM (Chebyshev) UCL	21.72
k star	0.181	99% KM (Chebyshev) UCL	30.08
Theta star	41.53		
Nu star	12.29	Potential UCLs to Use	
AppChi2	5.416	97.5% KM (Chebyshev) UCL	21.72
95% Gamma Approximate UCL (Use when n >= 40)	17.02		
95% Adjusted Gamma UCL (Use when n < 40)	17.76		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	34	Number of Distinct Observations	32

Raw Statistics		Log-transformed Statistics	
Minimum	1.3	Minimum of Log Data	0.262
Maximum	21	Maximum of Log Data	3.045
Mean	6.388	Mean of log Data	1.616
Geometric Mean	5.035	SD of log Data	0.705
Median	5		
SD	4.708		
Std. Error of Mean	0.807		
Coefficient of Variation	0.737		
Skewness	1.546		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.847	Shapiro Wilk Test Statistic	0.98
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	7.755	95% H-UCL	8.378
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	10.06
95% Adjusted-CLT UCL (Chen-1995)	7.945	97.5% Chebyshev (MVUE) UCL	11.65
95% Modified-t UCL (Johnson-1978)	7.79	99% Chebyshev (MVUE) UCL	14.76

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.074	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.081		
MLE of Mean	6.388		
MLE of Standard Deviation	4.436		
nu star	141		
Approximate Chi Square Value (.05)	114.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0422	95% CLT UCL	7.716
Adjusted Chi Square Value	113.4	95% Jackknife UCL	7.755
		95% Standard Bootstrap UCL	7.662
Anderson-Darling Test Statistic	0.314	95% Bootstrap-t UCL	8.165
Anderson-Darling 5% Critical Value	0.758	95% Hall's Bootstrap UCL	8.039
Kolmogorov-Smirnov Test Statistic	0.0864	95% Percentile Bootstrap UCL	7.724
Kolmogorov-Smirnov 5% Critical Value	0.153	95% BCA Bootstrap UCL	8.012
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9.908
		97.5% Chebyshev(Mean, Sd) UCL	11.43
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	14.42
95% Approximate Gamma UCL (Use when n >= 40)	7.863		
95% Adjusted Gamma UCL (Use when n < 40)	7.944		

Potential UCL to Use	Use 95% Approximate Gamma UCL	7.863

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	15
Number of Distinct Detected Data	14	Number of Non-Detect Data	19
		Percent Non-Detects	55.88%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0012	Minimum Detected	-6.725
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.305	Mean of Detected	-2.497
SD of Detected	0.341	SD of Detected	2.313
Minimum Non-Detect	8.10E-04	Minimum Non-Detect	-7.118
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	34
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.835	Shapiro Wilk Test Statistic	0.875
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.272	Mean	-4.293
SD	0.571	SD	3.091
95% DL/2 (t) UCL	0.438	95% H-Stat (DL/2) UCL	33.55

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.278
		SD in Log Scale	3.016
		Mean in Original Scale	0.135
		SD in Original Scale	0.27
		95% t UCL	0.214
		95% Percentile Bootstrap UCL	0.213
		95% BCA Bootstrap UCL	0.231
		95% H-UCL	8.699

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.434	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.703	
nu star	13.02	

A-D Test Statistic	0.342	Nonparametric Statistics	
5% A-D Critical Value	0.796	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.796	Mean	0.145
5% K-S Critical Value	0.234	SD	0.272
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0497
		95% KM (t) UCL	0.229
Assuming Gamma Distribution		95% KM (z) UCL	0.227
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.227
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.261
Maximum	1	95% KM (BCA) UCL	0.237
Mean	0.135	95% KM (Percentile Bootstrap) UCL	0.232
Median	1.00E-06	95% KM (Chebyshev) UCL	0.361
SD	0.27	97.5% KM (Chebyshev) UCL	0.455
k star	0.126	99% KM (Chebyshev) UCL	0.639
Theta star	1.068		
Nu star	8.572	Potential UCLs to Use	
AppChi2	3.071	95% KM (t) UCL	0.229
95% Gamma Approximate UCL (Use when n >= 40)	0.376		
95% Adjusted Gamma UCL (Use when n < 40)	0.397		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Di-n-octylphthalate

General Statistics (Units in mg/kg)

Number of Valid Data	31	Number of Detected Data	11
Number of Distinct Detected Data	9	Number of Non-Detect Data	20
		Percent Non-Detects	64.52%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.19	Minimum Detected	-1.661
Maximum Detected	25	Maximum Detected	3.219
Mean of Detected	4.903	Mean of Detected	0.598
SD of Detected	7.6	SD of Detected	1.541
Minimum Non-Detect	0.041	Minimum Non-Detect	-3.194
Maximum Non-Detect	0.11	Maximum Non-Detect	-2.207

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	64.52%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.658	Shapiro Wilk Test Statistic	0.958
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.759	Mean	-2.088
SD	4.987	SD	2.231
95% DL/2 (t) UCL	3.279	95% H-Stat (DL/2) UCL	8.147

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.596
		SD in Log Scale	2.666
		Mean in Original Scale	1.751
		SD in Original Scale	4.989
		95% t UCL	3.272
		95% Percentile Bootstrap UCL	3.37
		95% BCA Bootstrap UCL	3.923
		95% H-UCL	27.57

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.511	Data appear Gamma Distributed at 5% Significance Level
Theta Star	9.587	
nu star	11.25	

A-D Test Statistic	0.454	Nonparametric Statistics	
5% A-D Critical Value	0.772	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.772	Mean	1.862
5% K-S Critical Value	0.267	SD	4.87
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.917
		95% KM (t) UCL	3.419
Assuming Gamma Distribution		95% KM (z) UCL	3.371
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.303
Minimum	1.00E-06	95% KM (bootstrap t) UCL	7.57
Maximum	25	95% KM (BCA) UCL	4.023
Mean	1.74	95% KM (Percentile Bootstrap) UCL	3.556
Median	1.00E-06	95% KM (Chebyshev) UCL	5.861
SD	4.994	97.5% KM (Chebyshev) UCL	7.591
k star	0.102	99% KM (Chebyshev) UCL	10.99
Theta star	17.07		
Nu star	6.318	Potential UCLs to Use	
AppChi2	1.805	95% KM (t) UCL	3.419
95% Gamma Approximate UCL (Use when n >= 40)	6.091		
95% Adjusted Gamma UCL (Use when n < 40)	6.565		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	34	Number of Detected Data	25
Number of Distinct Detected Data	22	Number of Non-Detect Data	9
		Percent Non-Detects	26.47%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0011	Minimum Detected	-6.812
Maximum Detected	3.1	Maximum Detected	1.131
Mean of Detected	0.803	Mean of Detected	-2.379
SD of Detected	1.032	SD of Detected	2.9
Minimum Non-Detect	8.40E-04	Minimum Non-Detect	-7.082
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	34
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.773	Shapiro Wilk Test Statistic	0.839
5% Shapiro Wilk Critical Value	0.918	5% Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.666	Mean	-3.211
SD	0.997	SD	3.22
95% DL/2 (t) UCL	0.956	95% H-Stat (DL/2) UCL	190.2
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.693
		SD in Log Scale	3.441
		Mean in Original Scale	0.591
		SD in Original Scale	0.95
		95% t UCL	0.867
		95% Percentile Bootstrap UCL	0.874
		95% BCA Bootstrap UCL	0.918
		95% H-UCL	382.8
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.305	Data do not follow a Discernable Distribution (0.05)	
Theta Star	2.629		
nu star	15.26		
A-D Test Statistic	1.438	Nonparametric Statistics	
5% A-D Critical Value	0.848	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.848	Mean	0.608
5% K-S Critical Value	0.189	SD	0.944
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.168
		95% KM (t) UCL	0.892
Assuming Gamma Distribution		95% KM (z) UCL	0.884
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.891
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.967
Maximum	3.1	95% KM (BCA) UCL	0.904
Mean	0.593	95% KM (Percentile Bootstrap) UCL	0.881
Median	0.00765	95% KM (Chebyshev) UCL	1.34
SD	0.949	97.5% KM (Chebyshev) UCL	1.656
k star	0.171	99% KM (Chebyshev) UCL	2.278
Theta star	3.46		
Nu star	11.65	Potential UCLs to Use	
AppChi2	5	99% KM (Chebyshev) UCL	2.278
95% Gamma Approximate UCL (Use when n >= 40)	1.382		
95% Adjusted Gamma UCL (Use when n < 40)	1.444		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	34	Number of Distinct Observations	33

Raw Statistics		Log-transformed Statistics	
Minimum	3100	Minimum of Log Data	8.039
Maximum	36100	Maximum of Log Data	10.49
Mean	16846	Mean of log Data	9.574
Geometric Mean	14393	SD of log Data	0.591
Median	13500		
SD	9302		
Std. Error of Mean	1595		
Coefficient of Variation	0.552		
Skewness	0.696		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.904	Shapiro Wilk Test Statistic	0.959
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	19546	95% H-UCL	21088
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	25036
95% Adjusted-CLT UCL (Chen-1995)	19674	97.5% Chebyshev (MVUE) UCL	28498
95% Modified-t UCL (Johnson-1978)	19578	99% Chebyshev (MVUE) UCL	35296

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.06	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	5506		
MLE of Mean	16846		
MLE of Standard Deviation	9631		
nu star	208.1		
Approximate Chi Square Value (.05)	175.7	Nonparametric Statistics	
Adjusted Level of Significance	0.0422	95% CLT UCL	19470
Adjusted Chi Square Value	174.2	95% Jackknife UCL	19546
		95% Standard Bootstrap UCL	19453
Anderson-Darling Test Statistic	0.52	95% Bootstrap-t UCL	19954
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	19502
Kolmogorov-Smirnov Test Statistic	0.13	95% Percentile Bootstrap UCL	19615
Kolmogorov-Smirnov 5% Critical Value	0.152	95% BCA Bootstrap UCL	19785
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	23800
		97.5% Chebyshev(Mean, Sd) UCL	26809
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	32719
95% Approximate Gamma UCL (Use when n >= 40)	19951		
95% Adjusted Gamma UCL (Use when n < 40)	20119		

Potential UCL to Use	Use 95% Approximate Gamma UCL	19951

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	34	Number of Distinct Observations	34
Raw Statistics		Log-transformed Statistics	
Minimum	14.8	Minimum of Log Data	2.695
Maximum	791	Maximum of Log Data	6.673
Mean	172.3	Mean of log Data	4.626
Geometric Mean	102.1	SD of log Data	1.031
Median	84.15		
SD	190.7		
Std. Error of Mean	32.7		
Coefficient of Variation	1.107		
Skewness	1.755		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.759	Shapiro Wilk Test Statistic	0.952
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	227.6	95% H-UCL	271.3
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	322.1
95% Adjusted-CLT UCL (Chen-1995)	236.6	97.5% Chebyshev (MVUE) UCL	388.1
95% Modified-t UCL (Johnson-1978)	229.3	99% Chebyshev (MVUE) UCL	517.6
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.016	Data appear Lognormal at 5% Significance Level	
Theta Star	169.5		
MLE of Mean	172.3		
MLE of Standard Deviation	170.9		
nu star	69.09		
Approximate Chi Square Value (.05)	50.96	Nonparametric Statistics	
Adjusted Level of Significance	0.0422	95% CLT UCL	226.1
Adjusted Chi Square Value	50.19	95% Jackknife UCL	227.6
		95% Standard Bootstrap UCL	226.2
Anderson-Darling Test Statistic	1.233	95% Bootstrap-t UCL	244.2
Anderson-Darling 5% Critical Value	0.774	95% Hall's Bootstrap UCL	240.3
Kolmogorov-Smirnov Test Statistic	0.203	95% Percentile Bootstrap UCL	230.7
Kolmogorov-Smirnov 5% Critical Value	0.155	95% BCA Bootstrap UCL	238.3
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	314.8
		97.5% Chebyshev(Mean, Sd) UCL	376.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	497.7
95% Approximate Gamma UCL (Use when n >= 40)	233.6		
95% Adjusted Gamma UCL (Use when n < 40)	237.2		
Potential UCL to Use		Use 95% H-UCL	271.3

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	30
Number of Distinct Detected Data	27	Number of Non-Detect Data	4
		Percent Non-Detects	11.76%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0017	Minimum Detected	-6.377
Maximum Detected	2	Maximum Detected	0.693
Mean of Detected	0.474	Mean of Detected	-2.984
SD of Detected	0.63	SD of Detected	2.786
Minimum Non-Detect	9.90E-04	Minimum Non-Detect	-6.918
Maximum Non-Detect	0.0029	Maximum Non-Detect	-5.843

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	25
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	26.47%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.76	Shapiro Wilk Test Statistic	0.815
5% Shapiro Wilk Critical Value	0.927	5% Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.418	Mean	-3.466
SD	0.61	SD	2.94
95% DL/2 (t) UCL	0.595	95% H-Stat (DL/2) UCL	36.9

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.284	Mean in Log Scale	-3.609
SD	0.753	SD in Log Scale	3.155
95% MLE (t) UCL	0.502	Mean in Original Scale	0.418
95% MLE (Tiku) UCL	0.508	SD in Original Scale	0.61
		95% t UCL	0.595
		95% Percentile Bootstrap UCL	0.588
		95% BCA Bootstrap UCL	0.616
		95% H UCL	91.8

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.299	Data do not follow a Discernable Distribution (0.05)
Theta Star	1.587	
nu star	17.91	

A-D Test Statistic	2.108	Nonparametric Statistics	
5% A-D Critical Value	0.852	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.852	Mean	0.418
5% K-S Critical Value	0.173	SD	0.601
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.105
		95% KM (t) UCL	0.596
Assuming Gamma Distribution		95% KM (z) UCL	0.591
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.595
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.631
Maximum	2	95% KM (BCA) UCL	0.608
Mean	0.418	95% KM (Percentile Bootstrap) UCL	0.598
Median	0.0073	95% KM (Chebyshev) UCL	0.875
SD	0.61	97.5% KM (Chebyshev) UCL	1.073
k star	0.216	99% KM (Chebyshev) UCL	1.461
Theta star	1.94		
Nu star	14.66	Potential UCLs to Use	
AppChi2	7.023	99% KM (Chebyshev) UCL	1.461
95% Gamma Approximate UCL (Use when n >= 40)	0.872		
95% Adjusted Gamma UCL (Use when n < 40)	0.906		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	34	Number of Distinct Observations	34
Raw Statistics		Log-transformed Statistics	
Minimum	5.1	Minimum of Log Data	1.629
Maximum	51	Maximum of Log Data	3.932
Mean	20.11	Mean of log Data	2.853
Geometric Mean	17.33	SD of log Data	0.571
Median	17.8		
SD	10.85		
Std. Error of Mean	1.861		
Coefficient of Variation	0.54		
Skewness	0.81		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.938	Shapiro Wilk Test Statistic	0.975
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	23.26	95% H-UCL	24.89
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	29.47
95% Adjusted-CLT UCL (Chen-1995)	23.45	97.5% Chebyshev (MVUE) UCL	33.44
95% Modified-t UCL (Johnson-1978)	23.31	99% Chebyshev (MVUE) UCL	41.24
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.227	Data appear Normal at 5% Significance Level	
Theta Star	6.233		
MLE of Mean	20.11		
MLE of Standard Deviation	11.2		
nu star	219.5		
Approximate Chi Square Value (.05)	186.2	Nonparametric Statistics	
Adjusted Level of Significance	0.0422	95% CLT UCL	23.18
Adjusted Chi Square Value	184.7	95% Jackknife UCL	23.26
		95% Standard Bootstrap UCL	23.18
Anderson-Darling Test Statistic	0.234	95% Bootstrap-t UCL	23.48
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	23.46
Kolmogorov-Smirnov Test Statistic	0.0904	95% Percentile Bootstrap UCL	23.17
Kolmogorov-Smirnov 5% Critical Value	0.152	95% BCA Bootstrap UCL	23.45
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	28.23
		97.5% Chebyshev(Mean, Sd) UCL	31.74
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	38.64
95% Approximate Gamma UCL (Use when n >= 40)	23.71		
95% Adjusted Gamma UCL (Use when n < 40)	23.91		
Potential UCL to Use		Use 95% Student's-t UCL	23.26

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	23
Number of Distinct Detected Data	21	Number of Non-Detect Data	11
		Percent Non-Detects	32.35%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0049	Minimum Detected	-5.319
Maximum Detected	4.7	Maximum Detected	1.548
Mean of Detected	1.907	Mean of Detected	-0.62
SD of Detected	1.798	SD of Detected	2.264
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	0.031	Maximum Non-Detect	-3.474

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	18
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	47.06%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.843	Shapiro Wilk Test Statistic	0.839
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.293	Mean	-1.969
SD	1.723	SD	2.717
95% DL/2 (t) UCL	1.793	95% H-Stat (DL/2) UCL	60.03

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.297	Mean in Log Scale	-1.972
SD	2.795	SD in Log Scale	2.757
95% MLE (t) UCL	1.108	Mean in Original Scale	1.293
95% MLE (Tiku) UCL	1.266	SD in Original Scale	1.722
		95% t UCL	1.793
		95% Percentile Bootstrap UCL	1.75
		95% BCA Bootstrap UCL	1.801
		95% H UCL	71.4

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.465	Data do not follow a Discernable Distribution (0.05)
Theta Star	4.097	
nu star	21.41	

A-D Test Statistic	1.26	Nonparametric Statistics	
5% A-D Critical Value	0.805	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.805	Mean	1.292
5% K-S Critical Value	0.192	SD	1.698
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.298
		95% KM (t) UCL	1.796
Assuming Gamma Distribution		95% KM (z) UCL	1.782
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.79
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.86
Maximum	4.7	95% KM (BCA) UCL	1.853
Mean	1.29	95% KM (Percentile Bootstrap) UCL	1.768
Median	0.117	95% KM (Chebyshev) UCL	2.59
SD	1.725	97.5% KM (Chebyshev) UCL	3.151
k star	0.156	99% KM (Chebyshev) UCL	4.254
Theta star	8.272		
Nu star	10.6	Potential UCLs to Use	
AppChi2	4.322	99% KM (Chebyshev) UCL	4.254
95% Gamma Approximate UCL (Use when n >= 40)	3.164		
95% Adjusted Gamma UCL (Use when n < 40)	3.316		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	7
		Percent Non-Detects	43.75%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0023	Minimum Detected	-6.075
Maximum Detected	0.6	Maximum Detected	-0.511
Mean of Detected	0.105	Mean of Detected	-3.741
SD of Detected	0.202	SD of Detected	1.761
Minimum Non-Detect	0.0016	Minimum Non-Detect	-6.438
Maximum Non-Detect	4.1	Maximum Non-Detect	1.411

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.583	Shapiro Wilk Test Statistic	0.908
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.45	Mean	-2.861
SD	0.659	SD	2.619
95% DL/2 (t) UCL	0.739	95% H-Stat (DL/2) UCL	81.36

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.358
		SD in Log Scale	1.735
		Mean in Original Scale	0.0633
		SD in Original Scale	0.155
		95% t UCL	0.131
		95% Percentile Bootstrap UCL	0.136
		95% BCA Bootstrap UCL	0.172
		95% H-UCL	0.342

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.365	Data appear Lognormal at 5% Significance Level
Theta Star	0.288	
nu star	6.566	

		Nonparametric Statistics	
A-D Test Statistic	0.967		
5% A-D Critical Value	0.782	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.782	Mean	0.0865
5% K-S Critical Value	0.296	SD	0.176
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0564
		95% KM (t) UCL	0.185
Assuming Gamma Distribution		95% KM (z) UCL	0.179
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.185
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.853
Maximum	0.6	95% KM (BCA) UCL	0.192
Mean	0.0606	95% KM (Percentile Bootstrap) UCL	0.182
Median	0.00532	95% KM (Chebyshev) UCL	0.332
SD	0.156	97.5% KM (Chebyshev) UCL	0.439
k star	0.254	99% KM (Chebyshev) UCL	0.648
Theta star	0.239		
Nu star	8.125	Potential UCLs to Use	
AppChi2	2.808	99% KM (Chebyshev) UCL	0.648
95% Gamma Approximate UCL (Use when n >= 40)	0.175		
95% Adjusted Gamma UCL (Use when n < 40)	0.2		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	16

Raw Statistics		Log-transformed Statistics	
Minimum	2400	Minimum of Log Data	7.783
Maximum	22900	Maximum of Log Data	10.04
Mean	9304	Mean of log Data	8.978
Geometric Mean	7927	SD of log Data	0.585
Median	7600		
SD	5721		
Std. Error of Mean	1430		
Coefficient of Variation	0.615		
Skewness	1.373		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.856	Shapiro Wilk Test Statistic	0.973
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	11811	95% H-UCL	12996
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	15458
95% Adjusted-CLT UCL (Chen-1995)	12181	97.5% Chebyshev (MVUE) UCL	18127
95% Modified-t UCL (Johnson-1978)	11893	99% Chebyshev (MVUE) UCL	23369

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.705	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3439		
MLE of Mean	9304		
MLE of Standard Deviation	5657		
nu star	86.57		
Approximate Chi Square Value (.05)	66.12	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	11657
Adjusted Chi Square Value	64.09	95% Jackknife UCL	11811
		95% Standard Bootstrap UCL	11589
Anderson-Darling Test Statistic	0.367	95% Bootstrap-t UCL	12979
Anderson-Darling 5% Critical Value	0.744	95% Hall's Bootstrap UCL	14048
Kolmogorov-Smirnov Test Statistic	0.133	95% Percentile Bootstrap UCL	11638
Kolmogorov-Smirnov 5% Critical Value	0.217	95% BCA Bootstrap UCL	12108
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	15538
		97.5% Chebyshev(Mean, Sd) UCL	18236
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23534
95% Approximate Gamma UCL (Use when n >= 40)	12182		
95% Adjusted Gamma UCL (Use when n < 40)	12568		

Potential UCL to Use	Use 95% Approximate Gamma UCL	12182

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	0.85	Minimum of Log Data	-0.163
Maximum	12	Maximum of Log Data	2.485
Mean	4.378	Mean of log Data	1.159
Geometric Mean	3.188	SD of log Data	0.841
Median	2.85		
SD	3.503		
Std. Error of Mean	0.876		
Coefficient of Variation	0.8		
Skewness	0.93		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.859	Shapiro Wilk Test Statistic	0.942
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	5.913	95% H-UCL	7.759
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8.767
95% Adjusted-CLT UCL (Chen-1995)	6.036	97.5% Chebyshev (MVUE) UCL	10.65
95% Modified-t UCL (Johnson-1978)	5.947	99% Chebyshev (MVUE) UCL	14.35
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.443	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.035		
MLE of Mean	4.378		
MLE of Standard Deviation	3.645		
nu star	46.17		
Approximate Chi Square Value (.05)	31.58	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	5.818
Adjusted Chi Square Value	30.21	95% Jackknife UCL	5.913
		95% Standard Bootstrap UCL	5.793
Anderson-Darling Test Statistic	0.498	95% Bootstrap-t UCL	6.425
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	5.86
Kolmogorov-Smirnov Test Statistic	0.158	95% Percentile Bootstrap UCL	5.809
Kolmogorov-Smirnov 5% Critical Value	0.218	95% BCA Bootstrap UCL	5.953
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	8.195
		97.5% Chebyshev(Mean, Sd) UCL	9.846
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	13.09
95% Approximate Gamma UCL (Use when n >= 40)	6.401		
95% Adjusted Gamma UCL (Use when n < 40)	6.691		
Potential UCL to Use		Use 95% Approximate Gamma UCL	6.401

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzidine

General Statistics (Units in mg/kg)

Number of Valid Data	6	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	1
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	4.6	Minimum Detected	1.526
Maximum Detected	81	Maximum Detected	4.394
Mean of Detected	29.92	Mean of Detected	2.991
SD of Detected	29.95	SD of Detected	1.053
Minimum Non-Detect	2.6	Minimum Non-Detect	0.956
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.825	Shapiro Wilk Test Statistic	0.986
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	25.15	Mean	2.536
SD	29.23	SD	1.459
95% DL/2 (t) UCL	49.19	95% H-Stat (DL/2) UCL	1537

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	22.31	Mean in Log Scale	2.539
SD	30.42	SD in Log Scale	1.452
95% MLE (t) UCL	47.34	Mean in Original Scale	25.15
95% MLE (Tiku) UCL	47.08	SD in Original Scale	29.22
		95% t UCL	49.19
		95% Percentile Bootstrap UCL	45.32
		95% BCA Bootstrap UCL	50.6
		95% H UCL	1479

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.681	Data appear Normal at 5% Significance Level
Theta Star	43.95	
nu star	6.807	

		Nonparametric Statistics	
A-D Test Statistic	0.234		
5% A-D Critical Value	0.688	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.688	Mean	25.7
5% K-S Critical Value	0.362	SD	26.21
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	11.96
		95% KM (t) UCL	49.81
Assuming Gamma Distribution		95% KM (z) UCL	45.38
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	49.08
Minimum	1.00E-06	95% KM (bootstrap t) UCL	70.85
Maximum	81	95% KM (BCA) UCL	47.27
Mean	24.93	95% KM (Percentile Bootstrap) UCL	45.87
Median	18	95% KM (Chebyshev) UCL	77.85
SD	29.44	97.5% KM (Chebyshev) UCL	100.4
k star	0.229	99% KM (Chebyshev) UCL	144.7
Theta star	108.6		
Nu star	2.754	Potential UCLs to Use	
AppChi2	0.303	95% KM (t) UCL	49.81
95% Gamma Approximate UCL (Use when n >= 40)	226.3	95% KM (Percentile Bootstrap) UCL	45.87
95% Adjusted Gamma UCL (Use when n < 40)	501		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	14	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0068	Minimum Detected	-4.991
Maximum Detected	8.3	Maximum Detected	2.116
Mean of Detected	2.522	Mean of Detected	0.337
SD of Detected	2.246	SD of Detected	1.656
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.814	Shapiro Wilk Test Statistic	0.716
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.405	Mean	0.289
SD	2.219	SD	1.611
95% DL/2 (t) UCL	3.378	95% H-Stat (DL/2) UCL	23.2

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.09	Mean in Log Scale	0.232
SD	2.576	SD in Log Scale	1.654
95% MLE (t) UCL	3.218	Mean in Original Scale	2.381
95% MLE (Tiku) UCL	3.283	SD in Original Scale	2.242
		95% t UCL	3.364
		95% Percentile Bootstrap UCL	3.399
		95% BCA Bootstrap UCL	3.51
		95% H UCL	25.3

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.831	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.037	
nu star	24.92	

A-D Test Statistic	0.658	Nonparametric Statistics	
5% A-D Critical Value	0.764	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.764	Mean	2.395
5% K-S Critical Value	0.228	SD	2.159
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.559
		95% KM (t) UCL	3.375
Assuming Gamma Distribution		95% KM (z) UCL	3.315
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.373
Minimum	0.0068	95% KM (bootstrap t) UCL	4.172
Maximum	8.3	95% KM (BCA) UCL	3.397
Mean	2.368	95% KM (Percentile Bootstrap) UCL	3.349
Median	2.1	95% KM (Chebyshev) UCL	4.832
SD	2.255	97.5% KM (Chebyshev) UCL	5.886
k star	0.703	99% KM (Chebyshev) UCL	7.957
Theta star	3.368		
Nu star	22.5	Potential UCLs to Use	
AppChi2	12.71	95% KM (Chebyshev) UCL	4.832
95% Gamma Approximate UCL (Use when n >= 40)	4.191		
95% Adjusted Gamma UCL (Use when n < 40)	4.485		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	12	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0063	Minimum Detected	-5.067
Maximum Detected	6.4	Maximum Detected	1.856
Mean of Detected	2.416	Mean of Detected	0.348
SD of Detected	1.814	SD of Detected	1.649
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.878	Shapiro Wilk Test Statistic	0.674
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.306	Mean	0.3
SD	1.808	SD	1.605
95% DL/2 (t) UCL	3.098	95% H-Stat (DL/2) UCL	22.99

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.207	Mean in Log Scale	0.231
SD	1.922	SD in Log Scale	1.661
95% MLE (t) UCL	3.049	Mean in Original Scale	2.279
95% MLE (Tiku) UCL	3.071	SD in Original Scale	1.837
		95% t UCL	3.084
		95% Percentile Bootstrap UCL	3.001
		95% BCA Bootstrap UCL	3.12
		95% H UCL	25.91

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.902	Data do not follow a Discernable Distribution (0.05)
Theta Star	2.678	
nu star	27.07	

A-D Test Statistic	0.779	Nonparametric Statistics	
5% A-D Critical Value	0.762	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.762	Mean	2.289
5% K-S Critical Value	0.228	SD	1.768
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.458
		95% KM (t) UCL	3.092
Assuming Gamma Distribution		95% KM (z) UCL	3.043
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.091
Minimum	0.0063	95% KM (bootstrap t) UCL	3.376
Maximum	6.4	95% KM (BCA) UCL	3.194
Mean	2.271	95% KM (Percentile Bootstrap) UCL	3.05
Median	2.1	95% KM (Chebyshev) UCL	4.286
SD	1.846	97.5% KM (Chebyshev) UCL	5.15
k star	0.781	99% KM (Chebyshev) UCL	6.847
Theta star	2.906		
Nu star	25.01	Potential UCLs to Use	
AppChi2	14.62	99% KM (Chebyshev) UCL	6.847
95% Gamma Approximate UCL (Use when n >= 40)	3.886		
95% Adjusted Gamma UCL (Use when n < 40)	4.141		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	15	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.015	Minimum Detected	-4.2
Maximum Detected	7.7	Maximum Detected	2.041
Mean of Detected	3.679	Mean of Detected	0.817
SD of Detected	2.376	SD of Detected	1.547
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.962	Shapiro Wilk Test Statistic	0.688
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.49	Mean	0.739
SD	2.417	SD	1.527
95% DL/2 (t) UCL	4.549	95% H-Stat (DL/2) UCL	27.71

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.269	Mean in Log Scale	0.705
SD	2.7	SD in Log Scale	1.56
95% MLE (t) UCL	4.452	Mean in Original Scale	3.473
95% MLE (Tiku) UCL	4.514	SD in Original Scale	2.439
		95% t UCL	4.542
		95% Percentile Bootstrap UCL	4.434
		95% BCA Bootstrap UCL	4.463
		95% H UCL	29.78

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.979	Data appear Normal at 5% Significance Level
Theta Star	3.758	
nu star	29.37	

		Nonparametric Statistics	
A-D Test Statistic	0.698		
5% A-D Critical Value	0.76	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.76	Mean	3.486
5% K-S Critical Value	0.227	SD	2.347
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.608
		95% KM (t) UCL	4.552
Assuming Gamma Distribution		95% KM (z) UCL	4.487
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.551
Minimum	0.015	95% KM (bootstrap t) UCL	4.609
Maximum	7.7	95% KM (BCA) UCL	4.418
Mean	3.47	95% KM (Percentile Bootstrap) UCL	4.507
Median	3	95% KM (Chebyshev) UCL	6.137
SD	2.443	97.5% KM (Chebyshev) UCL	7.284
k star	0.894	99% KM (Chebyshev) UCL	9.537
Theta star	3.882		
Nu star	28.6	Potential UCLs to Use	
AppChi2	17.4	95% KM (t) UCL	4.552
95% Gamma Approximate UCL (Use when n >= 40)	5.704	95% KM (Percentile Bootstrap) UCL	4.507
95% Adjusted Gamma UCL (Use when n < 40)	6.049		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	14	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	3.1	Maximum Detected	1.131
Mean of Detected	1.514	Mean of Detected	-0.036
SD of Detected	0.97	SD of Detected	1.421
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.952	Shapiro Wilk Test Statistic	0.72
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.46	Mean	-0.0607
SD	0.962	SD	1.376
95% DL/2 (t) UCL	1.882	95% H-Stat (DL/2) UCL	7.912

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.309	Mean in Log Scale	-0.0954
SD	0.501	SD in Log Scale	1.393
95% MLE (t) UCL	2.528	Mean in Original Scale	1.443
95% MLE (Tiku) UCL	2.616	SD in Original Scale	0.98
		95% t UCL	1.872
		95% Percentile Bootstrap UCL	1.828
		95% BCA Bootstrap UCL	1.86
		95% H UCL	8.021

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.044	Data appear Normal at 5% Significance Level
Theta Star	1.45	
nu star	31.32	

		Nonparametric Statistics	
A-D Test Statistic	0.698		
5% A-D Critical Value	0.758	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.758	Mean	1.459
5% K-S Critical Value	0.227	SD	0.937
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.244
		95% KM (t) UCL	1.886
Assuming Gamma Distribution		95% KM (z) UCL	1.86
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.886
Minimum	0.011	95% KM (bootstrap t) UCL	1.898
Maximum	3.1	95% KM (BCA) UCL	1.799
Mean	1.459	95% KM (Percentile Bootstrap) UCL	1.863
Median	1.35	95% KM (Chebyshev) UCL	2.521
SD	0.963	97.5% KM (Chebyshev) UCL	2.981
k star	1.079	99% KM (Chebyshev) UCL	3.884
Theta star	1.352		
Nu star	34.54	Potential UCLs to Use	
AppChi2	22.1	95% KM (t) UCL	1.886
95% Gamma Approximate UCL (Use when n >= 40)	2.281	95% KM (Percentile Bootstrap) UCL	1.863
95% Adjusted Gamma UCL (Use when n < 40)	2.404		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	3
		Percent Non-Detects	18.75%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0061	Minimum Detected	-5.099
Maximum Detected	5.2	Maximum Detected	1.649
Mean of Detected	1.515	Mean of Detected	-0.235
SD of Detected	1.386	SD of Detected	1.697
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	4.1	Maximum Non-Detect	1.411

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.75%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.861	Shapiro Wilk Test Statistic	0.788
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.506	Mean	-0.14
SD	1.268	SD	1.548
95% DL/2 (t) UCL	2.062	95% H-Stat (DL/2) UCL	12.3
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.328
		SD in Log Scale	1.539
		Mean in Original Scale	1.327
		SD in Original Scale	1.306
		95% t UCL	1.899
		95% Percentile Bootstrap UCL	1.886
		95% BCA Bootstrap UCL	2.059
		95% H-UCL	9.888
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.743	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.04		
nu star	19.31		
A-D Test Statistic	0.357	Nonparametric Statistics	
5% A-D Critical Value	0.763	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.763	Mean	1.416
5% K-S Critical Value	0.244	SD	1.262
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.34
		95% KM (t) UCL	2.012
Assuming Gamma Distribution		95% KM (z) UCL	1.975
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.011
Minimum	0.0061	95% KM (bootstrap t) UCL	2.265
Maximum	5.2	95% KM (BCA) UCL	2.031
Mean	1.405	95% KM (Percentile Bootstrap) UCL	1.988
Median	1.163	95% KM (Chebyshev) UCL	2.898
SD	1.27	97.5% KM (Chebyshev) UCL	3.539
k star	0.876	99% KM (Chebyshev) UCL	4.799
Theta star	1.605		
Nu star	28.02	Potential UCLs to Use	
AppChi2	16.94	95% KM (Chebyshev) UCL	2.898
95% Gamma Approximate UCL (Use when n >= 40)	2.324		
95% Adjusted Gamma UCL (Use when n < 40)	2.466		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

bis(2-Ethylhexyl) phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	4
		Percent Non-Detects	25.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.22	Minimum Detected	-1.514
Maximum Detected	38	Maximum Detected	3.638
Mean of Detected	10.04	Mean of Detected	1.641
SD of Detected	10.68	SD of Detected	1.432
Minimum Non-Detect	0.2	Minimum Non-Detect	-1.609
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	37.50%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.821	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	7.631	Mean	0.905
SD	10.11	SD	1.86
95% DL/2 (t) UCL	12.06	95% H-Stat (DL/2) UCL	104.9

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.276	Mean in Log Scale	0.919
SD	13.59	SD in Log Scale	1.798
95% MLE (t) UCL	10.23	Mean in Original Scale	7.612
95% MLE (Tiku) UCL	10.85	SD in Original Scale	10.13
		95% t UCL	12.05
		95% Percentile Bootstrap UCL	11.93
		95% BCA Bootstrap UCL	13.02
		95% H UCL	84.18

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.716	Data appear Gamma Distributed at 5% Significance Level
Theta Star	14.04	
nu star	17.17	

		Nonparametric Statistics	
A-D Test Statistic	0.162		
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	7.615
5% K-S Critical Value	0.254	SD	9.805
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.561
		95% KM (t) UCL	12.1
Assuming Gamma Distribution		95% KM (z) UCL	11.83
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	11.95
Minimum	1.00E-06	95% KM (bootstrap t) UCL	14.49
Maximum	38	95% KM (BCA) UCL	12.76
Mean	7.533	95% KM (Percentile Bootstrap) UCL	12.21
Median	2.85	95% KM (Chebyshev) UCL	18.78
SD	10.19	97.5% KM (Chebyshev) UCL	23.61
k star	0.185	99% KM (Chebyshev) UCL	33.09
Theta star	40.65		
Nu star	5.93	Potential UCLs to Use	
AppChi2	1.604	95% KM (Chebyshev) UCL	18.78
95% Gamma Approximate UCL (Use when n >= 40)	27.85		
95% Adjusted Gamma UCL (Use when n < 40)	32.77		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	15	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.67	Minimum Detected	-0.4
Maximum Detected	16	Maximum Detected	2.773
Mean of Detected	6.777	Mean of Detected	1.411
SD of Detected	5.708	SD of Detected	1.165
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.002	Maximum Non-Detect	-6.215

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.872	Shapiro Wilk Test Statistic	0.893
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	6.354	Mean	0.891
SD	5.769	SD	2.365
95% DL/2 (t) UCL	8.882	95% H-Stat (DL/2) UCL	939.4

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	6.164	Mean in Log Scale	1.237
SD	5.879	SD in Log Scale	1.324
95% MLE (t) UCL	8.741	Mean in Original Scale	6.37
95% MLE (Tiku) UCL	8.667	SD in Original Scale	5.751
		95% t UCL	8.89
		95% Percentile Bootstrap UCL	8.64
		95% BCA Bootstrap UCL	8.872
		95% H UCL	25.02

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.951	Data appear Gamma Distributed at 5% Significance Level
Theta Star	7.127	
nu star	28.53	

		Nonparametric Statistics	
A-D Test Statistic	0.538		
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	6.396
5% K-S Critical Value	0.227	SD	5.541
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.434
		95% KM (t) UCL	8.909
Assuming Gamma Distribution		95% KM (z) UCL	8.754
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	8.903
Minimum	1.00E-06	95% KM (bootstrap t) UCL	9.234
Maximum	16	95% KM (BCA) UCL	8.756
Mean	6.354	95% KM (Percentile Bootstrap) UCL	8.768
Median	4.3	95% KM (Chebyshev) UCL	12.65
SD	5.769	97.5% KM (Chebyshev) UCL	15.35
k star	0.418	99% KM (Chebyshev) UCL	20.66
Theta star	15.21		
Nu star	13.36	Potential UCLs to Use	
AppChi2	6.139	95% KM (Chebyshev) UCL	12.65
95% Gamma Approximate UCL (Use when n >= 40)	13.83		
95% Adjusted Gamma UCL (Use when n < 40)	15.19		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics (Units in mg/kg)

Number of Valid Data	10	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	5
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.11	Minimum Detected	-2.207
Maximum Detected	0.36	Maximum Detected	-1.022
Mean of Detected	0.258	Mean of Detected	-1.44
SD of Detected	0.105	SD of Detected	0.49
Minimum Non-Detect	0.077	Minimum Non-Detect	-2.564
Maximum Non-Detect	0.24	Maximum Non-Detect	-1.427

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	70.00%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.925	Shapiro Wilk Test Statistic	0.886
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.168	Mean	-2.035
SD	0.12	SD	0.768
95% DL/2 (t) UCL	0.237	95% H-Stat (DL/2) UCL	0.346

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.329	Mean in Log Scale	-1.941
SD	0.0403	SD in Log Scale	0.636
95% MLE (t) UCL	0.352	Mean in Original Scale	0.173
95% MLE (Tiku) UCL	0.371	SD in Original Scale	0.114
		95% t UCL	0.239
		95% Percentile Bootstrap UCL	0.23
		95% BCA Bootstrap UCL	0.237
		95% H UCL	0.293

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.559	Data appear Normal at 5% Significance Level
Theta Star	0.101	
nu star	25.59	

		Nonparametric Statistics	
A-D Test Statistic	0.342		
5% A-D Critical Value	0.68	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.68	Mean	0.186
5% K-S Critical Value	0.358	SD	0.0991
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0353
		95% KM (t) UCL	0.25
Assuming Gamma Distribution		95% KM (z) UCL	0.243
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.254
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.239
Maximum	0.36	95% KM (BCA) UCL	0.35
Mean	0.133	95% KM (Percentile Bootstrap) UCL	0.295
Median	0.0747	95% KM (Chebyshev) UCL	0.339
SD	0.15	97.5% KM (Chebyshev) UCL	0.406
k star	0.183	99% KM (Chebyshev) UCL	0.536
Theta star	0.726		
Nu star	3.662	Potential UCLs to Use	
AppChi2	0.593	95% KM (t) UCL	0.25
95% Gamma Approximate UCL (Use when n >= 40)	0.821	95% KM (Percentile Bootstrap) UCL	0.295
95% Adjusted Gamma UCL (Use when n < 40)	1.163		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	16

Raw Statistics		Log-transformed Statistics	
Minimum	2	Minimum of Log Data	0.693
Maximum	45	Maximum of Log Data	3.807
Mean	9.463	Mean of log Data	1.941
Geometric Mean	6.967	SD of log Data	0.734
Median	6.35		
SD	10.22		
Std. Error of Mean	2.555		
Coefficient of Variation	1.08		
Skewness	3.13		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.605	Shapiro Wilk Test Statistic	0.948
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	13.94	95% H-UCL	14.18
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16.53
95% Adjusted-CLT UCL (Chen-1995)	15.8	97.5% Chebyshev (MVUE) UCL	19.82
95% Modified-t UCL (Johnson-1978)	14.28	99% Chebyshev (MVUE) UCL	26.28

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.49	Data appear Lognormal at 5% Significance Level	
Theta Star	6.353		
MLE of Mean	9.463		
MLE of Standard Deviation	7.753		
nu star	47.67		
Approximate Chi Square Value (.05)	32.82	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	13.67
Adjusted Chi Square Value	31.42	95% Jackknife UCL	13.94
		95% Standard Bootstrap UCL	13.42
Anderson-Darling Test Statistic	0.808	95% Bootstrap-t UCL	20.37
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL	29.22
Kolmogorov-Smirnov Test Statistic	0.231	95% Percentile Bootstrap UCL	14.17
Kolmogorov-Smirnov 5% Critical Value	0.218	95% BCA Bootstrap UCL	16.89
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	20.6
		97.5% Chebyshev(Mean, Sd) UCL	25.42
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	34.89
95% Approximate Gamma UCL (Use when n >= 40)	13.74		
95% Adjusted Gamma UCL (Use when n < 40)	14.35		

Potential UCL to Use	Use 95% H-UCL	14.18

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	6
		Percent Non-Detects	37.50%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0041	Minimum Detected	-5.497
Maximum Detected	0.86	Maximum Detected	-0.151
Mean of Detected	0.391	Mean of Detected	-1.472
SD of Detected	0.272	SD of Detected	1.567
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	4.1	Maximum Non-Detect	1.411
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.97	Shapiro Wilk Test Statistic	0.749
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.682	Mean	-0.901
SD	0.556	SD	1.461
95% DL/2 (t) UCL	0.926	95% H-Stat (DL/2) UCL	4.375
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.472
		SD in Log Scale	1.214
		Mean in Original Scale	0.33
		SD in Original Scale	0.226
		95% t UCL	0.429
		95% Percentile Bootstrap UCL	0.423
		95% BCA Bootstrap UCL	0.435
		95% H-UCL	1.244
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.818	Data appear Normal at 5% Significance Level	
Theta Star	0.478		
nu star	16.35		
A-D Test Statistic	0.517	Nonparametric Statistics	
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	0.391
5% K-S Critical Value	0.273	SD	0.258
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.086
		95% KM (t) UCL	0.542
Assuming Gamma Distribution		95% KM (z) UCL	0.533
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.545
Minimum	0.0041	95% KM (bootstrap t) UCL	0.564
Maximum	0.86	95% KM (BCA) UCL	0.511
Mean	0.385	95% KM (Percentile Bootstrap) UCL	0.534
Median	0.374	95% KM (Chebyshev) UCL	0.766
SD	0.211	97.5% KM (Chebyshev) UCL	0.928
k star	1.378	99% KM (Chebyshev) UCL	1.247
Theta star	0.279		
Nu star	44.1	Potential UCLs to Use	
AppChi2	29.87	95% KM (t) UCL	0.542
95% Gamma Approximate UCL (Use when n >= 40)	0.568	95% KM (Percentile Bootstrap) UCL	0.534
95% Adjusted Gamma UCL (Use when n < 40)	0.594		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Di-n-octylphthalate

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	8
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.088	Minimum Detected	-2.43
Maximum Detected	35	Maximum Detected	3.555
Mean of Detected	5.141	Mean of Detected	-0.376
SD of Detected	12.14	SD of Detected	1.977
Minimum Non-Detect	0.047	Minimum Non-Detect	-3.058
Maximum Non-Detect	2.3	Maximum Non-Detect	0.833

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	87.50%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.49	Shapiro Wilk Test Statistic	0.884
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.704	Mean	-1.389
SD	8.67	SD	1.984
95% DL/2 (t) UCL	6.504	95% H-Stat (DL/2) UCL	17.37

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.348
		SD in Log Scale	2.524
		Mean in Original Scale	2.58
		SD in Original Scale	8.703
		95% t UCL	6.395
		95% Percentile Bootstrap UCL	6.717
		95% BCA Bootstrap UCL	9.121
		95% H-UCL	82.14

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.293	Data appear Lognormal at 5% Significance Level
Theta Star	17.52	
nu star	4.695	

		Nonparametric Statistics	
A-D Test Statistic	1.028		
5% A-D Critical Value	0.791	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.791	Mean	2.631
5% K-S Critical Value	0.316	SD	8.412
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2.248
		95% KM (t) UCL	6.572
Assuming Gamma Distribution		95% KM (z) UCL	6.329
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.419
Minimum	1.00E-06	95% KM (bootstrap t) UCL	106.2
Maximum	35	95% KM (BCA) UCL	6.989
Mean	2.571	95% KM (Percentile Bootstrap) UCL	6.931
Median	0.044	95% KM (Chebyshev) UCL	12.43
SD	8.707	97.5% KM (Chebyshev) UCL	16.67
k star	0.124	99% KM (Chebyshev) UCL	25
Theta star	20.79		
Nu star	3.957	Potential UCLs to Use	
AppChi2	0.705	99% KM (Chebyshev) UCL	25
95% Gamma Approximate UCL (Use when n >= 40)	14.43		
95% Adjusted Gamma UCL (Use when n < 40)	17.9		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	13	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0094	Minimum Detected	-4.667
Maximum Detected	3.4	Maximum Detected	1.224
Mean of Detected	1.843	Mean of Detected	0.181
SD of Detected	1.028	SD of Detected	1.482
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.956	Shapiro Wilk Test Statistic	0.637
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.768	Mean	0.143
SD	1.037	SD	1.44
95% DL/2 (t) UCL	2.223	95% H-Stat (DL/2) UCL	11.68

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.854	Mean in Log Scale	0.0777
SD	0.911	SD in Log Scale	1.49
95% MLE (t) UCL	2.253	Mean in Original Scale	1.742
95% MLE (Tiku) UCL	2.269	SD in Original Scale	1.072
		95% t UCL	2.212
		95% Percentile Bootstrap UCL	2.171
		95% BCA Bootstrap UCL	2.152
		95% H UCL	12.75

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.087	Data appear Normal at 5% Significance Level
Theta Star	1.695	
nu star	32.62	

		Nonparametric Statistics	
A-D Test Statistic	1.187		
5% A-D Critical Value	0.757	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.757	Mean	1.747
5% K-S Critical Value	0.226	SD	1.032
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.268
		95% KM (t) UCL	2.216
Assuming Gamma Distribution		95% KM (z) UCL	2.187
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.217
Minimum	0.0094	95% KM (bootstrap t) UCL	2.216
Maximum	3.4	95% KM (BCA) UCL	2.213
Mean	1.751	95% KM (Percentile Bootstrap) UCL	2.194
Median	1.6	95% KM (Chebyshev) UCL	2.914
SD	1.059	97.5% KM (Chebyshev) UCL	3.419
k star	1.054	99% KM (Chebyshev) UCL	4.411
Theta star	1.661		
Nu star	33.73	Potential UCLs to Use	
AppChi2	21.45	95% KM (t) UCL	2.216
95% Gamma Approximate UCL (Use when n >= 40)	2.753	95% KM (Percentile Bootstrap) UCL	2.194
95% Adjusted Gamma UCL (Use when n < 40)	2.904		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	14

Raw Statistics		Log-transformed Statistics	
Minimum	7300	Minimum of Log Data	8.896
Maximum	30300	Maximum of Log Data	10.32
Mean	15854	Mean of log Data	9.581
Geometric Mean	14488	SD of log Data	0.439
Median	13350		
SD	7030		
Std. Error of Mean	1758		
Coefficient of Variation	0.443		
Skewness	0.759		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.916	Shapiro Wilk Test Statistic	0.959
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	18935	95% H-UCL	19987
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	23617
95% Adjusted-CLT UCL (Chen-1995)	19102	97.5% Chebyshev (MVUE) UCL	26978
95% Modified-t UCL (Johnson-1978)	18991	99% Chebyshev (MVUE) UCL	33580

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.682	Data appear Normal at 5% Significance Level	
Theta Star	3387		
MLE of Mean	15854		
MLE of Standard Deviation	7327		
nu star	149.8		
Approximate Chi Square Value (.05)	122.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	18745
Adjusted Chi Square Value	119.7	95% Jackknife UCL	18935
		95% Standard Bootstrap UCL	18631
Anderson-Darling Test Statistic	0.328	95% Bootstrap-t UCL	19299
Anderson-Darling 5% Critical Value	0.741	95% Hall's Bootstrap UCL	19146
Kolmogorov-Smirnov Test Statistic	0.148	95% Percentile Bootstrap UCL	18781
Kolmogorov-Smirnov 5% Critical Value	0.216	95% BCA Bootstrap UCL	19031
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	23515
		97.5% Chebyshev(Mean, Sd) UCL	26830
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	33342
95% Approximate Gamma UCL (Use when n >= 40)	19386		
95% Adjusted Gamma UCL (Use when n < 40)	19840		

Potential UCL to Use	Use 95% Student's-t UCL	18935

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	15

Raw Statistics		Log-transformed Statistics	
Minimum	62.3	Minimum of Log Data	4.132
Maximum	500	Maximum of Log Data	6.215
Mean	186.8	Mean of log Data	4.987
Geometric Mean	146.4	SD of log Data	0.679
Median	120		
SD	151.8		
Std. Error of Mean	37.96		
Coefficient of Variation	0.813		
Skewness	1.491		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.722	Shapiro Wilk Test Statistic	0.879
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	253.3	95% H-UCL	273.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	322.5
95% Adjusted-CLT UCL (Chen-1995)	264.3	97.5% Chebyshev (MVUE) UCL	383.6
95% Modified-t UCL (Johnson-1978)	255.7	99% Chebyshev (MVUE) UCL	503.7

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.834	Data do not follow a Discernable Distribution (0.05)	
Theta Star	101.8		
MLE of Mean	186.8		
MLE of Standard Deviation	137.9		
nu star	58.7		
Approximate Chi Square Value (.05)	42.08	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	249.2
Adjusted Chi Square Value	40.48	95% Jackknife UCL	253.3
		95% Standard Bootstrap UCL	248.7
Anderson-Darling Test Statistic	1.173	95% Bootstrap-t UCL	280.5
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	241.2
Kolmogorov-Smirnov Test Statistic	0.257	95% Percentile Bootstrap UCL	252
Kolmogorov-Smirnov 5% Critical Value	0.218	95% BCA Bootstrap UCL	261.3
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	352.2
		97.5% Chebyshev(Mean, Sd) UCL	423.8
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	564.5
95% Approximate Gamma UCL (Use when n >= 40)	260.5		
95% Adjusted Gamma UCL (Use when n < 40)	270.8		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	352.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	2
		Percent Non-Detects	12.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.014	Minimum Detected	-4.269
Maximum Detected	14	Maximum Detected	2.639
Mean of Detected	2.782	Mean of Detected	0.397
SD of Detected	3.404	SD of Detected	1.54
Minimum Non-Detect	0.1	Minimum Non-Detect	-2.303
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	37.50%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.607	Shapiro Wilk Test Statistic	0.765
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.478	Mean	0.134
SD	3.278	SD	1.672
95% DL/2 (t) UCL	3.914	95% H-Stat (DL/2) UCL	24.43

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.559	Mean in Log Scale	0.13
SD	4.158	SD in Log Scale	1.618
95% MLE (t) UCL	3.382	Mean in Original Scale	2.458
95% MLE (Tiku) UCL	3.564	SD in Original Scale	3.291
		95% t UCL	3.9
		95% Percentile Bootstrap UCL	3.92
		95% BCA Bootstrap UCL	4.555
		95% H UCL	20.26

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.779	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.572	
nu star	21.81	

		Nonparametric Statistics	
A-D Test Statistic	0.702		
5% A-D Critical Value	0.763	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.763	Mean	2.466
5% K-S Critical Value	0.236	SD	3.183
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.826
		95% KM (t) UCL	3.914
Assuming Gamma Distribution		95% KM (z) UCL	3.825
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.879
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.811
Maximum	14	95% KM (BCA) UCL	4.178
Mean	2.434	95% KM (Percentile Bootstrap) UCL	3.977
Median	1.9	95% KM (Chebyshev) UCL	6.068
SD	3.309	97.5% KM (Chebyshev) UCL	7.626
k star	0.288	99% KM (Chebyshev) UCL	10.69
Theta star	8.446		
Nu star	9.222	Potential UCLs to Use	
AppChi2	3.461	95% KM (Chebyshev) UCL	6.068
95% Gamma Approximate UCL (Use when n >= 40)	6.485		
95% Adjusted Gamma UCL (Use when n < 40)	7.31		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	15

Raw Statistics		Log-transformed Statistics	
Minimum	8.9	Minimum of Log Data	2.186
Maximum	52	Maximum of Log Data	3.951
Mean	22.46	Mean of log Data	2.953
Geometric Mean	19.17	SD of log Data	0.578
Median	15		
SD	13.29		
Std. Error of Mean	3.322		
Coefficient of Variation	0.592		
Skewness	0.879		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.869	Shapiro Wilk Test Statistic	0.915
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	28.29	95% H-UCL	31.17
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	37.08
95% Adjusted-CLT UCL (Chen-1995)	28.71	97.5% Chebyshev (MVUE) UCL	43.44
95% Modified-t UCL (Johnson-1978)	28.41	99% Chebyshev (MVUE) UCL	55.93

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.729	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	8.231		
MLE of Mean	22.46		
MLE of Standard Deviation	13.6		
nu star	87.32		
Approximate Chi Square Value (.05)	66.78	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	27.93
Adjusted Chi Square Value	64.74	95% Jackknife UCL	28.29
		95% Standard Bootstrap UCL	27.68
Anderson-Darling Test Statistic	0.695	95% Bootstrap-t UCL	28.8
Anderson-Darling 5% Critical Value	0.744	95% Hall's Bootstrap UCL	28.34
Kolmogorov-Smirnov Test Statistic	0.253	95% Percentile Bootstrap UCL	27.69
Kolmogorov-Smirnov 5% Critical Value	0.216	95% BCA Bootstrap UCL	28.66
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	36.94
		97.5% Chebyshev(Mean, Sd) UCL	43.21
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	55.52
95% Approximate Gamma UCL (Use when n >= 40)	29.37		
95% Adjusted Gamma UCL (Use when n < 40)	30.3		

Potential UCL to Use	Use 95% Approximate Gamma UCL	29.37

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	33
Number of Distinct Detected Data	31	Number of Non-Detect Data	9
		Percent Non-Detects	21.43%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.02	Minimum Detected	-3.912
Maximum Detected	25	Maximum Detected	3.219
Mean of Detected	3.496	Mean of Detected	0.0644
SD of Detected	6.034	SD of Detected	1.715
Minimum Non-Detect	0.013	Minimum Non-Detect	-4.343
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	25
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	40.48%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.585	Shapiro Wilk Test Statistic	0.982
5% Shapiro Wilk Critical Value	0.931	5% Shapiro Wilk Critical Value	0.931
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.767	Mean	-0.58
SD	5.515	SD	2.045
95% DL/2 (t) UCL	4.199	95% H-Stat (DL/2) UCL	14.86
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.402	Mean in Log Scale	-0.639
SD	7.69	SD in Log Scale	2.062
95% MLE (t) UCL	2.399	Mean in Original Scale	2.757
95% MLE (Tiku) UCL	2.657	SD in Original Scale	5.52
		95% t UCL	4.191
		95% Percentile Bootstrap UCL	4.299
		95% BCA Bootstrap UCL	4.711
		95% H UCL	14.75
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.502	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	6.962		
nu star	33.14		
A-D Test Statistic	0.73	Nonparametric Statistics	
5% A-D Critical Value	0.808	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.808	Mean	2.758
5% K-S Critical Value	0.162	SD	5.453
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.855
		95% KM (t) UCL	4.196
Assuming Gamma Distribution		95% KM (z) UCL	4.164
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.187
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.349
Maximum	25	95% KM (BCA) UCL	4.24
Mean	2.747	95% KM (Percentile Bootstrap) UCL	4.239
Median	0.57	95% KM (Chebyshev) UCL	6.483
SD	5.525	97.5% KM (Chebyshev) UCL	8.095
k star	0.192	99% KM (Chebyshev) UCL	11.26
Theta star	14.33		
Nu star	16.1	Potential UCLs to Use	
AppChi2	8.033	95% KM (Chebyshev) UCL	6.483
95% Gamma Approximate UCL (Use when n >= 40)	5.506		
95% Adjusted Gamma UCL (Use when n < 40)	5.649		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)			
Number of Valid Data	40	Number of Detected Data	18
Number of Distinct Detected Data	17	Number of Non-Detect Data	22
		Percent Non-Detects	55.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0016	Minimum Detected	-6.438
Maximum Detected	0.6	Maximum Detected	-0.511
Mean of Detected	0.0589	Mean of Detected	-4.289
SD of Detected	0.146	SD of Detected	1.537
Minimum Non-Detect	6.70E-04	Minimum Non-Detect	-7.308
Maximum Non-Detect	4.1	Maximum Non-Detect	1.411

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	40
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.42	Shapiro Wilk Test Statistic	0.909
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.183	Mean	-5.096
SD	0.464	SD	2.737
95% DL/2 (t) UCL	0.307	95% H-Stat (DL/2) UCL	2.233
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.173
		SD in Log Scale	2.117
		Mean in Original Scale	0.0269
		SD in Original Scale	0.101
		95% t UCL	0.0538
		95% Percentile Bootstrap UCL	0.0564
		95% BCA Bootstrap UCL	0.0781
		95% H-UCL	0.0747
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.407	Data appear Lognormal at 5% Significance Level	
Theta Star	0.145		
nu star	14.66		
A-D Test Statistic	1.991	Nonparametric Statistics	
5% A-D Critical Value	0.812	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.812	Mean	0.0311
5% K-S Critical Value	0.217	SD	0.106
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0184
		95% KM (t) UCL	0.0621
Assuming Gamma Distribution		95% KM (z) UCL	0.0614
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0614
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.35
Maximum	0.6	95% KM (BCA) UCL	0.0694
Mean	0.0265	95% KM (Percentile Bootstrap) UCL	0.0629
Median	1.00E-06	95% KM (Chebyshev) UCL	0.111
SD	0.101	97.5% KM (Chebyshev) UCL	0.146
k star	0.139	99% KM (Chebyshev) UCL	0.214
Theta star	0.19		
Nu star	11.15	Potential UCLs to Use	
AppChi2	4.671	95% KM (Chebyshev) UCL	0.111
95% Gamma Approximate UCL (Use when n >= 40)	0.0632		
95% Adjusted Gamma UCL (Use when n < 40)	0.0654		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

alpha-BHC

General Statistics (Units in mg/kg)

Number of Valid Data	39	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	27
		Percent Non-Detects	69.23%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	8.80E-04	Minimum Detected	-7.036
Maximum Detected	0.17	Maximum Detected	-1.772
Mean of Detected	0.0288	Mean of Detected	-4.672
SD of Detected	0.0521	SD of Detected	1.478
Minimum Non-Detect	4.00E-04	Minimum Non-Detect	-7.824
Maximum Non-Detect	0.021	Maximum Non-Detect	-3.863

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	36
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	92.31%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.576	Shapiro Wilk Test Statistic	0.932
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00995	Mean	-6.627
SD	0.0309	SD	1.875
95% DL/2 (t) UCL	0.0183	95% H-Stat (DL/2) UCL	0.0228

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-7.525
		SD in Log Scale	2.169
		Mean in Original Scale	0.009
		SD in Original Scale	0.0311
		95% t UCL	0.0174
		95% Percentile Bootstrap UCL	0.0179
		95% BCA Bootstrap UCL	0.0227
		95% H-UCL	0.0233

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.472	Data appear Lognormal at 5% Significance Level	
Theta Star	0.0611		
nu star	11.33		

A-D Test Statistic	1.104	Nonparametric Statistics	
5% A-D Critical Value	0.781	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.781	Mean	0.00963
5% K-S Critical Value	0.258	SD	0.0305
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00511
		95% KM (t) UCL	0.0182
Assuming Gamma Distribution		95% KM (z) UCL	0.018
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0172
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0598
Maximum	0.17	95% KM (BCA) UCL	0.0216
Mean	0.00887	95% KM (Percentile Bootstrap) UCL	0.0191
Median	1.00E-06	95% KM (Chebyshev) UCL	0.0319
SD	0.0311	97.5% KM (Chebyshev) UCL	0.0415
k star	0.133	99% KM (Chebyshev) UCL	0.0604
Theta star	0.0667		
Nu star	10.37	Potential UCLs to Use	
AppChi2	4.176	95% KM (BCA) UCL	0.0216
95% Gamma Approximate UCL (Use when n >= 40)	0.022		
95% Adjusted Gamma UCL (Use when n < 40)	0.0229		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	41	Number of Distinct Observations	40

Raw Statistics		Log-transformed Statistics	
Minimum	1650	Minimum of Log Data	7.409
Maximum	26900	Maximum of Log Data	10.2
Mean	8863	Mean of log Data	8.87
Geometric Mean	7114	SD of log Data	0.692
Median	7280		
SD	5976		
Std. Error of Mean	933.3		
Coefficient of Variation	0.674		
Skewness	1.222		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.886	Shapiro Wilk Test Statistic	0.974
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	10434	95% H-UCL	11311
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	13578
95% Adjusted-CLT UCL (Chen-1995)	10588	97.5% Chebyshev (MVUE) UCL	15569
95% Modified-t UCL (Johnson-1978)	10464	99% Chebyshev (MVUE) UCL	19481

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.267	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3910		
MLE of Mean	8863		
MLE of Standard Deviation	5887		
nu star	185.9		
Approximate Chi Square Value (.05)	155.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	10398
Adjusted Chi Square Value	154.3	95% Jackknife UCL	10434
		95% Standard Bootstrap UCL	10356
Anderson-Darling Test Statistic	0.294	95% Bootstrap-t UCL	10733
Anderson-Darling 5% Critical Value	0.757	95% Hall's Bootstrap UCL	10594
Kolmogorov-Smirnov Test Statistic	0.0725	95% Percentile Bootstrap UCL	10403
Kolmogorov-Smirnov 5% Critical Value	0.139	95% BCA Bootstrap UCL	10524
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	12931
		97.5% Chebyshev(Mean, Sd) UCL	14691
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	18149
95% Approximate Gamma UCL (Use when n >= 40)	10605		
95% Adjusted Gamma UCL (Use when n < 40)	10675		

Potential UCL to Use	Use 95% Approximate Gamma UCL	10605

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Data	41	Number of Detected Data	33
Number of Distinct Detected Data	28	Number of Non-Detect Data	8
		Percent Non-Detects	19.51%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.85	Minimum Detected	-0.163
Maximum Detected	12	Maximum Detected	2.485
Mean of Detected	3.441	Mean of Detected	0.915
SD of Detected	2.963	SD of Detected	0.794
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.802	Shapiro Wilk Test Statistic	0.911
5% Shapiro Wilk Critical Value	0.931	5% Shapiro Wilk Critical Value	0.931
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.77	Mean	-0.476
SD	2.988	SD	2.948
95% DL/2 (t) UCL	3.556	95% H-Stat (DL/2) UCL	500.8

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.363	Mean in Log Scale	0.556
SD	3.495	SD in Log Scale	1.039
95% MLE (t) UCL	3.283	Mean in Original Scale	2.852
95% MLE (Tiku) UCL	3.292	SD in Original Scale	2.915
		95% t UCL	3.618
		95% Percentile Bootstrap UCL	3.62
		95% BCA Bootstrap UCL	3.682
		95% H UCL	4.431

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.574	Data do not follow a Discernable Distribution (0.05)
Theta Star	2.186	
nu star	103.9	

		Nonparametric Statistics	
A-D Test Statistic	1.401		
5% A-D Critical Value	0.763	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.763	Mean	2.935
5% K-S Critical Value	0.156	SD	2.812
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.446
		95% KM (t) UCL	3.686
Assuming Gamma Distribution		95% KM (z) UCL	3.669
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.673
Minimum	1.00E-06	95% KM (bootstrap t) UCL	3.857
Maximum	12	95% KM (BCA) UCL	3.759
Mean	2.769	95% KM (Percentile Bootstrap) UCL	3.688
Median	1.5	95% KM (Chebyshev) UCL	4.879
SD	2.988	97.5% KM (Chebyshev) UCL	5.72
k star	0.239	99% KM (Chebyshev) UCL	7.372
Theta star	11.6		
Nu star	19.58	Potential UCLs to Use	
AppChi2	10.54	95% KM (Chebyshev) UCL	4.879
95% Gamma Approximate UCL (Use when n >= 40)	5.143		
95% Adjusted Gamma UCL (Use when n < 40)	5.265		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzidine

General Statistics

Number of Valid Data	6	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	1
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	4.6	Minimum Detected	1.526
Maximum Detected	81	Maximum Detected	4.394
Mean of Detected	29.92	Mean of Detected	2.991
SD of Detected	29.95	SD of Detected	1.053
Minimum Non-Detect	2.6	Minimum Non-Detect	0.956
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.825	Shapiro Wilk Test Statistic	0.986
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	25.15	Mean	2.536
SD	29.23	SD	1.459
95% DL/2 (t) UCL	49.19	95% H-Stat (DL/2) UCL	1537

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	22.31	Mean in Log Scale	2.539
SD	30.42	SD in Log Scale	1.452
95% MLE (t) UCL	47.34	Mean in Original Scale	25.15
95% MLE (Tiku) UCL	47.08	SD in Original Scale	29.22
		95% t UCL	49.19
		95% Percentile Bootstrap UCL	45.05
		95% BCA Bootstrap UCL	51.17
		95% H UCL	1479

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.681	Data appear Normal at 5% Significance Level
Theta Star	43.95	
nu star	6.807	

A-D Test Statistic	0.234	Nonparametric Statistics	
5% A-D Critical Value	0.688	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.688	Mean	25.7
5% K-S Critical Value	0.362	SD	26.21
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	11.96
		95% KM (t) UCL	49.81
Assuming Gamma Distribution		95% KM (z) UCL	45.38
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	49.08
Minimum	1.00E-06	95% KM (bootstrap t) UCL	72.01
Maximum	81	95% KM (BCA) UCL	49.77
Mean	24.93	95% KM (Percentile Bootstrap) UCL	45.67
Median	18	95% KM (Chebyshev) UCL	77.85
SD	29.44	97.5% KM (Chebyshev) UCL	100.4
k star	0.229	99% KM (Chebyshev) UCL	144.7
Theta star	108.6		
Nu star	2.754	Potential UCLs to Use	
AppChi2	0.303	95% KM (t) UCL	49.81
95% Gamma Approximate UCL (Use when n >= 40)	226.3	95% KM (Percentile Bootstrap) UCL	45.67
95% Adjusted Gamma UCL (Use when n < 40)	501		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	40	Number of Detected Data	27
Number of Distinct Detected Data	23	Number of Non-Detect Data	13
		Percent Non-Detects	32.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	8.20E-04	Minimum Detected	-7.106
Maximum Detected	8.3	Maximum Detected	2.116
Mean of Detected	1.791	Mean of Detected	-0.731
SD of Detected	1.993	SD of Detected	2.498
Minimum Non-Detect	5.50E-04	Minimum Non-Detect	-7.506
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	15
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	62.50%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.784	Shapiro Wilk Test Statistic	0.83
5% Shapiro Wilk Critical Value	0.923	5% Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.227	Mean	-2.555
SD	1.826	SD	3.635
95% DL/2 (t) UCL	1.714	95% H-Stat (DL/2) UCL	2321

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.268	Mean in Log Scale	-2.244
SD	2.854	SD in Log Scale	3.027
95% MLE (t) UCL	1.028	Mean in Original Scale	1.211
95% MLE (Tiku) UCL	1.399	SD in Original Scale	1.835
		95% t UCL	1.699
		95% Percentile Bootstrap UCL	1.674
		95% BCA Bootstrap UCL	1.795
		95% H UCL	139.7

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.457	Data do not follow a Discernable Distribution (0.05)
Theta Star	3.923	
nu star	24.65	

		Nonparametric Statistics	
A-D Test Statistic	1.03		
5% A-D Critical Value	0.811	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.811	Mean	1.212
5% K-S Critical Value	0.178	SD	1.811
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.292
		95% KM (t) UCL	1.704
Assuming Gamma Distribution		95% KM (z) UCL	1.692
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.7
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.883
Maximum	8.3	95% KM (BCA) UCL	1.736
Mean	1.209	95% KM (Percentile Bootstrap) UCL	1.733
Median	0.21	95% KM (Chebyshev) UCL	2.484
SD	1.836	97.5% KM (Chebyshev) UCL	3.035
k star	0.154	99% KM (Chebyshev) UCL	4.116
Theta star	7.836		
Nu star	12.34	Potential UCLs to Use	
AppChi2	5.453	99% KM (Chebyshev) UCL	4.116
95% Gamma Approximate UCL (Use when n >= 40)	2.736		
95% Adjusted Gamma UCL (Use when n < 40)	2.825		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	40	Number of Detected Data	25
Number of Distinct Detected Data	19	Number of Non-Detect Data	15
		Percent Non-Detects	37.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.002	Minimum Detected	-6.215
Maximum Detected	6.4	Maximum Detected	1.856
Mean of Detected	1.958	Mean of Detected	-0.361
SD of Detected	1.789	SD of Detected	2.221
Minimum Non-Detect	5.40E-04	Minimum Non-Detect	-7.524
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	16
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	60.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.882	Shapiro Wilk Test Statistic	0.797
5% Shapiro Wilk Critical Value	0.918	5% Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.246	Mean	-2.334
SD	1.687	SD	3.519
95% DL/2 (t) UCL	1.696	95% H-Stat (DL/2) UCL	1521

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.644	Mean in Log Scale	-1.933
SD	2.419	SD in Log Scale	2.718
95% MLE (t) UCL	1.289	Mean in Original Scale	1.229
95% MLE (Tiku) UCL	1.556	SD in Original Scale	1.697
		95% t UCL	1.681
		95% Percentile Bootstrap UCL	1.68
		95% BCA Bootstrap UCL	1.739
		95% H UCL	48.64

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.553	Data do not follow a Discernable Distribution (0.05)
Theta Star	3.539	
nu star	27.67	

		Nonparametric Statistics	
A-D Test Statistic	1.081		
5% A-D Critical Value	0.798	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.798	Mean	1.227
5% K-S Critical Value	0.183	SD	1.677
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.271
		95% KM (t) UCL	1.683
Assuming Gamma Distribution		95% KM (z) UCL	1.672
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.678
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.776
Maximum	6.4	95% KM (BCA) UCL	1.692
Mean	1.224	95% KM (Percentile Bootstrap) UCL	1.693
Median	0.16	95% KM (Chebyshev) UCL	2.407
SD	1.7	97.5% KM (Chebyshev) UCL	2.917
k star	0.145	99% KM (Chebyshev) UCL	3.92
Theta star	8.447		
Nu star	11.59	Potential UCLs to Use	
AppChi2	4.958	99% KM (Chebyshev) UCL	3.92
95% Gamma Approximate UCL (Use when n >= 40)	2.861		
95% Adjusted Gamma UCL (Use when n < 40)	2.958		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	40	Number of Detected Data	26
Number of Distinct Detected Data	26	Number of Non-Detect Data	14
		Percent Non-Detects	35.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0022	Minimum Detected	-6.119
Maximum Detected	9.6	Maximum Detected	2.262
Mean of Detected	2.963	Mean of Detected	-0.0799
SD of Detected	2.736	SD of Detected	2.392
Minimum Non-Detect	8.70E-04	Minimum Non-Detect	-7.047
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	16
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	60.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.907	Shapiro Wilk Test Statistic	0.806
5% Shapiro Wilk Critical Value	0.92	5% Shapiro Wilk Critical Value	0.92
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.949	Mean	-1.848
SD	2.601	SD	3.44
95% DL/2 (t) UCL	2.642	95% H-Stat (DL/2) UCL	1624

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.329	Mean in Log Scale	-1.643
SD	4.328	SD in Log Scale	2.924
95% MLE (t) UCL	1.482	Mean in Original Scale	1.931
95% MLE (Tiku) UCL	1.949	SD in Original Scale	2.613
		95% t UCL	2.627
		95% Percentile Bootstrap UCL	2.621
		95% BCA Bootstrap UCL	2.685
		95% H UCL	159.2

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.502	Data do not follow a Discernable Distribution (0.05)	
Theta Star	5.901		
nu star	26.11		

		Nonparametric Statistics	
A-D Test Statistic	0.962		
5% A-D Critical Value	0.805	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.805	Mean	1.931
5% K-S Critical Value	0.181	SD	2.58
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.416
		95% KM (t) UCL	2.632
Assuming Gamma Distribution		95% KM (z) UCL	2.615
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.626
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.725
Maximum	9.6	95% KM (BCA) UCL	2.622
Mean	1.926	95% KM (Percentile Bootstrap) UCL	2.606
Median	0.345	95% KM (Chebyshev) UCL	3.745
SD	2.616	97.5% KM (Chebyshev) UCL	4.529
k star	0.146	99% KM (Chebyshev) UCL	6.071
Theta star	13.17		
Nu star	11.7	Potential UCLs to Use	
AppChi2	5.028	99% KM (Chebyshev) UCL	6.071
95% Gamma Approximate UCL (Use when n >= 40)	4.48		
95% Adjusted Gamma UCL (Use when n < 40)	4.631		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	40	Number of Detected Data	24
Number of Distinct Detected Data	23	Number of Non-Detect Data	16
		Percent Non-Detects	40.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	3.5	Maximum Detected	1.253
Mean of Detected	1.323	Mean of Detected	-0.452
SD of Detected	1.078	SD of Detected	1.671
Minimum Non-Detect	7.60E-04	Minimum Non-Detect	-7.182
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	29
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	72.50%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.923	Shapiro Wilk Test Statistic	0.838
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.82	Mean	-2.33
SD	1.041	SD	3.135
95% DL/2 (t) UCL	1.097	95% H-Stat (DL/2) UCL	213.7

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.397	Mean in Log Scale	-1.751
SD	0.579	SD in Log Scale	2.083
95% MLE (t) UCL	2.552	Mean in Original Scale	0.805
95% MLE (Tiku) UCL	2.688	SD in Original Scale	1.048
		95% t UCL	1.084
		95% Percentile Bootstrap UCL	1.085
		95% BCA Bootstrap UCL	1.111
		95% H UCL	5.573

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.737	Data appear Normal at 5% Significance Level
Theta Star	1.796	
nu star	35.35	

		Nonparametric Statistics	
A-D Test Statistic	0.817		
5% A-D Critical Value	0.78	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.78	Mean	0.805
5% K-S Critical Value	0.184	SD	1.037
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.168
		95% KM (t) UCL	1.087
Assuming Gamma Distribution		95% KM (z) UCL	1.081
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.084
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.129
Maximum	3.5	95% KM (BCA) UCL	1.11
Mean	0.794	95% KM (Percentile Bootstrap) UCL	1.079
Median	0.106	95% KM (Chebyshev) UCL	1.536
SD	1.057	97.5% KM (Chebyshev) UCL	1.852
k star	0.146	99% KM (Chebyshev) UCL	2.474
Theta star	5.445		
Nu star	11.66	Potential UCLs to Use	
AppChi2	5.003	95% KM (t) UCL	1.087
95% Gamma Approximate UCL (Use when n >= 40)	1.849	95% KM (Percentile Bootstrap) UCL	1.079
95% Adjusted Gamma UCL (Use when n < 40)	1.912		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	40	Number of Detected Data	23
Number of Distinct Detected Data	21	Number of Non-Detect Data	17
		Percent Non-Detects	42.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0017	Minimum Detected	-6.377
Maximum Detected	9	Maximum Detected	2.197
Mean of Detected	1.441	Mean of Detected	-0.919
SD of Detected	2.041	SD of Detected	2.267
Minimum Non-Detect	9.30E-04	Minimum Non-Detect	-6.98
Maximum Non-Detect	4.1	Maximum Non-Detect	1.411

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	38
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.00%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.673	Shapiro Wilk Test Statistic	0.884
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.948	Mean	-2.435
SD	1.687	SD	3.17
95% DL/2 (t) UCL	1.397	95% H-Stat (DL/2) UCL	228.9
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.615
		SD in Log Scale	2.725
		Mean in Original Scale	0.834
		SD in Original Scale	1.691
		95% t UCL	1.285
		95% Percentile Bootstrap UCL	1.296
		95% BCA Bootstrap UCL	1.425
		95% H-UCL	25.33
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.46	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.135		
nu star	21.15		
A-D Test Statistic	0.377	Nonparametric Statistics	
5% A-D Critical Value	0.806	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.806	Mean	0.863
5% K-S Critical Value	0.192	SD	1.67
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.272
		95% KM (t) UCL	1.321
Assuming Gamma Distribution		95% KM (z) UCL	1.31
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.316
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.727
Maximum	9	95% KM (BCA) UCL	1.367
Mean	0.829	95% KM (Percentile Bootstrap) UCL	1.328
Median	0.0191	95% KM (Chebyshev) UCL	2.047
SD	1.694	97.5% KM (Chebyshev) UCL	2.56
k star	0.134	99% KM (Chebyshev) UCL	3.567
Theta star	6.189		
Nu star	10.71	Potential UCLs to Use	
AppChi2	4.391	95% KM (BCA) UCL	1.367
95% Gamma Approximate UCL (Use when n >= 40)	2.021		
95% Adjusted Gamma UCL (Use when n < 40)	2.094		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bis(2-ethylhexyl)phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	40	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	24
		Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.12	Minimum Detected	-2.12
Maximum Detected	38	Maximum Detected	3.638
Mean of Detected	9.446	Mean of Detected	1.44
SD of Detected	10.15	SD of Detected	1.632
Minimum Non-Detect	0.081	Minimum Non-Detect	-2.513
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	27
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	13
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	67.50%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.834	Shapiro Wilk Test Statistic	0.922
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.851	Mean	-0.954
SD	7.815	SD	2.3
95% DL/2 (t) UCL	5.933	95% H-Stat (DL/2) UCL	25.77

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.163
		SD in Log Scale	2.44
		Mean in Original Scale	3.819
		SD in Original Scale	7.829
		95% t UCL	5.905
		95% Percentile Bootstrap UCL	5.934
		95% BCA Bootstrap UCL	6.435
		95% H-UCL	34.85

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.646	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	14.62		
nu star	20.68		

A-D Test Statistic	0.195	Nonparametric Statistics	
5% A-D Critical Value	0.775	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.775	Mean	3.853
5% K-S Critical Value	0.223	SD	7.714
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.26
		95% KM (t) UCL	5.976
Assuming Gamma Distribution		95% KM (z) UCL	5.925
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.885
Minimum	1.00E-06	95% KM (bootstrap t) UCL	7.011
Maximum	38	95% KM (BCA) UCL	6.63
Mean	3.779	95% KM (Percentile Bootstrap) UCL	6.188
Median	1.00E-06	95% KM (Chebyshev) UCL	9.344
SD	7.849	97.5% KM (Chebyshev) UCL	11.72
k star	0.101	99% KM (Chebyshev) UCL	16.39
Theta star	37.51		
Nu star	8.058	Potential UCLs to Use	
AppChi2	2.769	95% KM (t) UCL	5.976
95% Gamma Approximate UCL (Use when n >= 40)	11		
95% Adjusted Gamma UCL (Use when n < 40)	11.47		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	41	Number of Detected Data	23
Number of Distinct Detected Data	23	Number of Non-Detect Data	18
		Percent Non-Detects	43.90%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.67	Minimum Detected	-0.4
Maximum Detected	17	Maximum Detected	2.833
Mean of Detected	6.546	Mean of Detected	1.403
SD of Detected	5.562	SD of Detected	1.094
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.002	Maximum Non-Detect	-6.215

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.873	Shapiro Wilk Test Statistic	0.915
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.673	Mean	-2.246
SD	5.276	SD	4.254
95% DL/2 (t) UCL	5.06	95% H-Stat (DL/2) UCL	103030

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.976	Mean in Log Scale	0.183
SD	8.127	SD in Log Scale	1.721
95% MLE (t) UCL	3.113	Mean in Original Scale	3.825
95% MLE (Tiku) UCL	3.458	SD in Original Scale	5.171
		95% t UCL	5.185
		95% Percentile Bootstrap UCL	5.214
		95% BCA Bootstrap UCL	5.273
		95% H UCL	12.78

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.063	Data appear Gamma Distributed at 5% Significance Level
Theta Star	6.16	
nu star	48.88	

A-D Test Statistic	0.668	Nonparametric Statistics	
5% A-D Critical Value	0.766	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.766	Mean	3.966
5% K-S Critical Value	0.186	SD	5.011
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.8
		95% KM (t) UCL	5.314
Assuming Gamma Distribution		95% KM (z) UCL	5.282
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.29
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.436
Maximum	17	95% KM (BCA) UCL	5.361
Mean	3.672	95% KM (Percentile Bootstrap) UCL	5.314
Median	0.89	95% KM (Chebyshev) UCL	7.454
SD	5.276	97.5% KM (Chebyshev) UCL	8.963
k star	0.128	99% KM (Chebyshev) UCL	11.93
Theta star	28.71		
Nu star	10.49	Potential UCLs to Use	
AppChi2	4.25	95% KM (t) UCL	5.314
95% Gamma Approximate UCL (Use when n >= 40)	9.064		
95% Adjusted Gamma UCL (Use when n < 40)	9.383		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	41	Number of Distinct Observations	34
Raw Statistics		Log-transformed Statistics	
Minimum	1.4	Minimum of Log Data	0.336
Maximum	45	Maximum of Log Data	3.807
Mean	7.671	Mean of log Data	1.702
Geometric Mean	5.483	SD of log Data	0.779
Median	5		
SD	8.048		
Std. Error of Mean	1.257		
Coefficient of Variation	1.049		
Skewness	2.997		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.677	Shapiro Wilk Test Statistic	0.97
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	9.787	95% H-UCL	9.655
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	11.69
95% Adjusted-CLT UCL (Chen-1995)	10.37	97.5% Chebyshev (MVUE) UCL	13.56
95% Modified-t UCL (Johnson-1978)	9.885	99% Chebyshev (MVUE) UCL	17.24
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.532	Data appear Lognormal at 5% Significance Level	
Theta Star	5.006		
MLE of Mean	7.671		
MLE of Standard Deviation	6.197		
nu star	125.7		
Approximate Chi Square Value (.05)	100.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	9.738
Adjusted Chi Square Value	99.95	95% Jackknife UCL	9.787
		95% Standard Bootstrap UCL	9.717
Anderson-Darling Test Statistic	1.19	95% Bootstrap-t UCL	10.98
Anderson-Darling 5% Critical Value	0.764	95% Hall's Bootstrap UCL	12.58
Kolmogorov-Smirnov Test Statistic	0.165	95% Percentile Bootstrap UCL	9.841
Kolmogorov-Smirnov 5% Critical Value	0.14	95% BCA Bootstrap UCL	10.77
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13.15
		97.5% Chebyshev(Mean, Sd) UCL	15.52
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	20.18
95% Approximate Gamma UCL (Use when n >= 40)	9.565		
95% Adjusted Gamma UCL (Use when n < 40)	9.643		
Potential UCL to Use		Use 95% H-UCL	9.655

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	40	Number of Detected Data	19
Number of Distinct Detected Data	19	Number of Non-Detect Data	21
		Percent Non-Detects	52.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0039	Minimum Detected	-5.547
Maximum Detected	1.7	Maximum Detected	0.531
Mean of Detected	0.377	Mean of Detected	-1.904
SD of Detected	0.412	SD of Detected	1.809
Minimum Non-Detect	7.60E-04	Minimum Non-Detect	-7.182
Maximum Non-Detect	4.1	Maximum Non-Detect	1.411

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	40
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.805	Shapiro Wilk Test Statistic	0.888
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.36	Mean	-3.023
SD	0.518	SD	2.84
95% DL/2 (t) UCL	0.498	95% H-Stat (DL/2) UCL	27.55

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.477
		SD in Log Scale	2.076
		Mean in Original Scale	0.185
		SD in Original Scale	0.336
		95% t UCL	0.274
		95% Percentile Bootstrap UCL	0.277
		95% BCA Bootstrap UCL	0.296
		95% H-UCL	0.97

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.589	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.64	
nu star	22.37	

A-D Test Statistic	0.468	Nonparametric Statistics	
5% A-D Critical Value	0.788	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.788	Mean	0.21
5% K-S Critical Value	0.208	SD	0.344
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0595
		95% KM (t) UCL	0.31
Assuming Gamma Distribution		95% KM (z) UCL	0.308
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.309
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.362
Maximum	1.7	95% KM (BCA) UCL	0.313
Mean	0.179	95% KM (Percentile Bootstrap) UCL	0.309
Median	1.00E-06	95% KM (Chebyshev) UCL	0.469
SD	0.339	97.5% KM (Chebyshev) UCL	0.581
k star	0.13	99% KM (Chebyshev) UCL	0.802
Theta star	1.374		
Nu star	10.42	Potential UCLs to Use	
AppChi2	4.207	95% KM (t) UCL	0.31
95% Gamma Approximate UCL (Use when n >= 40)	0.443		
95% Adjusted Gamma UCL (Use when n < 40)	0.459		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	40	Number of Detected Data	25
Number of Distinct Detected Data	21	Number of Non-Detect Data	15
		Percent Non-Detects	37.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.004	Minimum Detected	-5.521
Maximum Detected	5.9	Maximum Detected	1.775
Mean of Detected	1.7	Mean of Detected	-0.382
SD of Detected	1.462	SD of Detected	2.004
Minimum Non-Detect	7.90E-04	Minimum Non-Detect	-7.143
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	16
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	60.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.903	Shapiro Wilk Test Statistic	0.808
5% Shapiro Wilk Critical Value	0.918	5% Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.084	Mean	-2.297
SD	1.405	SD	3.312
95% DL/2 (t) UCL	1.458	95% H-Stat (DL/2) UCL	533.6

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.806	Mean in Log Scale	-1.817
SD	1.832	SD in Log Scale	2.468
95% MLE (t) UCL	1.294	Mean in Original Scale	1.069
95% MLE (Tiku) UCL	1.497	SD in Original Scale	1.413
		95% t UCL	1.445
		95% Percentile Bootstrap UCL	1.43
		95% BCA Bootstrap UCL	1.475
		95% H UCL	20.16

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.614	Data do not follow a Discernable Distribution (0.05)
Theta Star	2.77	
nu star	30.68	

A-D Test Statistic	1.174	Nonparametric Statistics	
5% A-D Critical Value	0.791	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.791	Mean	1.066
5% K-S Critical Value	0.182	SD	1.397
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.226
		95% KM (t) UCL	1.446
Assuming Gamma Distribution		95% KM (z) UCL	1.437
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.442
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.489
Maximum	5.9	95% KM (BCA) UCL	1.458
Mean	1.062	95% KM (Percentile Bootstrap) UCL	1.44
Median	0.165	95% KM (Chebyshev) UCL	2.049
SD	1.418	97.5% KM (Chebyshev) UCL	2.474
k star	0.148	99% KM (Chebyshev) UCL	3.31
Theta star	7.202		
Nu star	11.8	Potential UCLs to Use	
AppChi2	5.096	99% KM (Chebyshev) UCL	3.31
95% Gamma Approximate UCL (Use when n >= 40)	2.46		
95% Adjusted Gamma UCL (Use when n < 40)	2.543		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	41	Number of Distinct Observations	37

Raw Statistics		Log-transformed Statistics	
Minimum	3400	Minimum of Log Data	8.132
Maximum	30300	Maximum of Log Data	10.32
Mean	12885	Mean of log Data	9.319
Geometric Mean	11147	SD of log Data	0.552
Median	11500		
SD	7077		
Std. Error of Mean	1105		
Coefficient of Variation	0.549		
Skewness	0.937		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.903	Shapiro Wilk Test Statistic	0.975
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	14746	95% H-UCL	15369
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	18067
95% Adjusted-CLT UCL (Chen-1995)	14875	97.5% Chebyshev (MVUE) UCL	20291
95% Modified-t UCL (Johnson-1978)	14773	99% Chebyshev (MVUE) UCL	24661

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.361	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3834		
MLE of Mean	12885		
MLE of Standard Deviation	7028		
nu star	275.6		
Approximate Chi Square Value (.05)	238.2	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	14703
Adjusted Chi Square Value	236.9	95% Jackknife UCL	14746
		95% Standard Bootstrap UCL	14658
Anderson-Darling Test Statistic	0.362	95% Bootstrap-t UCL	15041
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	14921
Kolmogorov-Smirnov Test Statistic	0.0893	95% Percentile Bootstrap UCL	14693
Kolmogorov-Smirnov 5% Critical Value	0.139	95% BCA Bootstrap UCL	14773
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	17702
		97.5% Chebyshev(Mean, Sd) UCL	19787
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23882
95% Approximate Gamma UCL (Use when n >= 40)	14911		
95% Adjusted Gamma UCL (Use when n < 40)	14990		

Potential UCL to Use	Use 95% Approximate Gamma UCL	14911

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	41	Number of Distinct Observations	38
Raw Statistics		Log-transformed Statistics	
Minimum	17.2	Minimum of Log Data	2.845
Maximum	500	Maximum of Log Data	6.215
Mean	104.6	Mean of log Data	4.237
Geometric Mean	69.2	SD of log Data	0.884
Median	66		
SD	117.6		
Std. Error of Mean	18.37		
Coefficient of Variation	1.124		
Skewness	2.519		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.655	Shapiro Wilk Test Statistic	0.953
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	135.5	95% H-UCL	139.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	169.9
95% Adjusted-CLT UCL (Chen-1995)	142.5	97.5% Chebyshev (MVUE) UCL	199.8
95% Modified-t UCL (Johnson-1978)	136.7	99% Chebyshev (MVUE) UCL	258.4
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.27	Data appear Lognormal at 5% Significance Level	
Theta Star	82.38		
MLE of Mean	104.6		
MLE of Standard Deviation	92.83		
nu star	104.1		
Approximate Chi Square Value (.05)	81.57	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	134.8
Adjusted Chi Square Value	80.84	95% Jackknife UCL	135.5
		95% Standard Bootstrap UCL	134.3
Anderson-Darling Test Statistic	1.151	95% Bootstrap-t UCL	149
Anderson-Darling 5% Critical Value	0.77	95% Hall's Bootstrap UCL	138.6
Kolmogorov-Smirnov Test Statistic	0.141	95% Percentile Bootstrap UCL	134.7
Kolmogorov-Smirnov 5% Critical Value	0.141	95% BCA Bootstrap UCL	140
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	184.7
		97.5% Chebyshev(Mean, Sd) UCL	219.3
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	287.3
95% Approximate Gamma UCL (Use when n >= 40)	133.5		
95% Adjusted Gamma UCL (Use when n < 40)	134.7		
Potential UCL to Use		Use 95% H-UCL	139.6

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	40	Number of Detected Data	24
Number of Distinct Detected Data	22	Number of Non-Detect Data	16
		Percent Non-Detects	40.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0025	Minimum Detected	-5.991
Maximum Detected	14	Maximum Detected	2.639
Mean of Detected	1.981	Mean of Detected	-0.564
SD of Detected	2.848	SD of Detected	2.273
Minimum Non-Detect	9.30E-04	Minimum Non-Detect	-6.98
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	27
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	13
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	67.50%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.609	Shapiro Wilk Test Statistic	0.86
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.208	Mean	-2.791
SD	2.39	SD	3.561
95% DL/2 (t) UCL	1.845	95% H-Stat (DL/2) UCL	1210

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.418
		SD in Log Scale	2.955
		Mean in Original Scale	1.192
		SD in Original Scale	2.396
		95% t UCL	1.83
		95% Percentile Bootstrap UCL	1.858
		95% BCA Bootstrap UCL	2.169
		95% H-UCL	84.36

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.472	Data appear Gamma Distributed at 5% Significance Level
Theta Star	4.193	
nu star	22.67	

A-D Test Statistic	0.627	Nonparametric Statistics	
5% A-D Critical Value	0.806	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.806	Mean	1.193
5% K-S Critical Value	0.188	SD	2.366
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.382
		95% KM (t) UCL	1.837
Assuming Gamma Distribution		95% KM (z) UCL	1.822
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.83
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.373
Maximum	14	95% KM (BCA) UCL	1.958
Mean	1.188	95% KM (Percentile Bootstrap) UCL	1.853
Median	0.0465	95% KM (Chebyshev) UCL	2.859
SD	2.398	97.5% KM (Chebyshev) UCL	3.58
k star	0.137	99% KM (Chebyshev) UCL	4.996
Theta star	8.683		
Nu star	10.95	Potential UCLs to Use	
AppChi2	4.543	95% KM (BCA) UCL	1.958
95% Gamma Approximate UCL (Use when n >= 40)	2.864		
95% Adjusted Gamma UCL (Use when n < 40)	2.965		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	41	Number of Distinct Observations	38
Raw Statistics		Log-transformed Statistics	
Minimum	7.1	Minimum of Log Data	1.96
Maximum	52	Maximum of Log Data	3.951
Mean	20.4	Mean of log Data	2.877
Geometric Mean	17.76	SD of log Data	0.527
Median	15.3		
SD	11.25		
Std. Error of Mean	1.758		
Coefficient of Variation	0.552		
Skewness	0.987		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.876	Shapiro Wilk Test Statistic	0.937
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	23.36	95% H-UCL	23.93
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	28
95% Adjusted-CLT UCL (Chen-1995)	23.58	97.5% Chebyshev (MVUE) UCL	31.32
95% Modified-t UCL (Johnson-1978)	23.4	99% Chebyshev (MVUE) UCL	37.85
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.51	Data do not follow a Discernable Distribution (0.05)	
Theta Star	5.811		
MLE of Mean	20.4		
MLE of Standard Deviation	10.89		
nu star	287.8		
Approximate Chi Square Value (.05)	249.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	23.29
Adjusted Chi Square Value	248.2	95% Jackknife UCL	23.36
		95% Standard Bootstrap UCL	23.29
Anderson-Darling Test Statistic	1.156	95% Bootstrap-t UCL	23.51
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	23.65
Kolmogorov-Smirnov Test Statistic	0.163	95% Percentile Bootstrap UCL	23.22
Kolmogorov-Smirnov 5% Critical Value	0.139	95% BCA Bootstrap UCL	23.44
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	28.06
		97.5% Chebyshev(Mean, Sd) UCL	31.37
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	37.88
95% Approximate Gamma UCL (Use when n >= 40)	23.53		
95% Adjusted Gamma UCL (Use when n < 40)	23.65		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	28.06

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)			
Number of Valid Data	87	Number of Detected Data	59
Number of Distinct Detected Data	55	Number of Non-Detect Data	28
		Percent Non-Detects	32.18%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	39.3	Maximum Detected	3.671
Mean of Detected	4.009	Mean of Detected	-0.197
SD of Detected	7.733	SD of Detected	1.993
Minimum Non-Detect	0.011	Minimum Non-Detect	-4.51
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	49
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	38
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	56.32%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.303	Lilliefors Test Statistic	0.0658
5% Lilliefors Critical Value	0.115	5% Lilliefors Critical Value	0.115
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.731	Mean	-1.463
SD	6.619	SD	2.555
95% DL/2 (t) UCL	3.911	95% H-Stat (DL/2) UCL	18.72
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.57
		SD in Log Scale	2.631
		Mean in Original Scale	2.724
		SD in Original Scale	6.622
		95% t UCL	3.904
		95% Percentile Bootstrap UCL	3.999
		95% BCA Bootstrap UCL	4.282
		95% H-UCL	21.82
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.403	Data appear Lognormal at 5% Significance Level	
Theta Star	9.944		
nu star	47.57		
A-D Test Statistic	1.47	Nonparametric Statistics	
5% A-D Critical Value	0.836	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.836	Mean	2.725
5% K-S Critical Value	0.124	SD	6.584
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.712
		95% KM (t) UCL	3.909
Assuming Gamma Distribution		95% KM (z) UCL	3.896
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.903
Minimum	1.00E-06	95% KM (bootstrap t) UCL	4.72
Maximum	39.3	95% KM (BCA) UCL	3.988
Mean	2.719	95% KM (Percentile Bootstrap) UCL	3.936
Median	0.19	95% KM (Chebyshev) UCL	5.828
SD	6.624	97.5% KM (Chebyshev) UCL	7.171
k star	0.142	99% KM (Chebyshev) UCL	9.808
Theta star	19.14		
Nu star	24.72	Potential UCLs to Use	
AppChi2	14.4	97.5% KM (Chebyshev) UCL	7.171
95% Gamma Approximate UCL (Use when n >= 40)	4.668		
95% Adjusted Gamma UCL (Use when n < 40)	4.711		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	6
		Percent Non-Detects	40.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0014	Minimum Detected	-6.571
Maximum Detected	0.026	Maximum Detected	-3.65
Mean of Detected	0.0077	Mean of Detected	-5.335
SD of Detected	0.00888	SD of Detected	0.96
Minimum Non-Detect	0.0037	Minimum Non-Detect	-5.599
Maximum Non-Detect	3	Maximum Non-Detect	1.099

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.683	Shapiro Wilk Test Statistic	0.872
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.175	Mean	-4.708
SD	0.454	SD	2.147
95% DL/2 (t) UCL	0.382	95% H-Stat (DL/2) UCL	1.462

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.467
		SD in Log Scale	0.751
		Mean in Original Scale	0.00602
		SD in Original Scale	0.00705
		95% t UCL	0.00923
		95% Percentile Bootstrap UCL	0.00916
		95% BCA Bootstrap UCL	0.0102
		95% H-UCL	0.00902

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.878	Data appear Lognormal at 5% Significance Level
Theta Star	0.00877	
nu star	15.81	

		Nonparametric Statistics	
A-D Test Statistic	0.938		
5% A-D Critical Value	0.74	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.74	Mean	0.00629
5% K-S Critical Value	0.286	SD	0.0073
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00216
		95% KM (t) UCL	0.0101
Assuming Gamma Distribution		95% KM (z) UCL	0.00984
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0101
Minimum	0.0014	95% KM (bootstrap t) UCL	0.0232
Maximum	0.026	95% KM (BCA) UCL	0.0103
Mean	0.00651	95% KM (Percentile Bootstrap) UCL	0.00995
Median	0.00454	95% KM (Chebyshev) UCL	0.0157
SD	0.00694	97.5% KM (Chebyshev) UCL	0.0198
k star	1.373	99% KM (Chebyshev) UCL	0.0278
Theta star	0.00474		
Nu star	41.19	Potential UCLs to Use	
AppChi2	27.49	95% KM (t) UCL	0.0101
95% Gamma Approximate UCL (Use when n >= 40)	0.00976	95% KM (% Bootstrap) UCL	0.00995
95% Adjusted Gamma UCL (Use when n < 40)	0.0103		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	14

Raw Statistics		Log-transformed Statistics	
Minimum	3700	Minimum of Log Data	8.216
Maximum	11000	Maximum of Log Data	9.306
Mean	7070	Mean of log Data	8.82
Geometric Mean	6767	SD of log Data	0.318
Median	7240		
SD	2042		
Std. Error of Mean	527.3		
Coefficient of Variation	0.289		
Skewness	-0.0691		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.966	Shapiro Wilk Test Statistic	0.922
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	7999	95% H-UCL	8362
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9663
95% Adjusted-CLT UCL (Chen-1995)	7927	97.5% Chebyshev (MVUE) UCL	10775
95% Modified-t UCL (Johnson-1978)	7997	99% Chebyshev (MVUE) UCL	12959

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	9.296	Data appear Normal at 5% Significance Level	
Theta Star	760.6		
MLE of Mean	7070		
MLE of Standard Deviation	2319		
nu star	278.9		
Approximate Chi Square Value (.05)	241.2	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	7937
Adjusted Chi Square Value	236.9	95% Jackknife UCL	7999
		95% Standard Bootstrap UCL	7914
Anderson-Darling Test Statistic	0.413	95% Bootstrap-t UCL	8005
Anderson-Darling 5% Critical Value	0.737	95% Hall's Bootstrap UCL	7926
Kolmogorov-Smirnov Test Statistic	0.154	95% Percentile Bootstrap UCL	7895
Kolmogorov-Smirnov 5% Critical Value	0.221	95% BCA Bootstrap UCL	7878
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9369
		97.5% Chebyshev(Mean, Sd) UCL	10363
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	12317
95% Approximate Gamma UCL (Use when n >= 40)	8174		
95% Adjusted Gamma UCL (Use when n < 40)	8323		

Potential UCL to Use	Use 95% Student's-t UCL	7999

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	1
		Percent Non-Detects	6.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.79	Minimum Detected	-0.236
Maximum Detected	12	Maximum Detected	2.485
Mean of Detected	2.589	Mean of Detected	0.608
SD of Detected	2.984	SD of Detected	0.755
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.601	Shapiro Wilk Test Statistic	0.872
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.416	Mean	0.153
SD	2.952	SD	1.906
95% DL/2 (t) UCL	3.759	95% H-Stat (DL/2) UCL	66.66

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.301	Mean in Log Scale	0.49
SD	3.002	SD in Log Scale	0.859
95% MLE (t) UCL	3.666	Mean in Original Scale	2.437
95% MLE (Tiku) UCL	3.594	SD in Original Scale	2.935
		95% t UCL	3.772
		95% Percentile Bootstrap UCL	3.819
		95% BCA Bootstrap UCL	4.633
		95% H UCL	4.217

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.307	Data do not follow a Discernable Distribution (0.05)
Theta Star	1.981	
nu star	36.59	

		Nonparametric Statistics	
A-D Test Statistic	1.168		
5% A-D Critical Value	0.75	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.75	Mean	2.469
5% K-S Critical Value	0.233	SD	2.814
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.754
		95% KM (t) UCL	3.797
Assuming Gamma Distribution		95% KM (z) UCL	3.709
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.785
Minimum	1.00E-06	95% KM (bootstrap t) UCL	6.853
Maximum	12	95% KM (BCA) UCL	3.739
Mean	2.416	95% KM (Percentile Bootstrap) UCL	3.753
Median	1.5	95% KM (Chebyshev) UCL	5.756
SD	2.952	97.5% KM (Chebyshev) UCL	7.178
k star	0.454	99% KM (Chebyshev) UCL	9.972
Theta star	5.321		
Nu star	13.62	Potential UCLs to Use	
AppChi2	6.314	95% KM (Chebyshev) UCL	5.756
95% Gamma Approximate UCL (Use when n >= 40)	5.213		
95% Adjusted Gamma UCL (Use when n < 40)	5.763		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	0.051	Minimum of Log Data	-2.976
Maximum	2.9	Maximum of Log Data	1.065
Mean	1.313	Mean of log Data	-0.0251
Geometric Mean	0.975	SD of log Data	0.992
Median	1		
SD	0.838		
Std. Error of Mean	0.216		
Coefficient of Variation	0.638		
Skewness	0.542		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.937	Shapiro Wilk Test Statistic	0.821
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.695	95% H-UCL	3.292
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.384
95% Adjusted-CLT UCL (Chen-1995)	1.702	97.5% Chebyshev (MVUE) UCL	4.188
95% Modified-t UCL (Johnson-1978)	1.7	99% Chebyshev (MVUE) UCL	5.768
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.507	Data appear Normal at 5% Significance Level	
Theta Star	0.871		
MLE of Mean	1.313		
MLE of Standard Deviation	1.07		
nu star	45.22		
Approximate Chi Square Value (.05)	30.79	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	1.67
Adjusted Chi Square Value	29.33	95% Jackknife UCL	1.695
		95% Standard Bootstrap UCL	1.651
Anderson-Darling Test Statistic	0.38	95% Bootstrap-t UCL	1.737
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	1.701
Kolmogorov-Smirnov Test Statistic	0.129	95% Percentile Bootstrap UCL	1.672
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	1.68
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.257
		97.5% Chebyshev(Mean, Sd) UCL	2.665
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.468
95% Approximate Gamma UCL (Use when n >= 40)	1.929		
95% Adjusted Gamma UCL (Use when n < 40)	2.025		
Potential UCL to Use		Use 95% Student's-t UCL	1.695

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	15

Raw Statistics		Log-transformed Statistics	
Minimum	0.059	Minimum of Log Data	-2.83
Maximum	2.6	Maximum of Log Data	0.956
Mean	1.196	Mean of log Data	-0.109
Geometric Mean	0.897	SD of log Data	0.943
Median	0.91		
SD	0.788		
Std. Error of Mean	0.203		
Coefficient of Variation	0.659		
Skewness	0.671		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.897	Shapiro Wilk Test Statistic	0.839
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.554	95% H-UCL	2.729
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2.891
95% Adjusted-CLT UCL (Chen-1995)	1.568	97.5% Chebyshev (MVUE) UCL	3.561
95% Modified-t UCL (Johnson-1978)	1.56	99% Chebyshev (MVUE) UCL	4.876

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.554	Data appear Normal at 5% Significance Level	
Theta Star	0.769		
MLE of Mean	1.196		
MLE of Standard Deviation	0.959		
nu star	46.63		
Approximate Chi Square Value (.05)	31.96	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	1.531
Adjusted Chi Square Value	30.47	95% Jackknife UCL	1.554
		95% Standard Bootstrap UCL	1.512
Anderson-Darling Test Statistic	0.467	95% Bootstrap-t UCL	1.616
Anderson-Darling 5% Critical Value	0.748	95% Hall's Bootstrap UCL	1.535
Kolmogorov-Smirnov Test Statistic	0.163	95% Percentile Bootstrap UCL	1.519
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	1.555
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.083
		97.5% Chebyshev(Mean, Sd) UCL	2.467
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.221
95% Approximate Gamma UCL (Use when n >= 40)	1.745		
95% Adjusted Gamma UCL (Use when n < 40)	1.83		

Potential UCL to Use	Use 95% Student's-t UCL	1.554

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Observations	14	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	0.099	Minimum of Log Data	-2.313
Maximum	4.2	Maximum of Log Data	1.435
Mean	1.77	Mean of log Data	0.284
Geometric Mean	1.329	SD of log Data	0.934
Median	1.4		
SD	1.188		
Std. Error of Mean	0.317		
Coefficient of Variation	0.671		
Skewness	0.829		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.9	Shapiro Wilk Test Statistic	0.849
Shapiro Wilk Critical Value	0.874	Shapiro Wilk Critical Value	0.874
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.332	95% H-UCL	4.121
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.286
95% Adjusted-CLT UCL (Chen-1995)	2.367	97.5% Chebyshev (MVUE) UCL	5.287
95% Modified-t UCL (Johnson-1978)	2.344	99% Chebyshev (MVUE) UCL	7.253

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.537	Data appear Normal at 5% Significance Level	
Theta Star	1.152		
MLE of Mean	1.77		
MLE of Standard Deviation	1.428		
nu star	43.03		
Approximate Chi Square Value (.05)	28.99	Nonparametric Statistics	
Adjusted Level of Significance	0.0312	95% CLT UCL	2.292
Adjusted Chi Square Value	27.46	95% Jackknife UCL	2.332
		95% Standard Bootstrap UCL	2.286
Anderson-Darling Test Statistic	0.466	95% Bootstrap-t UCL	2.516
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL	2.363
Kolmogorov-Smirnov Test Statistic	0.171	95% Percentile Bootstrap UCL	2.301
Kolmogorov-Smirnov 5% Critical Value	0.232	95% BCA Bootstrap UCL	2.358
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.154
		97.5% Chebyshev(Mean, Sd) UCL	3.753
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4.929
95% Approximate Gamma UCL (Use when n >= 40)	2.627		
95% Adjusted Gamma UCL (Use when n < 40)	2.773		

Potential UCL to Use	Use 95% Student's-t UCL	2.332

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	1
		Percent Non-Detects	6.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.13	Minimum Detected	-2.04
Maximum Detected	1.9	Maximum Detected	0.642
Mean of Detected	0.856	Mean of Detected	-0.373
SD of Detected	0.559	SD of Detected	0.724
Minimum Non-Detect	0.063	Minimum Non-Detect	-2.765
Maximum Non-Detect	0.063	Maximum Non-Detect	-2.765

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.859	Shapiro Wilk Test Statistic	0.914
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.801	Mean	-0.578
SD	0.579	SD	1.059
95% DL/2 (t) UCL	1.065	95% H-Stat (DL/2) UCL	2.195

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.785	Mean in Log Scale	-0.486
SD	0.589	SD in Log Scale	0.824
95% MLE (t) UCL	1.053	Mean in Original Scale	0.808
95% MLE (Tiku) UCL	1.049	SD in Original Scale	0.571
		95% t UCL	1.067
		95% Percentile Bootstrap UCL	1.054
		95% BCA Bootstrap UCL	1.081
		95% H UCL	1.492

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.974	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.434	
nu star	55.27	

		Nonparametric Statistics	
A-D Test Statistic	0.608		
5% A-D Critical Value	0.744	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.744	Mean	0.808
5% K-S Critical Value	0.231	SD	0.551
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.148
		95% KM (t) UCL	1.068
Assuming Gamma Distribution		95% KM (z) UCL	1.051
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.062
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.124
Maximum	1.9	95% KM (BCA) UCL	1.065
Mean	0.799	95% KM (Percentile Bootstrap) UCL	1.059
Median	0.57	95% KM (Chebyshev) UCL	1.452
SD	0.582	97.5% KM (Chebyshev) UCL	1.73
k star	0.518	99% KM (Chebyshev) UCL	2.277
Theta star	1.542		
Nu star	15.55	Potential UCLs to Use	
AppChi2	7.648	95% KM (Chebyshev) UCL	1.452
95% Gamma Approximate UCL (Use when n >= 40)	1.626		
95% Adjusted Gamma UCL (Use when n < 40)	1.783		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	13
Number of Distinct Detected Data	12	Number of Non-Detect Data	2
		Percent Non-Detects	13.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.78	Minimum Detected	-0.248
Maximum Detected	12	Maximum Detected	2.485
Mean of Detected	3.072	Mean of Detected	0.714
SD of Detected	3.373	SD of Detected	0.87
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.002	Maximum Non-Detect	-6.215

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.7	Shapiro Wilk Test Statistic	0.882
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.662	Mean	-0.302
SD	3.304	SD	2.8
95% DL/2 (t) UCL	4.165	95% H-Stat (DL/2) UCL	3757

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.379	Mean in Log Scale	0.443
SD	3.554	SD in Log Scale	1.081
95% MLE (t) UCL	3.995	Mean in Original Scale	2.698
95% MLE (Tiku) UCL	3.951	SD in Original Scale	3.274
		95% t UCL	4.187
		95% Percentile Bootstrap UCL	4.189
		95% BCA Bootstrap UCL	4.547
		95% H UCL	6.405

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.103	Data appear Lognormal at 5% Significance Level
Theta Star	2.784	
nu star	28.69	

		Nonparametric Statistics	
A-D Test Statistic	1.012		
5% A-D Critical Value	0.752	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.752	Mean	2.766
5% K-S Critical Value	0.241	SD	3.116
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.837
		95% KM (t) UCL	4.241
Assuming Gamma Distribution		95% KM (z) UCL	4.143
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.22
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.81
Maximum	12	95% KM (BCA) UCL	4.346
Mean	2.662	95% KM (Percentile Bootstrap) UCL	4.163
Median	1.3	95% KM (Chebyshev) UCL	6.416
SD	3.304	97.5% KM (Chebyshev) UCL	7.995
k star	0.293	99% KM (Chebyshev) UCL	11.1
Theta star	9.072		
Nu star	8.803	Potential UCLs to Use	
AppChi2	3.208	95% KM (Chebyshev) UCL	6.416
95% Gamma Approximate UCL (Use when n >= 40)	7.304		
95% Adjusted Gamma UCL (Use when n < 40)	8.351		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics (Units in mg/kg)

Number of Valid Data	13	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	7
		Percent Non-Detects	53.85%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.061	Minimum Detected	-2.797
Maximum Detected	0.22	Maximum Detected	-1.514
Mean of Detected	0.125	Mean of Detected	-2.199
SD of Detected	0.068	SD of Detected	0.529
Minimum Non-Detect	0.054	Minimum Non-Detect	-2.919
Maximum Non-Detect	0.32	Maximum Non-Detect	-1.139

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.84	Shapiro Wilk Test Statistic	0.897
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.089	Mean	-2.657
SD	0.0651	SD	0.72
95% DL/2 (t) UCL	0.121	95% H-Stat (DL/2) UCL	0.15

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.741
		SD in Log Scale	0.688
		Mean in Original Scale	0.0812
		SD in Original Scale	0.0623
		95% t UCL	0.112
		95% Percentile Bootstrap UCL	0.112
		95% BCA Bootstrap UCL	0.117
		95% H-UCL	0.13

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.283	Data appear Normal at 5% Significance Level
Theta Star	0.0548	
nu star	27.4	

		Nonparametric Statistics	
A-D Test Statistic	0.456		
5% A-D Critical Value	0.699	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.699	Mean	0.0945
5% K-S Critical Value	0.333	SD	0.0537
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0171
		95% KM (t) UCL	0.125
Assuming Gamma Distribution		95% KM (z) UCL	0.123
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.122
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.165
Maximum	0.22	95% KM (BCA) UCL	0.138
Mean	0.0675	95% KM (Percentile Bootstrap) UCL	0.128
Median	0.061	95% KM (Chebyshev) UCL	0.169
SD	0.0741	97.5% KM (Chebyshev) UCL	0.201
k star	0.212	99% KM (Chebyshev) UCL	0.264
Theta star	0.318		
Nu star	5.521	Potential UCLs to Use	
AppChi2	1.4	95% KM (t) UCL	0.125
95% Gamma Approximate UCL (Use when n >= 40)	0.266	95% KM (Percentile Bootstrap) UCL	0.128
95% Adjusted Gamma UCL (Use when n < 40)	0.331		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	14

Raw Statistics		Log-transformed Statistics	
Minimum	2.9	Minimum of Log Data	1.065
Maximum	12	Maximum of Log Data	2.485
Mean	5.593	Mean of log Data	1.658
Geometric Mean	5.251	SD of log Data	0.358
Median	5.4		
SD	2.235		
Std. Error of Mean	0.577		
Coefficient of Variation	0.4		
Skewness	1.697		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.857	Shapiro Wilk Test Statistic	0.968
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	6.61	95% H-UCL	6.735
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7.856
95% Adjusted-CLT UCL (Chen-1995)	6.812	97.5% Chebyshev (MVUE) UCL	8.844
95% Modified-t UCL (Johnson-1978)	6.652	99% Chebyshev (MVUE) UCL	10.78

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	6.503	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.86		
MLE of Mean	5.593		
MLE of Standard Deviation	2.193		
nu star	195.1		
Approximate Chi Square Value (.05)	163.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	6.542
Adjusted Chi Square Value	160.3	95% Jackknife UCL	6.61
		95% Standard Bootstrap UCL	6.491
Anderson-Darling Test Statistic	0.296	95% Bootstrap-t UCL	7.088
Anderson-Darling 5% Critical Value	0.738	95% Hall's Bootstrap UCL	10.75
Kolmogorov-Smirnov Test Statistic	0.127	95% Percentile Bootstrap UCL	6.573
Kolmogorov-Smirnov 5% Critical Value	0.222	95% BCA Bootstrap UCL	6.833
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	8.108
		97.5% Chebyshev(Mean, Sd) UCL	9.197
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	11.33
95% Approximate Gamma UCL (Use when n >= 40)	6.663		
95% Adjusted Gamma UCL (Use when n < 40)	6.81		

Potential UCL to Use	Use 95% Approximate Gamma UCL	6.663

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	15	Number of Detected Data	13
Number of Distinct Detected Data	10	Number of Non-Detect Data	2
		Percent Non-Detects	13.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.014	Minimum Detected	-4.269
Maximum Detected	0.46	Maximum Detected	-0.777
Mean of Detected	0.163	Mean of Detected	-2.086
SD of Detected	0.122	SD of Detected	0.854
Minimum Non-Detect	2.1	Minimum Non-Detect	0.742
Maximum Non-Detect	3	Maximum Non-Detect	1.099

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.825	Shapiro Wilk Test Statistic	0.879
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.311	Mean	-1.778
SD	0.416	SD	1.137
95% DL/2 (t) UCL	0.501	95% H-Stat (DL/2) UCL	0.794
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.086
		SD in Log Scale	0.791
		Mean in Original Scale	0.158
		SD in Original Scale	0.114
		95% t UCL	0.21
		95% Percentile Bootstrap UCL	0.208
		95% BCA Bootstrap UCL	0.217
		95% H-UCL	0.284
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.573	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.104		
nu star	40.91		
A-D Test Statistic	0.615	Nonparametric Statistics	
5% A-D Critical Value	0.743	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.743	Mean	0.163
5% K-S Critical Value	0.239	SD	0.117
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0338
		95% KM (t) UCL	0.223
Assuming Gamma Distribution		95% KM (z) UCL	0.219
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.223
Minimum	0.014	95% KM (bootstrap t) UCL	0.259
Maximum	0.46	95% KM (BCA) UCL	0.222
Mean	0.164	95% KM (Percentile Bootstrap) UCL	0.225
Median	0.13	95% KM (Chebyshev) UCL	0.31
SD	0.113	97.5% KM (Chebyshev) UCL	0.374
k star	1.853	99% KM (Chebyshev) UCL	0.499
Theta star	0.0887		
Nu star	55.59	Potential UCLs to Use	
AppChi2	39.46	95% KM (BCA) UCL	0.222
95% Gamma Approximate UCL (Use when n >= 40)	0.232		
95% Adjusted Gamma UCL (Use when n < 40)	0.242		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Di-n-octylphthalate

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	7
		Percent Non-Detects	46.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.097	Minimum Detected	-2.333
Maximum Detected	4	Maximum Detected	1.386
Mean of Detected	0.967	Mean of Detected	-1.095
SD of Detected	1.513	SD of Detected	1.472
Minimum Non-Detect	0.042	Minimum Non-Detect	-3.17
Maximum Non-Detect	0.25	Maximum Non-Detect	-1.386

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	73.33%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.647	Shapiro Wilk Test Statistic	0.797
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.533	Mean	-2.236
SD	1.173	SD	1.691
95% DL/2 (t) UCL	1.067	95% H-Stat (DL/2) UCL	2.686

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.694
		SD in Log Scale	2.083
		Mean in Original Scale	0.522
		SD in Original Scale	1.178
		95% t UCL	1.057
		95% Percentile Bootstrap UCL	1.042
		95% BCA Bootstrap UCL	1.231
		95% H-UCL	8.228

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.449	Data do not follow a Discernable Distribution (0.05)
Theta Star	2.155	
nu star	7.179	

		Nonparametric Statistics	
A-D Test Statistic	1.069		
5% A-D Critical Value	0.757	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.757	Mean	0.562
5% K-S Critical Value	0.307	SD	1.121
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.309
		95% KM (t) UCL	1.107
Assuming Gamma Distribution		95% KM (z) UCL	1.071
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.088
Minimum	1.00E-06	95% KM (bootstrap t) UCL	8.414
Maximum	4	95% KM (BCA) UCL	1.145
Mean	0.516	95% KM (Percentile Bootstrap) UCL	1.082
Median	0.097	95% KM (Chebyshev) UCL	1.91
SD	1.181	97.5% KM (Chebyshev) UCL	2.494
k star	0.144	99% KM (Chebyshev) UCL	3.64
Theta star	3.592		
Nu star	4.309	Potential UCLs to Use	
AppChi2	0.847	97.5% KM (Chebyshev) UCL	2.494
95% Gamma Approximate UCL (Use when n >= 40)	2.623		
95% Adjusted Gamma UCL (Use when n < 40)	3.271		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin aldehyde

General Statistics

Number of Valid Data	7	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	3
		Percent Non-Detects	42.86%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0063	Minimum Detected	-5.067
Maximum Detected	0.027	Maximum Detected	-3.612
Mean of Detected	0.0143	Mean of Detected	-4.388
SD of Detected	0.00902	SD of Detected	0.612
Minimum Non-Detect	0.0013	Minimum Non-Detect	-6.645
Maximum Non-Detect	0.03	Maximum Non-Detect	-3.507

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.91	Shapiro Wilk Test Statistic	0.992
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0119	Mean	-4.814
SD	0.00824	SD	1.2
95% DL/2 (t) UCL	0.0179	95% H-Stat (DL/2) UCL	0.136

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.697
		SD in Log Scale	0.662
		Mean in Original Scale	0.011
		SD in Original Scale	0.00779
		95% t UCL	0.0167
		95% Percentile Bootstrap UCL	0.0157
		95% BCA Bootstrap UCL	0.0172
		95% H-UCL	0.0243

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.083	Data appear Normal at 5% Significance Level
Theta Star	0.0132	
nu star	8.668	

		Nonparametric Statistics	
A-D Test Statistic	0.239		
5% A-D Critical Value	0.659	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.659	Mean	0.0121
5% K-S Critical Value	0.396	SD	0.00726
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00349
		95% KM (t) UCL	0.0189
Assuming Gamma Distribution		95% KM (z) UCL	0.0179
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0187
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0234
Maximum	0.027	95% KM (BCA) UCL	0.0205
Mean	0.0106	95% KM (Percentile Bootstrap) UCL	0.0185
Median	0.00983	95% KM (Chebyshev) UCL	0.0273
SD	0.00844	97.5% KM (Chebyshev) UCL	0.0339
k star	0.374	99% KM (Chebyshev) UCL	0.0468
Theta star	0.0282		
Nu star	5.243	Potential UCLs to Use	
AppChi2	1.266	95% KM (t) UCL	0.0189
95% Gamma Approximate UCL (Use when n >= 40)	0.0437	95% KM (Percentile Bootstrap) UCL	0.0185
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	14

Raw Statistics		Log-transformed Statistics	
Minimum	0.069	Minimum of Log Data	-2.674
Maximum	2.2	Maximum of Log Data	0.788
Mean	0.933	Mean of log Data	-0.341
Geometric Mean	0.711	SD of log Data	0.869
Median	0.66		
SD	0.643		
Std. Error of Mean	0.166		
Coefficient of Variation	0.688		
Skewness	0.98		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.884	Shapiro Wilk Test Statistic	0.892
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.225	95% H-UCL	1.871
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2.06
95% Adjusted-CLT UCL (Chen-1995)	1.251	97.5% Chebyshev (MVUE) UCL	2.516
95% Modified-t UCL (Johnson-1978)	1.232	99% Chebyshev (MVUE) UCL	3.414

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.636	Data appear Normal at 5% Significance Level	
Theta Star	0.57		
MLE of Mean	0.933		
MLE of Standard Deviation	0.73		
nu star	49.09		
Approximate Chi Square Value (.05)	34.01	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	1.206
Adjusted Chi Square Value	32.47	95% Jackknife UCL	1.225
		95% Standard Bootstrap UCL	1.196
Anderson-Darling Test Statistic	0.367	95% Bootstrap-t UCL	1.292
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL	1.311
Kolmogorov-Smirnov Test Statistic	0.166	95% Percentile Bootstrap UCL	1.198
Kolmogorov-Smirnov 5% Critical Value	0.224	95% BCA Bootstrap UCL	1.266
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.656
		97.5% Chebyshev(Mean, Sd) UCL	1.969
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.584
95% Approximate Gamma UCL (Use when n >= 40)	1.347		
95% Adjusted Gamma UCL (Use when n < 40)	1.411		

Potential UCL to Use	Use 95% Student's-t UCL	1.225

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	15

Raw Statistics		Log-transformed Statistics	
Minimum	7950	Minimum of Log Data	8.981
Maximum	28000	Maximum of Log Data	10.24
Mean	17710	Mean of log Data	9.698
Geometric Mean	16293	SD of log Data	0.44
Median	19300		
SD	6957		
Std. Error of Mean	1796		
Coefficient of Variation	0.393		
Skewness	-0.0449		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.921	Shapiro Wilk Test Statistic	0.898
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	20874	95% H-UCL	22717
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	26850
95% Adjusted-CLT UCL (Chen-1995)	20642	97.5% Chebyshev (MVUE) UCL	30756
95% Modified-t UCL (Johnson-1978)	20870	99% Chebyshev (MVUE) UCL	38430

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.971	Data appear Normal at 5% Significance Level	
Theta Star	3563		
MLE of Mean	17710		
MLE of Standard Deviation	7944		
nu star	149.1		
Approximate Chi Square Value (.05)	121.9	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	20665
Adjusted Chi Square Value	118.9	95% Jackknife UCL	20874
		95% Standard Bootstrap UCL	20651
Anderson-Darling Test Statistic	0.555	95% Bootstrap-t UCL	20988
Anderson-Darling 5% Critical Value	0.738	95% Hall's Bootstrap UCL	20544
Kolmogorov-Smirnov Test Statistic	0.194	95% Percentile Bootstrap UCL	20612
Kolmogorov-Smirnov 5% Critical Value	0.222	95% BCA Bootstrap UCL	20599
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	25540
		97.5% Chebyshev(Mean, Sd) UCL	28928
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	35583
95% Approximate Gamma UCL (Use when n >= 40)	21665		
95% Adjusted Gamma UCL (Use when n < 40)	22217		

Potential UCL to Use	Use 95% Student's-t UCL	20874

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	15

Raw Statistics		Log-transformed Statistics	
Minimum	71.6	Minimum of Log Data	4.271
Maximum	3060	Maximum of Log Data	8.026
Mean	490.2	Mean of log Data	5.612
Geometric Mean	273.6	SD of log Data	1
Median	201		
SD	753.9		
Std. Error of Mean	194.7		
Coefficient of Variation	1.538		
Skewness	3.218		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.55	Shapiro Wilk Test Statistic	0.934
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	833	95% H-UCL	939.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	960.8
95% Adjusted-CLT UCL (Chen-1995)	983.2	97.5% Chebyshev (MVUE) UCL	1190
95% Modified-t UCL (Johnson-1978)	860	99% Chebyshev (MVUE) UCL	1640

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.837	Data appear Lognormal at 5% Significance Level	
Theta Star	585.5		
MLE of Mean	490.2		
MLE of Standard Deviation	535.7		
nu star	25.12		
Approximate Chi Square Value (.05)	14.7	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	810.4
Adjusted Chi Square Value	13.73	95% Jackknife UCL	833
		95% Standard Bootstrap UCL	797.3
Anderson-Darling Test Statistic	0.968	95% Bootstrap-t UCL	1624
Anderson-Darling 5% Critical Value	0.763	95% Hall's Bootstrap UCL	2025
Kolmogorov-Smirnov Test Statistic	0.244	95% Percentile Bootstrap UCL	833.3
Kolmogorov-Smirnov 5% Critical Value	0.228	95% BCA Bootstrap UCL	1065
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1339
		97.5% Chebyshev(Mean, Sd) UCL	1706
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2427
95% Approximate Gamma UCL (Use when n >= 40)	837.5		
95% Adjusted Gamma UCL (Use when n < 40)	896.9		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	1339

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	14

Raw Statistics		Log-transformed Statistics	
Minimum	0.036	Minimum of Log Data	-3.324
Maximum	3	Maximum of Log Data	1.099
Mean	1.258	Mean of log Data	-0.0782
Geometric Mean	0.925	SD of log Data	1.057
Median	1.2		
SD	0.767		
Std. Error of Mean	0.198		
Coefficient of Variation	0.61		
Skewness	0.587		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.974	Shapiro Wilk Test Statistic	0.784
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.606	95% H-UCL	3.601
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.539
95% Adjusted-CLT UCL (Chen-1995)	1.615	97.5% Chebyshev (MVUE) UCL	4.406
95% Modified-t UCL (Johnson-1978)	1.611	99% Chebyshev (MVUE) UCL	6.111

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.464	Data appear Normal at 5% Significance Level	
Theta Star	0.859		
MLE of Mean	1.258		
MLE of Standard Deviation	1.039		
nu star	43.93		
Approximate Chi Square Value (.05)	29.73	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	1.583
Adjusted Chi Square Value	28.29	95% Jackknife UCL	1.606
		95% Standard Bootstrap UCL	1.57
Anderson-Darling Test Statistic	0.464	95% Bootstrap-t UCL	1.637
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	1.695
Kolmogorov-Smirnov Test Statistic	0.158	95% Percentile Bootstrap UCL	1.583
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	1.59
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.121
		97.5% Chebyshev(Mean, Sd) UCL	2.494
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.227
95% Approximate Gamma UCL (Use when n >= 40)	1.859		
95% Adjusted Gamma UCL (Use when n < 40)	1.953		

Potential UCL to Use	Use 95% Student's-t UCL	1.606

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	13

Raw Statistics		Log-transformed Statistics	
Minimum	7.8	Minimum of Log Data	2.054
Maximum	46	Maximum of Log Data	3.829
Mean	13.87	Mean of log Data	2.501
Geometric Mean	12.19	SD of log Data	0.456
Median	10.9		
SD	9.763		
Std. Error of Mean	2.521		
Coefficient of Variation	0.704		
Skewness	2.99		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.558	Shapiro Wilk Test Statistic	0.737
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	18.31	95% H-UCL	17.3
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	20.48
95% Adjusted-CLT UCL (Chen-1995)	20.09	97.5% Chebyshev (MVUE) UCL	23.53
95% Modified-t UCL (Johnson-1978)	18.63	99% Chebyshev (MVUE) UCL	29.53

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.278	Data do not follow a Discernable Distribution (0.05)	
Theta Star	4.23		
MLE of Mean	13.87		
MLE of Standard Deviation	7.659		
nu star	98.34		
Approximate Chi Square Value (.05)	76.46	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	18.01
Adjusted Chi Square Value	74.09	95% Jackknife UCL	18.31
		95% Standard Bootstrap UCL	17.84
Anderson-Darling Test Statistic	1.991	95% Bootstrap-t UCL	35.05
Anderson-Darling 5% Critical Value	0.74	95% Hall's Bootstrap UCL	38.94
Kolmogorov-Smirnov Test Statistic	0.316	95% Percentile Bootstrap UCL	18.44
Kolmogorov-Smirnov 5% Critical Value	0.223	95% BCA Bootstrap UCL	21.09
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	24.85
		97.5% Chebyshev(Mean, Sd) UCL	29.61
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	38.95
95% Approximate Gamma UCL (Use when n >= 40)	17.83		
95% Adjusted Gamma UCL (Use when n < 40)	18.41		

Potential UCL to Use	Use 95% Student's-t UCL	18.31
	or 95% Modified-t UCL	18.63

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)			
Number of Valid Data	53	Number of Detected Data	47
Number of Distinct Detected Data	42	Number of Non-Detect Data	6
		Percent Non-Detects	11.32%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.097	Minimum Detected	-2.333
Maximum Detected	39	Maximum Detected	3.664
Mean of Detected	4.758	Mean of Detected	0.721
SD of Detected	7.163	SD of Detected	1.374
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	0.43	Maximum Non-Detect	-0.844
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	42
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	20.75%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.639	Shapiro Wilk Test Statistic	0.985
5% Shapiro Wilk Critical Value	0.946	5% Shapiro Wilk Critical Value	0.946
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.236	Mean	0.35
SD	6.898	SD	1.734
95% DL/2 (t) UCL	5.823	95% H-Stat (DL/2) UCL	13.95
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.152	Mean in Log Scale	0.408
SD	7.994	SD in Log Scale	1.574
95% MLE (t) UCL	4.991	Mean in Original Scale	4.236
95% MLE (Tiku) UCL	4.967	SD in Original Scale	6.897
		95% t UCL	5.823
		95% Percentile Bootstrap UCL	5.887
		95% BCA Bootstrap UCL	6.436
		95% H UCL	10.09
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.686	Data appear Lognormal at 5% Significance Level	
Theta Star	6.936		
nu star	64.49		
A-D Test Statistic	0.85	Nonparametric Statistics	
5% A-D Critical Value	0.794	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.794	Mean	4.236
5% K-S Critical Value	0.135	SD	6.832
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.949
		95% KM (t) UCL	5.825
Assuming Gamma Distribution		95% KM (z) UCL	5.796
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.821
Minimum	1.00E-06	95% KM (bootstrap t) UCL	6.739
Maximum	39	95% KM (BCA) UCL	6.042
Mean	4.22	95% KM (Percentile Bootstrap) UCL	5.814
Median	1.9	95% KM (Chebyshev) UCL	8.371
SD	6.907	97.5% KM (Chebyshev) UCL	10.16
k star	0.289	99% KM (Chebyshev) UCL	13.67
Theta star	14.61		
Nu star	30.61	Potential UCLs to Use	
AppChi2	18.97	95% KM (Chebyshev) UCL	8.371
95% Gamma Approximate UCL (Use when n >= 40)	6.808		
95% Adjusted Gamma UCL (Use when n < 40)	6.901		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	27	Number of Detected Data	15
Number of Distinct Detected Data	15	Number of Non-Detect Data	12
		Percent Non-Detects	44.44%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0014	Minimum Detected	-6.571
Maximum Detected	0.026	Maximum Detected	-3.65
Mean of Detected	0.00637	Mean of Detected	-5.454
SD of Detected	0.00715	SD of Detected	0.851
Minimum Non-Detect	7.40E-04	Minimum Non-Detect	-7.209
Maximum Non-Detect	3	Maximum Non-Detect	1.099

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	27
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.672	Shapiro Wilk Test Statistic	0.923
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.099	Mean	-5.348
SD	0.345	SD	1.884
95% DL/2 (t) UCL	0.212	95% H-Stat (DL/2) UCL	0.116

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.848
		SD in Log Scale	0.855
		Mean in Original Scale	0.00443
		SD in Original Scale	0.00572
		95% t UCL	0.00631
		95% Percentile Bootstrap UCL	0.00631
		95% BCA Bootstrap UCL	0.00715
		95% H-UCL	0.00616

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.162	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	0.00549	
nu star	34.86	

A-D Test Statistic	0.937	Nonparametric Statistics	
5% A-D Critical Value	0.756	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.756	Mean	0.00479
5% K-S Critical Value	0.226	SD	0.00577
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.00121
		95% KM (t) UCL	0.00685
Assuming Gamma Distribution		95% KM (z) UCL	0.00678
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00679
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.00963
Maximum	0.026	95% KM (BCA) UCL	0.00725
Mean	0.00443	95% KM (Percentile Bootstrap) UCL	0.00696
Median	0.0027	95% KM (Chebyshev) UCL	0.0101
SD	0.00578	97.5% KM (Chebyshev) UCL	0.0123
k star	0.486	99% KM (Chebyshev) UCL	0.0168
Theta star	0.00911		
Nu star	26.27	Potential UCLs to Use	
AppChi2	15.58	95% KM (t) UCL	0.00685
95% Gamma Approximate UCL (Use when n >= 40)	0.00747		
95% Adjusted Gamma UCL (Use when n < 40)	0.00773		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	27	Number of Distinct Observations	26

Raw Statistics		Log-transformed Statistics	
Minimum	3490	Minimum of Log Data	8.158
Maximum	11000	Maximum of Log Data	9.306
Mean	6717	Mean of log Data	8.775
Geometric Mean	6468	SD of log Data	0.288
Median	6720		
SD	1810		
Std. Error of Mean	348.4		
Coefficient of Variation	0.27		
Skewness	0.135		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.98	Shapiro Wilk Test Statistic	0.955
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	7312	95% H-UCL	7468
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8381
95% Adjusted-CLT UCL (Chen-1995)	7300	97.5% Chebyshev (MVUE) UCL	9094
95% Modified-t UCL (Johnson-1978)	7313	99% Chebyshev (MVUE) UCL	10496

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	11.92	Data appear Normal at 5% Significance Level	
Theta Star	563.4		
MLE of Mean	6717		
MLE of Standard Deviation	1945		
nu star	643.8		
Approximate Chi Square Value (.05)	585.9	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	7291
Adjusted Chi Square Value	582.4	95% Jackknife UCL	7312
		95% Standard Bootstrap UCL	7284
Anderson-Darling Test Statistic	0.325	95% Bootstrap-t UCL	7327
Anderson-Darling 5% Critical Value	0.744	95% Hall's Bootstrap UCL	7321
Kolmogorov-Smirnov Test Statistic	0.113	95% Percentile Bootstrap UCL	7259
Kolmogorov-Smirnov 5% Critical Value	0.168	95% BCA Bootstrap UCL	7296
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	8236
		97.5% Chebyshev(Mean, Sd) UCL	8893
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	10184
95% Approximate Gamma UCL (Use when n >= 40)	7381		
95% Adjusted Gamma UCL (Use when n < 40)	7425		

Potential UCL to Use	Use 95% Student's-t UCL	7312

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Data	27	Number of Detected Data	26
Number of Distinct Detected Data	20	Number of Non-Detect Data	1
		Percent Non-Detects	3.70%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.59	Minimum Detected	-0.528
Maximum Detected	12	Maximum Detected	2.485
Mean of Detected	2.249	Mean of Detected	0.54
SD of Detected	2.331	SD of Detected	0.666
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.593	Shapiro Wilk Test Statistic	0.922
5% Shapiro Wilk Critical Value	0.92	5% Shapiro Wilk Critical Value	0.92
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.166	Mean	0.29
SD	2.327	SD	1.455
95% DL/2 (t) UCL	2.93	95% H-Stat (DL/2) UCL	9.501

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.119	Mean in Log Scale	0.48
SD	2.349	SD in Log Scale	0.723
95% MLE (t) UCL	2.89	Mean in Original Scale	2.179
95% MLE (Tiku) UCL	2.847	SD in Original Scale	2.315
		95% t UCL	2.939
		95% Percentile Bootstrap UCL	2.958
		95% BCA Bootstrap UCL	3.254
		95% H UCL	2.861

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.793	Data appear Lognormal at 5% Significance Level
Theta Star	1.254	
nu star	93.26	

		Nonparametric Statistics	
A-D Test Statistic	1.485		
5% A-D Critical Value	0.757	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.757	Mean	2.188
5% K-S Critical Value	0.173	SD	2.265
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.445
		95% KM (t) UCL	2.946
Assuming Gamma Distribution		95% KM (z) UCL	2.919
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.94
Minimum	1.00E-06	95% KM (bootstrap t) UCL	3.871
Maximum	12	95% KM (BCA) UCL	3.039
Mean	2.166	95% KM (Percentile Bootstrap) UCL	2.966
Median	1.5	95% KM (Chebyshev) UCL	4.125
SD	2.327	97.5% KM (Chebyshev) UCL	4.964
k star	0.717	99% KM (Chebyshev) UCL	6.611
Theta star	3.02		
Nu star	38.73	Potential UCLs to Use	
AppChi2	25.47	95% KM (Chebyshev) UCL	4.125
95% Gamma Approximate UCL (Use when n >= 40)	3.293		
95% Adjusted Gamma UCL (Use when n < 40)	3.384		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Observations	27	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	0.0012	Minimum of Log Data	-6.725
Maximum	2.9	Maximum of Log Data	1.065
Mean	1.063	Mean of log Data	-0.671
Geometric Mean	0.511	SD of log Data	1.936
Median	0.94		
SD	0.787		
Std. Error of Mean	0.151		
Coefficient of Variation	0.74		
Skewness	0.644		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.944	Shapiro Wilk Test Statistic	0.719
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.322	95% H-UCL	14.81
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8.779
95% Adjusted-CLT UCL (Chen-1995)	1.333	97.5% Chebyshev (MVUE) UCL	11.36
95% Modified-t UCL (Johnson-1978)	1.325	99% Chebyshev (MVUE) UCL	16.44

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.744	Data appear Normal at 5% Significance Level	
Theta Star	1.429		
MLE of Mean	1.063		
MLE of Standard Deviation	1.233		
nu star	40.19		
Approximate Chi Square Value (.05)	26.66	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	1.312
Adjusted Chi Square Value	25.96	95% Jackknife UCL	1.322
		95% Standard Bootstrap UCL	1.309
Anderson-Darling Test Statistic	1.525	95% Bootstrap-t UCL	1.356
Anderson-Darling 5% Critical Value	0.781	95% Hall's Bootstrap UCL	1.338
Kolmogorov-Smirnov Test Statistic	0.221	95% Percentile Bootstrap UCL	1.32
Kolmogorov-Smirnov 5% Critical Value	0.175	95% BCA Bootstrap UCL	1.343
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.724
		97.5% Chebyshev(Mean, Sd) UCL	2.009
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.571
95% Approximate Gamma UCL (Use when n >= 40)	1.603		
95% Adjusted Gamma UCL (Use when n < 40)	1.646		

Potential UCL to Use	Use 95% Student's-t UCL	1.322

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	27	Number of Detected Data	26
Number of Distinct Detected Data	23	Number of Non-Detect Data	1
		Percent Non-Detects	3.70%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0018	Minimum Detected	-6.32
Maximum Detected	2.6	Maximum Detected	0.956
Mean of Detected	0.993	Mean of Detected	-0.58
SD of Detected	0.724	SD of Detected	1.658
Minimum Non-Detect	0.046	Minimum Non-Detect	-3.079
Maximum Non-Detect	0.046	Maximum Non-Detect	-3.079

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.92	Shapiro Wilk Test Statistic	0.714
5% Shapiro Wilk Critical Value	0.92	5% Shapiro Wilk Critical Value	0.92
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.958	Mean	-0.699
SD	0.734	SD	1.738
95% DL/2 (t) UCL	1.198	95% H-Stat (DL/2) UCL	7.714

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.917	Mean in Log Scale	-0.676
SD	0.788	SD in Log Scale	1.701
95% MLE (t) UCL	1.176	Mean in Original Scale	0.958
95% MLE (Tiku) UCL	1.176	SD in Original Scale	0.733
		95% t UCL	1.199
		95% Percentile Bootstrap UCL	1.187
		95% BCA Bootstrap UCL	1.193
		95% H UCL	7.063

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.915	Data appear Normal at 5% Significance Level
Theta Star	1.086	
nu star	47.58	

A-D Test Statistic	1.156	Nonparametric Statistics	
5% A-D Critical Value	0.773	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.773	Mean	0.957
5% K-S Critical Value	0.176	SD	0.721
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.142
		95% KM (t) UCL	1.198
Assuming Gamma Distribution		95% KM (z) UCL	1.19
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.198
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.225
Maximum	2.6	95% KM (BCA) UCL	1.185
Mean	0.957	95% KM (Percentile Bootstrap) UCL	1.195
Median	0.9	95% KM (Chebyshev) UCL	1.574
SD	0.735	97.5% KM (Chebyshev) UCL	1.841
k star	0.56	99% KM (Chebyshev) UCL	2.365
Theta star	1.71		
Nu star	30.22	Potential UCLs to Use	
AppChi2	18.67	95% KM (t) UCL	1.198
95% Gamma Approximate UCL (Use when n >= 40)	1.549	95% KM (Percentile Bootstrap) UCL	1.195
95% Adjusted Gamma UCL (Use when n < 40)	1.599		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Observations	26	Number of Distinct Observations	20

Raw Statistics		Log-transformed Statistics	
Minimum	0.0016	Minimum of Log Data	-6.438
Maximum	4.2	Maximum of Log Data	1.435
Mean	1.425	Mean of log Data	-0.407
Geometric Mean	0.665	SD of log Data	1.984
Median	1.3		
SD	1.111		
Std. Error of Mean	0.218		
Coefficient of Variation	0.78		
Skewness	0.879		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.914	Shapiro Wilk Test Statistic	0.716
Shapiro Wilk Critical Value	0.92	Shapiro Wilk Critical Value	0.92
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.797	95% H-UCL	23.16
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	12.67
95% Adjusted-CLT UCL (Chen-1995)	1.823	97.5% Chebyshev (MVUE) UCL	16.45
95% Modified-t UCL (Johnson-1978)	1.803	99% Chebyshev (MVUE) UCL	23.87

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.717	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.986		
MLE of Mean	1.425		
MLE of Standard Deviation	1.682		
nu star	37.3		
Approximate Chi Square Value (.05)	24.32	Nonparametric Statistics	
Adjusted Level of Significance	0.0398	95% CLT UCL	1.783
Adjusted Chi Square Value	23.63	95% Jackknife UCL	1.797
		95% Standard Bootstrap UCL	1.77
Anderson-Darling Test Statistic	1.494	95% Bootstrap-t UCL	1.86
Anderson-Darling 5% Critical Value	0.783	95% Hall's Bootstrap UCL	1.868
Kolmogorov-Smirnov Test Statistic	0.24	95% Percentile Bootstrap UCL	1.783
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	1.779
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.374
		97.5% Chebyshev(Mean, Sd) UCL	2.785
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.592
95% Approximate Gamma UCL (Use when n >= 40)	2.185		
95% Adjusted Gamma UCL (Use when n < 40)	2.249		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	2.374

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	27	Number of Detected Data	26
Number of Distinct Detected Data	24	Number of Non-Detect Data	1
		Percent Non-Detects	3.70%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0013	Minimum Detected	-6.645
Maximum Detected	1.9	Maximum Detected	0.642
Mean of Detected	0.623	Mean of Detected	-1.174
SD of Detected	0.517	SD of Detected	1.833
Minimum Non-Detect	0.063	Minimum Non-Detect	-2.765
Maximum Non-Detect	0.063	Maximum Non-Detect	-2.765

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.877	Shapiro Wilk Test Statistic	0.729
5% Shapiro Wilk Critical Value	0.92	5% Shapiro Wilk Critical Value	0.92
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.601	Mean	-1.258
SD	0.52	SD	1.85
95% DL/2 (t) UCL	0.772	95% H-Stat (DL/2) UCL	6.231

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.562	Mean in Log Scale	-1.271
SD	0.57	SD in Log Scale	1.867
95% MLE (t) UCL	0.749	Mean in Original Scale	0.601
95% MLE (Tiku) UCL	0.75	SD in Original Scale	0.52
		95% t UCL	0.771
		95% Percentile Bootstrap UCL	0.775
		95% BCA Bootstrap UCL	0.791
		95% H UCL	6.496

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.771	Data do not follow a Discernable Distribution (0.05)
Theta Star	0.808	
nu star	40.07	

		Nonparametric Statistics	
A-D Test Statistic	1.117		
5% A-D Critical Value	0.78	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.78	Mean	0.6
5% K-S Critical Value	0.177	SD	0.511
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.1
		95% KM (t) UCL	0.771
Assuming Gamma Distribution		95% KM (z) UCL	0.765
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.771
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.797
Maximum	1.9	95% KM (BCA) UCL	0.773
Mean	0.6	95% KM (Percentile Bootstrap) UCL	0.765
Median	0.52	95% KM (Chebyshev) UCL	1.038
SD	0.521	97.5% KM (Chebyshev) UCL	1.227
k star	0.516	99% KM (Chebyshev) UCL	1.599
Theta star	1.162		
Nu star	27.89	Potential UCLs to Use	
AppChi2	16.84	99% KM (Chebyshev) UCL	1.599
95% Gamma Approximate UCL (Use when n >= 40)	0.993		
95% Adjusted Gamma UCL (Use when n < 40)	1.027		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	27	Number of Detected Data	22
Number of Distinct Detected Data	20	Number of Non-Detect Data	5
		Percent Non-Detects	18.52%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.78	Minimum Detected	-0.248
Maximum Detected	12	Maximum Detected	2.485
Mean of Detected	2.816	Mean of Detected	0.686
SD of Detected	2.825	SD of Detected	0.802
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.002	Maximum Non-Detect	-6.215

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.721	Shapiro Wilk Test Statistic	0.909
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.295	Mean	-0.72
SD	2.773	SD	3.091
95% DL/2 (t) UCL	3.205	95% H-Stat (DL/2) UCL	2075

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.934	Mean in Log Scale	0.339
SD	3.178	SD in Log Scale	1.044
95% MLE (t) UCL	2.977	Mean in Original Scale	2.354
95% MLE (Tiku) UCL	2.974	SD in Original Scale	2.725
		95% t UCL	3.248
		95% Percentile Bootstrap UCL	3.295
		95% BCA Bootstrap UCL	3.4
		95% H UCL	4.108

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.394	Data do not follow a Discernable Distribution (0.05)
Theta Star	2.02	
nu star	61.33	

		Nonparametric Statistics	
A-D Test Statistic	1.167		
5% A-D Critical Value	0.758	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.758	Mean	2.439
5% K-S Critical Value	0.188	SD	2.614
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.515
		95% KM (t) UCL	3.317
Assuming Gamma Distribution		95% KM (z) UCL	3.286
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.31
Minimum	1.00E-06	95% KM (bootstrap t) UCL	3.831
Maximum	12	95% KM (BCA) UCL	3.301
Mean	2.294	95% KM (Percentile Bootstrap) UCL	3.328
Median	1.3	95% KM (Chebyshev) UCL	4.683
SD	2.773	97.5% KM (Chebyshev) UCL	5.655
k star	0.248	99% KM (Chebyshev) UCL	7.562
Theta star	9.263		
Nu star	13.38	Potential UCLs to Use	
AppChi2	6.146	95% KM (Chebyshev) UCL	4.683
95% Gamma Approximate UCL (Use when n >= 40)	4.993		
95% Adjusted Gamma UCL (Use when n < 40)	5.26		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	15
		Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.057	Minimum Detected	-2.865
Maximum Detected	0.22	Maximum Detected	-1.514
Mean of Detected	0.117	Mean of Detected	-2.253
SD of Detected	0.0583	SD of Detected	0.486
Minimum Non-Detect	0.052	Minimum Non-Detect	-2.957
Maximum Non-Detect	0.38	Maximum Non-Detect	-0.968

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.884	Shapiro Wilk Test Statistic	0.927
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0828	Mean	-2.76
SD	0.062	SD	0.752
95% DL/2 (t) UCL	0.104	95% H-Stat (DL/2) UCL	0.118

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.917
		SD in Log Scale	0.682
		Mean in Original Scale	0.0689
		SD in Original Scale	0.0546
		95% t UCL	0.0876
		95% Percentile Bootstrap UCL	0.0872
		95% BCA Bootstrap UCL	0.0899
		95% H-UCL	0.0918

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	3.426	Data appear Normal at 5% Significance Level	
Theta Star	0.0342		
nu star	68.51		

A-D Test Statistic	0.398	Nonparametric Statistics	
5% A-D Critical Value	0.729	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.729	Mean	0.085
5% K-S Critical Value	0.268	SD	0.0476
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0107
		95% KM (t) UCL	0.103
Assuming Gamma Distribution		95% KM (z) UCL	0.103
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.102
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.11
Maximum	0.22	95% KM (BCA) UCL	0.114
Mean	0.0512	95% KM (Percentile Bootstrap) UCL	0.105
Median	0.019	95% KM (Chebyshev) UCL	0.132
SD	0.0664	97.5% KM (Chebyshev) UCL	0.152
k star	0.172	99% KM (Chebyshev) UCL	0.192
Theta star	0.298		
Nu star	8.582	Potential UCLs to Use	
AppChi2	3.076	95% KM (t) UCL	0.103
95% Gamma Approximate UCL (Use when n >= 40)	0.143	95% KM (Percentile Bootstrap) UCL	0.105
95% Adjusted Gamma UCL (Use when n < 40)	0.154		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	27	Number of Distinct Observations	20

Raw Statistics		Log-transformed Statistics	
Minimum	2.9	Minimum of Log Data	1.065
Maximum	12	Maximum of Log Data	2.485
Mean	5.326	Mean of log Data	1.626
Geometric Mean	5.085	SD of log Data	0.3
Median	5.1		
SD	1.817		
Std. Error of Mean	0.35		
Coefficient of Variation	0.341		
Skewness	1.941		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.844	Shapiro Wilk Test Statistic	0.962
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	5.922	95% H-UCL	5.921
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	6.669
95% Adjusted-CLT UCL (Chen-1995)	6.041	97.5% Chebyshev (MVUE) UCL	7.257
95% Modified-t UCL (Johnson-1978)	5.944	99% Chebyshev (MVUE) UCL	8.413

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	9.752	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.546		
MLE of Mean	5.326		
MLE of Standard Deviation	1.705		
nu star	526.6		
Approximate Chi Square Value (.05)	474.4	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	5.901
Adjusted Chi Square Value	471.2	95% Jackknife UCL	5.922
		95% Standard Bootstrap UCL	5.888
Anderson-Darling Test Statistic	0.427	95% Bootstrap-t UCL	6.076
Anderson-Darling 5% Critical Value	0.744	95% Hall's Bootstrap UCL	6.527
Kolmogorov-Smirnov Test Statistic	0.112	95% Percentile Bootstrap UCL	5.922
Kolmogorov-Smirnov 5% Critical Value	0.168	95% BCA Bootstrap UCL	6.107
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	6.85
		97.5% Chebyshev(Mean, Sd) UCL	7.51
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	8.805
95% Approximate Gamma UCL (Use when n >= 40)	5.912		
95% Adjusted Gamma UCL (Use when n < 40)	5.952		

Potential UCL to Use	Use 95% Approximate Gamma UCL	5.912

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	27	Number of Detected Data	23
Number of Distinct Detected Data	19	Number of Non-Detect Data	4
		Percent Non-Detects	14.81%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0021	Minimum Detected	-6.166
Maximum Detected	0.46	Maximum Detected	-0.777
Mean of Detected	0.141	Mean of Detected	-2.313
SD of Detected	0.105	SD of Detected	1.103
Minimum Non-Detect	8.50E-04	Minimum Non-Detect	-7.07
Maximum Non-Detect	3	Maximum Non-Detect	1.099
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	27
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.873	Shapiro Wilk Test Statistic	0.805
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.216	Mean	-2.381
SD	0.328	SD	1.658
95% DL/2 (t) UCL	0.323	95% H-Stat (DL/2) UCL	1.134
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.48
		SD in Log Scale	1.162
		Mean in Original Scale	0.127
		SD in Original Scale	0.103
		95% t UCL	0.161
		95% Percentile Bootstrap UCL	0.161
		95% BCA Bootstrap UCL	0.165
		95% H-UCL	0.307
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.38	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.102		
nu star	63.48		
A-D Test Statistic	0.547	Nonparametric Statistics	
5% A-D Critical Value	0.76	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.76	Mean	0.13
5% K-S Critical Value	0.185	SD	0.105
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0215
		95% KM (t) UCL	0.167
Assuming Gamma Distribution		95% KM (z) UCL	0.166
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.166
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.175
Maximum	0.46	95% KM (BCA) UCL	0.172
Mean	0.13	95% KM (Percentile Bootstrap) UCL	0.168
Median	0.13	95% KM (Chebyshev) UCL	0.224
SD	0.103	97.5% KM (Chebyshev) UCL	0.264
k star	0.527	99% KM (Chebyshev) UCL	0.344
Theta star	0.247		
Nu star	28.45	Potential UCLs to Use	
AppChi2	17.28	95% KM (BCA) UCL	0.172
95% Gamma Approximate UCL (Use when n >= 40)	0.214		
95% Adjusted Gamma UCL (Use when n < 40)	0.221		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics

Number of Valid Data	12	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	7
		Percent Non-Detects	58.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.015	Minimum Detected	-4.2
Maximum Detected	0.12	Maximum Detected	-2.12
Mean of Detected	0.07	Mean of Detected	-2.967
SD of Detected	0.049	SD of Detected	0.97
Minimum Non-Detect	9.20E-04	Minimum Non-Detect	-6.991
Maximum Non-Detect	0.03	Maximum Non-Detect	-3.507

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	75.00%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.863	Shapiro Wilk Test Statistic	0.833
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0319	Mean	-5.112
SD	0.0451	SD	2.335
95% DL/2 (t) UCL	0.0552	95% H-Stat (DL/2) UCL	5.093

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0253	Mean in Log Scale	-4.429
SD	0.0782	SD in Log Scale	1.452
95% MLE (t) UCL	0.0659	Mean in Original Scale	0.0319
95% MLE (Tiku) UCL	0.0961	SD in Original Scale	0.0448
		95% t UCL	0.0551
		95% Percentile Bootstrap UCL	0.0527
		95% BCA Bootstrap UCL	0.057
		95% H UCL	0.18

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.844	Data appear Normal at 5% Significance Level
Theta Star	0.083	
nu star	8.435	

		Nonparametric Statistics	
A-D Test Statistic	0.517		
5% A-D Critical Value	0.685	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.685	Mean	0.0381
5% K-S Critical Value	0.361	SD	0.0391
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0126
		95% KM (t) UCL	0.0608
Assuming Gamma Distribution		95% KM (z) UCL	0.0588
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0577
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0587
Maximum	0.12	95% KM (BCA) UCL	0.111
Mean	0.0292	95% KM (Percentile Bootstrap) UCL	0.0928
Median	1.00E-06	95% KM (Chebyshev) UCL	0.0931
SD	0.0466	97.5% KM (Chebyshev) UCL	0.117
k star	0.157	99% KM (Chebyshev) UCL	0.164
Theta star	0.186		
Nu star	3.77	Potential UCLs to Use	
AppChi2	0.633	95% KM (t) UCL	0.0608
95% Gamma Approximate UCL (Use when n >= 40)	0.174	95% KM (Percentile Bootstrap) UCL	0.0928
95% Adjusted Gamma UCL (Use when n < 40)	0.234		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Di-n-octylphthalate

General Statistics (Units in mg/kg)

Number of Valid Data	27	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	13
		Percent Non-Detects	48.15%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.085	Minimum Detected	-2.465
Maximum Detected	4	Maximum Detected	1.386
Mean of Detected	0.756	Mean of Detected	-1.255
SD of Detected	1.231	SD of Detected	1.315
Minimum Non-Detect	0.042	Minimum Non-Detect	-3.17
Maximum Non-Detect	0.25	Maximum Non-Detect	-1.386

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	77.78%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.608	Shapiro Wilk Test Statistic	0.807
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.41	Mean	-2.358
SD	0.944	SD	1.55
95% DL/2 (t) UCL	0.72	95% H-Stat (DL/2) UCL	0.861

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.728
		SD in Log Scale	1.871
		Mean in Original Scale	0.4
		SD in Original Scale	0.948
		95% t UCL	0.711
		95% Percentile Bootstrap UCL	0.71
		95% BCA Bootstrap UCL	0.79
		95% H-UCL	1.532

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.542	Data do not follow a Discernable Distribution (0.05)
Theta Star	1.394	
nu star	15.18	

		Nonparametric Statistics	
A-D Test Statistic	1.759		
5% A-D Critical Value	0.782	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.782	Mean	0.434
5% K-S Critical Value	0.24	SD	0.917
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.183
		95% KM (t) UCL	0.746
Assuming Gamma Distribution		95% KM (z) UCL	0.735
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.74
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.061
Maximum	4	95% KM (BCA) UCL	0.801
Mean	0.392	95% KM (Percentile Bootstrap) UCL	0.766
Median	0.085	95% KM (Chebyshev) UCL	1.232
SD	0.951	97.5% KM (Chebyshev) UCL	1.578
k star	0.135	99% KM (Chebyshev) UCL	2.256
Theta star	2.904		
Nu star	7.286	Potential UCLs to Use	
AppChi2	2.329	97.5% KM (Chebyshev) UCL	1.578
95% Gamma Approximate UCL (Use when n >= 40)	1.226		
95% Adjusted Gamma UCL (Use when n < 40)	1.326		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin aldehyde

General Statistics

Number of Valid Data	12	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	7
		Percent Non-Detects	58.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0063	Minimum Detected	-5.067
Maximum Detected	0.027	Maximum Detected	-3.612
Mean of Detected	0.0157	Mean of Detected	-4.283
SD of Detected	0.00836	SD of Detected	0.58
Minimum Non-Detect	0.0013	Minimum Non-Detect	-6.645
Maximum Non-Detect	0.03	Maximum Non-Detect	-3.507

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.964	Shapiro Wilk Test Statistic	0.976
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00889	Mean	-5.558
SD	0.00897	SD	1.576
95% DL/2 (t) UCL	0.0135	95% H-Stat (DL/2) UCL	0.0917

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.077
		SD in Log Scale	0.833
		Mean in Original Scale	0.00872
		SD in Original Scale	0.008
		95% t UCL	0.0129
		95% Percentile Bootstrap UCL	0.0126
		95% BCA Bootstrap UCL	0.0132
		95% H-UCL	0.0171

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.777	Data appear Normal at 5% Significance Level
Theta Star	0.00881	
nu star	17.77	

		Nonparametric Statistics	
A-D Test Statistic	0.193		
5% A-D Critical Value	0.681	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.681	Mean	0.0107
5% K-S Critical Value	0.358	SD	0.00684
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00232
		95% KM (t) UCL	0.0149
Assuming Gamma Distribution		95% KM (z) UCL	0.0145
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0145
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0151
Maximum	0.027	95% KM (BCA) UCL	0.0216
Mean	0.00653	95% KM (Percentile Bootstrap) UCL	0.0179
Median	1.95E-05	95% KM (Chebyshev) UCL	0.0208
SD	0.00951	97.5% KM (Chebyshev) UCL	0.0252
k star	0.181	99% KM (Chebyshev) UCL	0.0338
Theta star	0.036		
Nu star	4.352	Potential UCLs to Use	
AppChi2	0.865	95% KM (t) UCL	0.0149
95% Gamma Approximate UCL (Use when n >= 40)	0.0328	95% KM (Percentile Bootstrap) UCL	0.0179
95% Adjusted Gamma UCL (Use when n < 40)	0.0432		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor epoxide

General Statistics

Number of Valid Data	12	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	7
		Percent Non-Detects	58.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.034	Minimum Detected	-3.381
Maximum Detected	0.14	Maximum Detected	-1.966
Mean of Detected	0.0856	Mean of Detected	-2.563
SD of Detected	0.0406	SD of Detected	0.539
Minimum Non-Detect	5.00E-04	Minimum Non-Detect	-7.601
Maximum Non-Detect	0.015	Maximum Non-Detect	-4.2

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	5
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	58.33%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.968	Shapiro Wilk Test Statistic	0.942
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0368	Mean	-5.35
SD	0.0496	SD	2.728
95% DL/2 (t) UCL	0.0625	95% H-Stat (DL/2) UCL	44.02

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.00197	Mean in Log Scale	-3.539
SD	0.085	SD in Log Scale	0.921
95% MLE (t) UCL	0.046	Mean in Original Scale	0.0441
95% MLE (Tiku) UCL	0.0621	SD in Original Scale	0.0441
		95% t UCL	0.0669
		95% Percentile Bootstrap UCL	0.0649
		95% BCA Bootstrap UCL	0.0684
		95% H UCL	0.0958

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.096	Data appear Normal at 5% Significance Level
Theta Star	0.0408	
nu star	20.96	

		Nonparametric Statistics	
A-D Test Statistic	0.257		
5% A-D Critical Value	0.681	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.681	Mean	0.0555
5% K-S Critical Value	0.358	SD	0.0346
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0112
		95% KM (t) UCL	0.0755
Assuming Gamma Distribution		95% KM (z) UCL	0.0739
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.08
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0736
Maximum	0.14	95% KM (BCA) UCL	0.11
Mean	0.0357	95% KM (Percentile Bootstrap) UCL	0.0934
Median	1.00E-06	95% KM (Chebyshev) UCL	0.104
SD	0.0504	97.5% KM (Chebyshev) UCL	0.125
k star	0.157	99% KM (Chebyshev) UCL	0.167
Theta star	0.228		
Nu star	3.758	Potential UCLs to Use	
AppChi2	0.629	95% KM (t) UCL	0.0755
95% Gamma Approximate UCL (Use when n >= 40)	0.213	95% KM (Percentile Bootstrap) UCL	0.0934
95% Adjusted Gamma UCL (Use when n < 40)	0.288		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	27	Number of Detected Data	26
Number of Distinct Detected Data	23	Number of Non-Detect Data	1
		Percent Non-Detects	3.70%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0023	Minimum Detected	-6.075
Maximum Detected	2.2	Maximum Detected	0.788
Mean of Detected	0.744	Mean of Detected	-0.848
SD of Detected	0.587	SD of Detected	1.547
Minimum Non-Detect	8.80E-04	Minimum Non-Detect	-7.036
Maximum Non-Detect	8.80E-04	Maximum Non-Detect	-7.036

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.894	Shapiro Wilk Test Statistic	0.756
5% Shapiro Wilk Critical Value	0.92	5% Shapiro Wilk Critical Value	0.92
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.717	Mean	-1.103
SD	0.593	SD	2.013
95% DL/2 (t) UCL	0.911	95% H-Stat (DL/2) UCL	12.52

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.706	Mean in Log Scale	-0.969
SD	0.599	SD in Log Scale	1.641
95% MLE (t) UCL	0.903	Mean in Original Scale	0.717
95% MLE (Tiku) UCL	0.896	SD in Original Scale	0.592
		95% t UCL	0.912
		95% Percentile Bootstrap UCL	0.901
		95% BCA Bootstrap UCL	0.923
		95% H UCL	4.44

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.946	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.787	
nu star	49.17	

		Nonparametric Statistics	
A-D Test Statistic	0.754		
5% A-D Critical Value	0.772	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.772	Mean	0.717
5% K-S Critical Value	0.176	SD	0.582
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.114
		95% KM (t) UCL	0.911
Assuming Gamma Distribution		95% KM (z) UCL	0.904
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.911
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.954
Maximum	2.2	95% KM (BCA) UCL	0.886
Mean	0.717	95% KM (Percentile Bootstrap) UCL	0.912
Median	0.61	95% KM (Chebyshev) UCL	1.214
SD	0.593	97.5% KM (Chebyshev) UCL	1.429
k star	0.574	99% KM (Chebyshev) UCL	1.852
Theta star	1.248		
Nu star	31.01	Potential UCLs to Use	
AppChi2	19.29	95% KM (Chebyshev) UCL	1.214
95% Gamma Approximate UCL (Use when n >= 40)	1.152		
95% Adjusted Gamma UCL (Use when n < 40)	1.189		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	27	Number of Distinct Observations	27

Raw Statistics		Log-transformed Statistics	
Minimum	7950	Minimum of Log Data	8.981
Maximum	28000	Maximum of Log Data	10.24
Mean	16593	Mean of log Data	9.647
Geometric Mean	15472	SD of log Data	0.39
Median	17400		
SD	6090		
Std. Error of Mean	1172		
Coefficient of Variation	0.367		
Skewness	0.211		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.943	Shapiro Wilk Test Statistic	0.936
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	18593	95% H-UCL	19279
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	22232
95% Adjusted-CLT UCL (Chen-1995)	18572	97.5% Chebyshev (MVUE) UCL	24649
95% Modified-t UCL (Johnson-1978)	18600	99% Chebyshev (MVUE) UCL	29399

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	6.521	Data appear Normal at 5% Significance Level	
Theta Star	2545		
MLE of Mean	16593		
MLE of Standard Deviation	6498		
nu star	352.1		
Approximate Chi Square Value (.05)	309.7	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	18521
Adjusted Chi Square Value	307.1	95% Jackknife UCL	18593
		95% Standard Bootstrap UCL	18474
Anderson-Darling Test Statistic	0.5	95% Bootstrap-t UCL	18597
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL	18509
Kolmogorov-Smirnov Test Statistic	0.118	95% Percentile Bootstrap UCL	18476
Kolmogorov-Smirnov 5% Critical Value	0.168	95% BCA Bootstrap UCL	18479
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	21702
		97.5% Chebyshev(Mean, Sd) UCL	23913
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	28256
95% Approximate Gamma UCL (Use when n >= 40)	18870		
95% Adjusted Gamma UCL (Use when n < 40)	19026		

Potential UCL to Use	Use 95% Student's-t UCL	18593

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	27	Number of Distinct Observations	27

Raw Statistics		Log-transformed Statistics	
Minimum	58.9	Minimum of Log Data	4.076
Maximum	3060	Maximum of Log Data	8.026
Mean	327.7	Mean of log Data	5.212
Geometric Mean	183.4	SD of log Data	0.924
Median	158		
SD	584.7		
Std. Error of Mean	112.5		
Coefficient of Variation	1.784		
Skewness	4.27		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.446	Shapiro Wilk Test Statistic	0.903
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	519.7	95% H-UCL	436
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	514.8
95% Adjusted-CLT UCL (Chen-1995)	611.6	97.5% Chebyshev (MVUE) UCL	618.6
95% Modified-t UCL (Johnson-1978)	535.1	99% Chebyshev (MVUE) UCL	822.4

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.909	Data do not follow a Discernable Distribution (0.05)	
Theta Star	360.4		
MLE of Mean	327.7		
MLE of Standard Deviation	343.7		
nu star	49.1		
Approximate Chi Square Value (.05)	34.02	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	512.8
Adjusted Chi Square Value	33.21	95% Jackknife UCL	519.7
		95% Standard Bootstrap UCL	508.9
Anderson-Darling Test Statistic	2.041	95% Bootstrap-t UCL	918.8
Anderson-Darling 5% Critical Value	0.773	95% Hall's Bootstrap UCL	1193
Kolmogorov-Smirnov Test Statistic	0.277	95% Percentile Bootstrap UCL	528.4
Kolmogorov-Smirnov 5% Critical Value	0.173	95% BCA Bootstrap UCL	663.7
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	818.2
		97.5% Chebyshev(Mean, Sd) UCL	1030
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1447
95% Approximate Gamma UCL (Use when n >= 40)	473.1		
95% Adjusted Gamma UCL (Use when n < 40)	484.5		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	818.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Observations	27	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	0.0016	Minimum of Log Data	-6.438
Maximum	3	Maximum of Log Data	1.099
Mean	0.985	Mean of log Data	-0.827
Geometric Mean	0.437	SD of log Data	2.01
Median	0.97		
SD	0.771		
Std. Error of Mean	0.148		
Coefficient of Variation	0.783		
Skewness	0.66		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.942	Shapiro Wilk Test Statistic	0.743
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.238	95% H-UCL	16.31
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8.776
95% Adjusted-CLT UCL (Chen-1995)	1.249	97.5% Chebyshev (MVUE) UCL	11.39
95% Modified-t UCL (Johnson-1978)	1.241	99% Chebyshev (MVUE) UCL	16.54

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.682	Data appear Normal at 5% Significance Level	
Theta Star	1.445		
MLE of Mean	0.985		
MLE of Standard Deviation	1.193		
nu star	36.8		
Approximate Chi Square Value (.05)	23.92	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	1.229
Adjusted Chi Square Value	23.25	95% Jackknife UCL	1.238
		95% Standard Bootstrap UCL	1.218
Anderson-Darling Test Statistic	1.32	95% Bootstrap-t UCL	1.261
Anderson-Darling 5% Critical Value	0.785	95% Hall's Bootstrap UCL	1.257
Kolmogorov-Smirnov Test Statistic	0.174	95% Percentile Bootstrap UCL	1.231
Kolmogorov-Smirnov 5% Critical Value	0.175	95% BCA Bootstrap UCL	1.244
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.631
		97.5% Chebyshev(Mean, Sd) UCL	1.911
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.461
95% Approximate Gamma UCL (Use when n >= 40)	1.515		
95% Adjusted Gamma UCL (Use when n < 40)	1.559		

Potential UCL to Use	Use 95% Student's-t UCL	1.238

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	27	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	7.6	Minimum of Log Data	2.028
Maximum	46	Maximum of Log Data	3.829
Mean	14.2	Mean of log Data	2.553
Geometric Mean	12.85	SD of log Data	0.415
Median	11.4		
SD	8.027		
Std. Error of Mean	1.545		
Coefficient of Variation	0.565		
Skewness	2.742		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.689	Shapiro Wilk Test Statistic	0.878
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	16.83	95% H-UCL	16.36
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	18.97
95% Adjusted-CLT UCL (Chen-1995)	17.61	97.5% Chebyshev (MVUE) UCL	21.14
95% Modified-t UCL (Johnson-1978)	16.97	99% Chebyshev (MVUE) UCL	25.4

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.623	Data do not follow a Discernable Distribution (0.05)	
Theta Star	3.071		
MLE of Mean	14.2		
MLE of Standard Deviation	6.604		
nu star	249.7		
Approximate Chi Square Value (.05)	214.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	16.74
Adjusted Chi Square Value	212	95% Jackknife UCL	16.83
		95% Standard Bootstrap UCL	16.73
Anderson-Darling Test Statistic	1.614	95% Bootstrap-t UCL	18.59
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL	25.72
Kolmogorov-Smirnov Test Statistic	0.221	95% Percentile Bootstrap UCL	16.94
Kolmogorov-Smirnov 5% Critical Value	0.169	95% BCA Bootstrap UCL	17.72
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	20.93
		97.5% Chebyshev(Mean, Sd) UCL	23.85
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	29.57
95% Approximate Gamma UCL (Use when n >= 40)	16.56		
95% Adjusted Gamma UCL (Use when n < 40)	16.72		

Potential UCL to Use	Use 95% Student's-t UCL	16.83
	or 95% Modified-t UCL	16.97

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)

Number of Valid Data	91	Number of Detected Data	83
Number of Distinct Detected Data	73	Number of Non-Detect Data	8
		Percent Non-Detects	8.79%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.019	Minimum Detected	-3.963
Maximum Detected	39	Maximum Detected	3.664
Mean of Detected	4.499	Mean of Detected	0.576
SD of Detected	6.312	SD of Detected	1.596
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	0.43	Maximum Non-Detect	-0.844

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	69
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	24.18%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.239	Lilliefors Test Statistic	0.108
5% Lilliefors Critical Value	0.0973	5% Lilliefors Critical Value	0.0973
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.115	Mean	0.283
SD	6.152	SD	1.855
95% DL/2 (t) UCL	5.187	95% H-Stat (DL/2) UCL	13.88

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.958	Mean in Log Scale	0.317
SD	7.397	SD in Log Scale	1.755
95% MLE (t) UCL	4.247	Mean in Original Scale	4.114
95% MLE (Tiku) UCL	4.259	SD in Original Scale	6.153
		95% t UCL	5.185
		95% Percentile Bootstrap UCL	5.263
		95% BCA Bootstrap UCL	5.377
		95% H UCL	11.33

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.642	Data appear Gamma Distributed at 5% Significance Level
Theta Star	7.011	
nu star	106.5	

		Nonparametric Statistics	
A-D Test Statistic	0.396		
5% A-D Critical Value	0.803	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.803	Mean	4.111
5% K-S Critical Value	0.103	SD	6.121
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.646
		95% KM (t) UCL	5.184
Assuming Gamma Distribution		95% KM (z) UCL	5.172
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.182
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.559
Maximum	39	95% KM (BCA) UCL	5.266
Mean	4.103	95% KM (Percentile Bootstrap) UCL	5.244
Median	2.1	95% KM (Chebyshev) UCL	6.924
SD	6.159	97.5% KM (Chebyshev) UCL	8.142
k star	0.321	99% KM (Chebyshev) UCL	10.53
Theta star	12.79		
Nu star	58.38	Potential UCLs to Use	
AppChi2	41.81	95% KM (Chebyshev) UCL	6.924
95% Gamma Approximate UCL (Use when n >= 40)	5.729		
95% Adjusted Gamma UCL (Use when n < 40)	5.76		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

4,4'-DDT

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	7
		Percent Non-Detects	46.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0037	Minimum Detected	-5.599
Maximum Detected	1.8	Maximum Detected	0.588
Mean of Detected	0.699	Mean of Detected	-1.818
SD of Detected	0.731	SD of Detected	2.488
Minimum Non-Detect	0.0016	Minimum Non-Detect	-6.438
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	5
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	66.67%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.856	Shapiro Wilk Test Statistic	0.847
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.378	Mean	-3.182
SD	0.627	SD	2.421
95% DL/2 (t) UCL	0.663	95% H-Stat (DL/2) UCL	25.6

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.541
		SD in Log Scale	2.708
		Mean in Original Scale	0.375
		SD in Original Scale	0.629
		95% t UCL	0.661
		95% Percentile Bootstrap UCL	0.644
		95% BCA Bootstrap UCL	0.699
		95% H-UCL	85.5

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.36	Data appear Normal at 5% Significance Level
Theta Star	1.94	
nu star	5.768	

		Nonparametric Statistics	
A-D Test Statistic	0.573		
5% A-D Critical Value	0.772	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.772	Mean	0.377
5% K-S Critical Value	0.311	SD	0.606
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.167
		95% KM (t) UCL	0.672
Assuming Gamma Distribution		95% KM (z) UCL	0.652
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.661
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.776
Maximum	1.8	95% KM (BCA) UCL	0.696
Mean	0.373	95% KM (Percentile Bootstrap) UCL	0.68
Median	0.0037	95% KM (Chebyshev) UCL	1.107
SD	0.63	97.5% KM (Chebyshev) UCL	1.422
k star	0.143	99% KM (Chebyshev) UCL	2.043
Theta star	2.612		
Nu star	4.284	Potential UCLs to Use	
AppChi2	0.837	95% KM (t) UCL	0.672
95% Gamma Approximate UCL (Use when n >= 40)	1.909	95% KM (Percentile Bootstrap) UCL	0.68
95% Adjusted Gamma UCL (Use when n < 40)	2.382		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	12
Number of Distinct Detected Data	11	Number of Non-Detect Data	12
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0011	Minimum Detected	-6.812
Maximum Detected	0.02	Maximum Detected	-3.912
Mean of Detected	0.00573	Mean of Detected	-5.575
SD of Detected	0.0062	SD of Detected	0.9
Minimum Non-Detect	6.80E-04	Minimum Non-Detect	-7.293
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.696	Shapiro Wilk Test Statistic	0.92
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.336	Mean	-4.534
SD	0.603	SD	3.016
95% DL/2 (t) UCL	0.547	95% H-Stat (DL/2) UCL	40.19

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.12
		SD in Log Scale	0.967
		Mean in Original Scale	0.00365
		SD in Original Scale	0.00483
		95% t UCL	0.00534
		95% Percentile Bootstrap UCL	0.00529
		95% BCA Bootstrap UCL	0.00602
		95% H-UCL	0.0058

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.071	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	0.00534	
nu star	25.72	

A-D Test Statistic	0.782	Nonparametric Statistics	
5% A-D Critical Value	0.749	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.749	Mean	0.0043
5% K-S Critical Value	0.25	SD	0.00527
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0013
		95% KM (t) UCL	0.00653
Assuming Gamma Distribution		95% KM (z) UCL	0.00644
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00643
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0105
Maximum	0.02	95% KM (BCA) UCL	0.00669
Mean	0.00358	95% KM (Percentile Bootstrap) UCL	0.00663
Median	0.00255	95% KM (Chebyshev) UCL	0.00997
SD	0.005	97.5% KM (Chebyshev) UCL	0.0124
k star	0.309	99% KM (Chebyshev) UCL	0.0173
Theta star	0.0116		
Nu star	14.83	Potential UCLs to Use	
AppChi2	7.144	95% KM (t) UCL	0.00653
95% Gamma Approximate UCL (Use when n >= 40)	0.00743		
95% Adjusted Gamma UCL (Use when n < 40)	0.00784		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	4580	Minimum of Log Data	8.429
Maximum	19100	Maximum of Log Data	9.857
Mean	9667	Mean of log Data	9.104
Geometric Mean	8994	SD of log Data	0.388
Median	9433		
SD	3820		
Std. Error of Mean	779.7		
Coefficient of Variation	0.395		
Skewness	0.834		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.934	Shapiro Wilk Test Statistic	0.976
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	11003	95% H-UCL	11295
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	13081
95% Adjusted-CLT UCL (Chen-1995)	11091	97.5% Chebyshev (MVUE) UCL	14560
95% Modified-t UCL (Johnson-1978)	11025	99% Chebyshev (MVUE) UCL	17464

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	6.233	Data appear Normal at 5% Significance Level	
Theta Star	1551		
MLE of Mean	9667		
MLE of Standard Deviation	3872		
nu star	299.2		
Approximate Chi Square Value (.05)	260.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	10949
Adjusted Chi Square Value	257.5	95% Jackknife UCL	11003
		95% Standard Bootstrap UCL	10944
Anderson-Darling Test Statistic	0.26	95% Bootstrap-t UCL	11218
Anderson-Darling 5% Critical Value	0.745	95% Hall's Bootstrap UCL	11185
Kolmogorov-Smirnov Test Statistic	0.0993	95% Percentile Bootstrap UCL	10986
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	11065
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13066
		97.5% Chebyshev(Mean, Sd) UCL	14536
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	17425
95% Approximate Gamma UCL (Use when n >= 40)	11119		
95% Adjusted Gamma UCL (Use when n < 40)	11229		

Potential UCL to Use	Use 95% Student's-t UCL	11003

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Antimony

General Statistics (Units in mg/kg)

Number of Valid Data	23	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	16
		Percent Non-Detects	69.57%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.5	Minimum Detected	0.405
Maximum Detected	3.5	Maximum Detected	1.253
Mean of Detected	2.357	Mean of Detected	0.813
SD of Detected	0.766	SD of Detected	0.322
Minimum Non-Detect	0.01	Minimum Non-Detect	-4.605
Maximum Non-Detect	0.01	Maximum Non-Detect	-4.605

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.921	Shapiro Wilk Test Statistic	0.941
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.721	Mean	-3.438
SD	1.177	SD	2.88
95% DL/2 (t) UCL	1.142	95% H-Stat (DL/2) UCL	61.56

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.36	Mean in Log Scale	-0.0389
SD	0.709	SD in Log Scale	0.722
95% MLE (t) UCL	2.613	Mean in Original Scale	1.228
95% MLE (Tiku) UCL	2.82	SD in Original Scale	0.902
		95% t UCL	1.551
		95% Percentile Bootstrap UCL	1.544
		95% BCA Bootstrap UCL	1.611
		95% H UCL	1.749

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	6.576	Data appear Normal at 5% Significance Level
Theta Star	0.358	
nu star	92.06	

		Nonparametric Statistics	
A-D Test Statistic	0.291		
5% A-D Critical Value	0.708	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.708	Mean	1.761
5% K-S Critical Value	0.312	SD	0.555
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.125
		95% KM (t) UCL	1.976
Assuming Gamma Distribution		95% KM (z) UCL	1.967
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.951
Minimum	0.000001	95% KM (bootstrap t) UCL	2.058
Maximum	3.5	95% KM (BCA) UCL	2.443
Mean	0.74	95% KM (Percentile Bootstrap) UCL	2.161
Median	0.000001	95% KM (Chebyshev) UCL	2.306
SD	1.169	97.5% KM (Chebyshev) UCL	2.542
k star	0.117	99% KM (Chebyshev) UCL	3.005
Theta star	6.338		
Nu star	5.37	Potential UCLs to Use	
AppChi2	1.327	95% KM (t) UCL	1.976
95% Gamma Approximate UCL (Use when n >= 40)	2.995	95% KM (Percentile Bootstrap) UCL	2.161
95% Adjusted Gamma UCL (Use when n < 40)	3.343		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	23
Number of Distinct Detected Data	22	Number of Non-Detect Data	1
		Percent Non-Detects	4.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.7	Minimum Detected	-0.357
Maximum Detected	13	Maximum Detected	2.565
Mean of Detected	4.878	Mean of Detected	1.2
SD of Detected	4.104	SD of Detected	0.949
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.851	Shapiro Wilk Test Statistic	0.943
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.675	Mean	0.891
SD	4.135	SD	1.775
95% DL/2 (t) UCL	6.121	95% H-Stat (DL/2) UCL	46.64

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.586	Mean in Log Scale	1.102
SD	4.187	SD in Log Scale	1.045
95% MLE (t) UCL	6.051	Mean in Original Scale	4.688
95% MLE (Tiku) UCL	5.999	SD in Original Scale	4.12
		95% t UCL	6.129
		95% Percentile Bootstrap UCL	6.009
		95% BCA Bootstrap UCL	6.288
		95% H UCL	9.157

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.284	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.798	
nu star	59.08	

		Nonparametric Statistics	
A-D Test Statistic	0.393		
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	4.704
5% K-S Critical Value	0.185	SD	4.017
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.838
		95% KM (t) UCL	6.141
Assuming Gamma Distribution		95% KM (z) UCL	6.083
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.137
Minimum	1.00E-06	95% KM (bootstrap t) UCL	6.418
Maximum	13	95% KM (BCA) UCL	6.138
Mean	4.675	95% KM (Percentile Bootstrap) UCL	6.054
Median	3.4	95% KM (Chebyshev) UCL	8.358
SD	4.135	97.5% KM (Chebyshev) UCL	9.939
k star	0.582	99% KM (Chebyshev) UCL	13.05
Theta star	8.032		
Nu star	27.94	Potential UCLs to Use	
AppChi2	16.88	95% KM (Chebyshev) UCL	8.358
95% Gamma Approximate UCL (Use when n >= 40)	7.737		
95% Adjusted Gamma UCL (Use when n < 40)	8.024		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzidine

General Statistics (Units in mg/kg)

Number of Valid Observations	6	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	5.4	Minimum of Log Data	1.686
Maximum	14	Maximum of Log Data	2.639
Mean	10.6	Mean of log Data	2.314
Geometric Mean	10.12	SD of log Data	0.353
Median	10.5		
SD	3.245		
Std. Error of Mean	1.325		
Coefficient of Variation	0.306		
Skewness	-0.57		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.922	Shapiro Wilk Test Statistic	0.878
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	13.27	95% H-UCL	15.52
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	17.33
95% Adjusted-CLT UCL (Chen-1995)	12.45	97.5% Chebyshev (MVUE) UCL	20.22
95% Modified-t UCL (Johnson-1978)	13.22	99% Chebyshev (MVUE) UCL	25.89

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.533	Data appear Normal at 5% Significance Level	
Theta Star	1.916		
MLE of Mean	10.6		
MLE of Standard Deviation	4.507		
nu star	66.39		
Approximate Chi Square Value (.05)	48.64	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	12.78
Adjusted Chi Square Value	43.21	95% Jackknife UCL	13.27
		95% Standard Bootstrap UCL	12.61
Anderson-Darling Test Statistic	0.361	95% Bootstrap-t UCL	13
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	13.12
Kolmogorov-Smirnov Test Statistic	0.195	95% Percentile Bootstrap UCL	12.53
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	12.4
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16.37
		97.5% Chebyshev(Mean, Sd) UCL	18.87
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23.78
95% Approximate Gamma UCL (Use when n >= 40)	14.47		
95% Adjusted Gamma UCL (Use when n < 40)	16.29		

Potential UCL to Use	Use 95% Student's-t UCL	13.27

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	0.0018	Minimum of Log Data	-6.32
Maximum	6.5	Maximum of Log Data	1.872
Mean	0.908	Mean of log Data	-1.081
Geometric Mean	0.339	SD of log Data	1.817
Median	0.605		
SD	1.323		
Std. Error of Mean	0.27		
Coefficient of Variation	1.457		
Skewness	3.497		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.6	Shapiro Wilk Test Statistic	0.914
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.371	95% H-UCL	7.417
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.616
95% Adjusted-CLT UCL (Chen-1995)	1.558	97.5% Chebyshev (MVUE) UCL	5.959
95% Modified-t UCL (Johnson-1978)	1.403	99% Chebyshev (MVUE) UCL	8.597

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.574	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.583		
MLE of Mean	0.908		
MLE of Standard Deviation	1.199		
nu star	27.54		
Approximate Chi Square Value (.05)	16.57	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1.352
Adjusted Chi Square Value	15.97	95% Jackknife UCL	1.371
		95% Standard Bootstrap UCL	1.34
Anderson-Darling Test Statistic	0.342	95% Bootstrap-t UCL	1.777
Anderson-Darling 5% Critical Value	0.795	95% Hall's Bootstrap UCL	3.197
Kolmogorov-Smirnov Test Statistic	0.127	95% Percentile Bootstrap UCL	1.386
Kolmogorov-Smirnov 5% Critical Value	0.187	95% BCA Bootstrap UCL	1.654
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.085
		97.5% Chebyshev(Mean, Sd) UCL	2.595
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.595
95% Approximate Gamma UCL (Use when n >= 40)	1.509		
95% Adjusted Gamma UCL (Use when n < 40)	1.566		

Potential UCL to Use	Use 95% Approximate Gamma UCL	1.509

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	22
Number of Distinct Detected Data	20	Number of Non-Detect Data	2
		Percent Non-Detects	8.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.022	Minimum Detected	-3.817
Maximum Detected	5.5	Maximum Detected	1.705
Mean of Detected	0.901	Mean of Detected	-0.934
SD of Detected	1.179	SD of Detected	1.528
Minimum Non-Detect	7.20E-04	Minimum Non-Detect	-7.236
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.83%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.663	Shapiro Wilk Test Statistic	0.931
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.903	Mean	-1.161
SD	1.159	SD	2.076
95% DL/2 (t) UCL	1.309	95% H-Stat (DL/2) UCL	16.77

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.094
		SD in Log Scale	1.632
		Mean in Original Scale	0.839
		SD in Original Scale	1.147
		95% t UCL	1.24
		95% Percentile Bootstrap UCL	1.252
		95% BCA Bootstrap UCL	1.423
		95% H-UCL	4.154

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.656	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.373		
nu star	28.87		

A-D Test Statistic	0.431	Nonparametric Statistics	
5% A-D Critical Value	0.785	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.785	Mean	0.854
5% K-S Critical Value	0.193	SD	1.124
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.236
		95% KM (t) UCL	1.259
Assuming Gamma Distribution		95% KM (z) UCL	1.242
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.258
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.534
Maximum	5.5	95% KM (BCA) UCL	1.291
Mean	0.852	95% KM (Percentile Bootstrap) UCL	1.29
Median	0.609	95% KM (Chebyshev) UCL	1.884
SD	1.143	97.5% KM (Chebyshev) UCL	2.329
k star	0.459	99% KM (Chebyshev) UCL	3.204
Theta star	1.855		
Nu star	22.04	Potential UCLs to Use	
AppChi2	12.37	95% KM (Chebyshev) UCL	1.884
95% Gamma Approximate UCL (Use when n >= 40)	1.518		
95% Adjusted Gamma UCL (Use when n < 40)	1.583		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	21

Raw Statistics		Log-transformed Statistics	
Minimum	0.0047	Minimum of Log Data	-5.36
Maximum	8.7	Maximum of Log Data	2.163
Mean	1.525	Mean of log Data	-0.469
Geometric Mean	0.626	SD of log Data	1.726
Median	1.045		
SD	1.862		
Std. Error of Mean	0.38		
Coefficient of Variation	1.221		
Skewness	2.62		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.719	Shapiro Wilk Test Statistic	0.913
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.177	95% H-UCL	10.27
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7.12
95% Adjusted-CLT UCL (Chen-1995)	2.368	97.5% Chebyshev (MVUE) UCL	9.151
95% Modified-t UCL (Johnson-1978)	2.211	99% Chebyshev (MVUE) UCL	13.14

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.623	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.447		
MLE of Mean	1.525		
MLE of Standard Deviation	1.932		
nu star	29.92		
Approximate Chi Square Value (.05)	18.43	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	2.151
Adjusted Chi Square Value	17.8	95% Jackknife UCL	2.177
		95% Standard Bootstrap UCL	2.14
Anderson-Darling Test Statistic	0.361	95% Bootstrap-t UCL	2.553
Anderson-Darling 5% Critical Value	0.789	95% Hall's Bootstrap UCL	5.039
Kolmogorov-Smirnov Test Statistic	0.124	95% Percentile Bootstrap UCL	2.176
Kolmogorov-Smirnov 5% Critical Value	0.186	95% BCA Bootstrap UCL	2.389
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.182
		97.5% Chebyshev(Mean, Sd) UCL	3.899
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.308
95% Approximate Gamma UCL (Use when n >= 40)	2.476		
95% Adjusted Gamma UCL (Use when n < 40)	2.564		

Potential UCL to Use	Use 95% Approximate Gamma UCL	2.476

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	23
Number of Distinct Detected Data	20	Number of Non-Detect Data	1
		Percent Non-Detects	4.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0025	Minimum Detected	-5.991
Maximum Detected	2.3	Maximum Detected	0.833
Mean of Detected	0.582	Mean of Detected	-1.29
SD of Detected	0.548	SD of Detected	1.642
Minimum Non-Detect	0.07	Minimum Non-Detect	-2.659
Maximum Non-Detect	0.07	Maximum Non-Detect	-2.659

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.864	Shapiro Wilk Test Statistic	0.874
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.559	Mean	-1.376
SD	0.547	SD	1.66
95% DL/2 (t) UCL	0.751	95% H-Stat (DL/2) UCL	3.398

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.467	Mean in Log Scale	-1.375
SD	0.662	SD in Log Scale	1.659
95% MLE (t) UCL	0.698	Mean in Original Scale	0.559
95% MLE (Tiku) UCL	0.707	SD in Original Scale	0.547
		95% t UCL	0.751
		95% Percentile Bootstrap UCL	0.755
		95% BCA Bootstrap UCL	0.76
		95% H UCL	3.388

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.719	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	0.809	
nu star	33.07	

A-D Test Statistic	0.624	Nonparametric Statistics	
5% A-D Critical Value	0.78	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.78	Mean	0.559
5% K-S Critical Value	0.188	SD	0.536
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.112
		95% KM (t) UCL	0.751
Assuming Gamma Distribution		95% KM (z) UCL	0.743
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.751
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.788
Maximum	2.3	95% KM (BCA) UCL	0.733
Mean	0.558	95% KM (Percentile Bootstrap) UCL	0.746
Median	0.45	95% KM (Chebyshev) UCL	1.047
SD	0.549	97.5% KM (Chebyshev) UCL	1.258
k star	0.478	99% KM (Chebyshev) UCL	1.672
Theta star	1.166		
Nu star	22.96	Potential UCLs to Use	
AppChi2	13.06	95% KM (Chebyshev) UCL	1.047
95% Gamma Approximate UCL (Use when n >= 40)	0.98		
95% Adjusted Gamma UCL (Use when n < 40)	1.022		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	23
Number of Distinct Detected Data	21	Number of Non-Detect Data	1
		Percent Non-Detects	4.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0015	Minimum Detected	-6.502
Maximum Detected	2.5	Maximum Detected	0.916
Mean of Detected	0.484	Mean of Detected	-1.621
SD of Detected	0.573	SD of Detected	1.737
Minimum Non-Detect	2.5	Minimum Non-Detect	0.916
Maximum Non-Detect	2.5	Maximum Non-Detect	0.916

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.767	Shapiro Wilk Test Statistic	0.921
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.516	Mean	-1.544
SD	0.581	SD	1.74
95% DL/2 (t) UCL	0.719	95% H-Stat (DL/2) UCL	3.658

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.626
		SD in Log Scale	1.699
		Mean in Original Scale	0.471
		SD in Original Scale	0.563
		95% t UCL	0.668
		95% Percentile Bootstrap UCL	0.672
		95% BCA Bootstrap UCL	0.725
		95% H-UCL	2.973

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.619	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.781	
nu star	28.47	

A-D Test Statistic	0.225	Nonparametric Statistics	
5% A-D Critical Value	0.789	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.789	Mean	0.48
5% K-S Critical Value	0.19	SD	0.554
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.117
		95% KM (t) UCL	0.68
Assuming Gamma Distribution		95% KM (z) UCL	0.672
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.68
Minimum	0.0015	95% KM (bootstrap t) UCL	0.794
Maximum	2.5	95% KM (BCA) UCL	0.68
Mean	0.478	95% KM (Percentile Bootstrap) UCL	0.685
Median	0.3	95% KM (Chebyshev) UCL	0.988
SD	0.561	97.5% KM (Chebyshev) UCL	1.208
k star	0.643	99% KM (Chebyshev) UCL	1.64
Theta star	0.744		
Nu star	30.86	Potential UCLs to Use	
AppChi2	19.17	95% KM (Chebyshev) UCL	0.988
95% Gamma Approximate UCL (Use when n >= 40)	0.77		
95% Adjusted Gamma UCL (Use when n < 40)	0.797		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

bis(2-Ethylhexyl)phthalate

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	24

Raw Statistics		Log-transformed Statistics	
Minimum	0.39	Minimum of Log Data	-0.942
Maximum	300	Maximum of Log Data	5.704
Mean	71.43	Mean of log Data	2.878
Geometric Mean	17.78	SD of log Data	2.126
Median	25		
SD	90.34		
Std. Error of Mean	18.44		
Coefficient of Variation	1.265		
Skewness	1.277		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.79	Shapiro Wilk Test Statistic	0.928
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	103	95% H-UCL	1147
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	456.6
95% Adjusted-CLT UCL (Chen-1995)	106.9	97.5% Chebyshev (MVUE) UCL	596.8
95% Modified-t UCL (Johnson-1978)	103.8	99% Chebyshev (MVUE) UCL	872.3

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.432	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	165.2		
MLE of Mean	71.43		
MLE of Standard Deviation	108.6		
nu star	20.75		
Approximate Chi Square Value (.05)	11.41	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	101.8
Adjusted Chi Square Value	10.92	95% Jackknife UCL	103
		95% Standard Bootstrap UCL	101.4
Anderson-Darling Test Statistic	0.489	95% Bootstrap-t UCL	109.6
Anderson-Darling 5% Critical Value	0.815	95% Hall's Bootstrap UCL	105.5
Kolmogorov-Smirnov Test Statistic	0.108	95% Percentile Bootstrap UCL	102.4
Kolmogorov-Smirnov 5% Critical Value	0.189	95% BCA Bootstrap UCL	107.2
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	151.8
		97.5% Chebyshev(Mean, Sd) UCL	186.6
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	254.9
95% Approximate Gamma UCL (Use when n >= 40)	129.9		
95% Adjusted Gamma UCL (Use when n < 40)	135.7		

Potential UCL to Use	Use 95% Adjusted Gamma UCL	135.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	20
Number of Distinct Detected Data	18	Number of Non-Detect Data	4
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.81	Minimum Detected	-0.211
Maximum Detected	34.6	Maximum Detected	3.544
Mean of Detected	12.73	Mean of Detected	1.971
SD of Detected	11.1	SD of Detected	1.249
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.002	Maximum Non-Detect	-6.215

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.87	Shapiro Wilk Test Statistic	0.879
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	10.6	Mean	0.491
SD	11.19	SD	3.566
95% DL/2 (t) UCL	14.52	95% H-Stat (DL/2) UCL	151741

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	9.383	Mean in Log Scale	1.508
SD	12.63	SD in Log Scale	1.562
95% MLE (t) UCL	13.8	Mean in Original Scale	10.69
95% MLE (Tiku) UCL	13.8	SD in Original Scale	11.11
		95% t UCL	14.57
		95% Percentile Bootstrap UCL	14.57
		95% BCA Bootstrap UCL	14.6
		95% H UCL	45.9

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.889	Data do not follow a Discernable Distribution (0.05)
Theta Star	14.31	
nu star	35.56	

		Nonparametric Statistics	
A-D Test Statistic	0.957		
5% A-D Critical Value	0.768	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.768	Mean	10.74
5% K-S Critical Value	0.199	SD	10.83
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2.268
		95% KM (t) UCL	14.63
Assuming Gamma Distribution		95% KM (z) UCL	14.47
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	14.58
Minimum	1.00E-06	95% KM (bootstrap t) UCL	15.39
Maximum	34.6	95% KM (BCA) UCL	14.54
Mean	10.6	95% KM (Percentile Bootstrap) UCL	14.41
Median	6	95% KM (Chebyshev) UCL	20.62
SD	11.19	97.5% KM (Chebyshev) UCL	24.9
k star	0.235	99% KM (Chebyshev) UCL	33.3
Theta star	45.08		
Nu star	11.29	Potential UCLs to Use	
AppChi2	4.764	97.5% KM (Chebyshev) UCL	24.9
95% Gamma Approximate UCL (Use when n >= 40)	25.13		
95% Adjusted Gamma UCL (Use when n < 40)	26.8		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

cis-1,2-Dichloroethene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	14
Number of Distinct Detected Data	12	Number of Non-Detect Data	10
		Percent Non-Detects	41.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0012	Minimum Detected	-6.725
Maximum Detected	61	Maximum Detected	4.111
Mean of Detected	5.02	Mean of Detected	-2.986
SD of Detected	16.21	SD of Detected	3.377
Minimum Non-Detect	5.90E-04	Minimum Non-Detect	-7.435
Maximum Non-Detect	0.093	Maximum Non-Detect	-2.375

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	19
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	79.17%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.355	Shapiro Wilk Test Statistic	0.913
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.937	Mean	-3.921
SD	12.44	SD	3.154
95% DL/2 (t) UCL	7.29	95% H-Stat (DL/2) UCL	157.9

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-5.216
		SD in Log Scale	3.906
		Mean in Original Scale	2.929
		SD in Original Scale	12.45
		95% t UCL	7.283
		95% Percentile Bootstrap UCL	8.004
		95% BCA Bootstrap UCL	11.26
		95% H-UCL	4832

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.177	Data appear Lognormal at 5% Significance Level	
Theta Star	28.34		
nu star	4.959		

A-D Test Statistic	1.554	Nonparametric Statistics	
5% A-D Critical Value	0.885	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.885	Mean	2.931
5% K-S Critical Value	0.254	SD	12.18
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2.581
		95% KM (t) UCL	7.354
Assuming Gamma Distribution		95% KM (z) UCL	7.176
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	7.285
Minimum	1.00E-06	95% KM (bootstrap t) UCL	78.16
Maximum	61	95% KM (BCA) UCL	7.916
Mean	2.928	95% KM (Percentile Bootstrap) UCL	7.824
Median	0.00155	95% KM (Chebyshev) UCL	14.18
SD	12.45	97.5% KM (Chebyshev) UCL	19.05
k star	0.111	99% KM (Chebyshev) UCL	28.61
Theta star	26.34		
Nu star	5.336	Potential UCLs to Use	
AppChi2	1.311	99% KM (Chebyshev) UCL	28.61
95% Gamma Approximate UCL (Use when n >= 40)	11.92		
95% Adjusted Gamma UCL (Use when n < 40)	13.27		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	19

Raw Statistics		Log-transformed Statistics	
Minimum	2	Minimum of Log Data	0.693
Maximum	15	Maximum of Log Data	2.708
Mean	7.496	Mean of log Data	1.878
Geometric Mean	6.539	SD of log Data	0.552
Median	6.75		
SD	3.87		
Std. Error of Mean	0.79		
Coefficient of Variation	0.516		
Skewness	0.648		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.918	Shapiro Wilk Test Statistic	0.959
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	8.85	95% H-UCL	9.618
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	11.46
95% Adjusted-CLT UCL (Chen-1995)	8.907	97.5% Chebyshev (MVUE) UCL	13.14
95% Modified-t UCL (Johnson-1978)	8.867	99% Chebyshev (MVUE) UCL	16.45

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.37	Data appear Normal at 5% Significance Level	
Theta Star	2.224		
MLE of Mean	7.496		
MLE of Standard Deviation	4.083		
nu star	161.8		
Approximate Chi Square Value (.05)	133.4	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	8.795
Adjusted Chi Square Value	131.6	95% Jackknife UCL	8.85
		95% Standard Bootstrap UCL	8.783
Anderson-Darling Test Statistic	0.364	95% Bootstrap-t UCL	9.011
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	8.87
Kolmogorov-Smirnov Test Statistic	0.109	95% Percentile Bootstrap UCL	8.813
Kolmogorov-Smirnov 5% Critical Value	0.179	95% BCA Bootstrap UCL	8.833
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	10.94
		97.5% Chebyshev(Mean, Sd) UCL	12.43
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	15.36
95% Approximate Gamma UCL (Use when n >= 40)	9.092		
95% Adjusted Gamma UCL (Use when n < 40)	9.218		

Potential UCL to Use	Use 95% Student's-t UCL	8.85

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	16
Number of Distinct Detected Data	15	Number of Non-Detect Data	8
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.166	Mean of Detected	-2.723
SD of Detected	0.25	SD of Detected	1.496
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.652	Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.445	Mean	-2.223
SD	0.579	SD	2.151
95% DL/2 (t) UCL	0.647	95% H-Stat (DL/2) UCL	7.696

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.017
		SD in Log Scale	1.466
		Mean in Original Scale	0.125
		SD in Original Scale	0.211
		95% t UCL	0.199
		95% Percentile Bootstrap UCL	0.198
		95% BCA Bootstrap UCL	0.243
		95% H-UCL	0.383

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.575	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.289	
nu star	18.41	

		Nonparametric Statistics	
A-D Test Statistic	0.359		
5% A-D Critical Value	0.783	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.783	Mean	0.149
5% K-S Critical Value	0.225	SD	0.234
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0569
		95% KM (t) UCL	0.246
Assuming Gamma Distribution		95% KM (z) UCL	0.242
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.246
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.348
Maximum	1	95% KM (BCA) UCL	0.249
Mean	0.136	95% KM (Percentile Bootstrap) UCL	0.246
Median	0.0806	95% KM (Chebyshev) UCL	0.397
SD	0.211	97.5% KM (Chebyshev) UCL	0.504
k star	0.323	99% KM (Chebyshev) UCL	0.715
Theta star	0.422		
Nu star	15.53	Potential UCLs to Use	
AppChi2	7.629	95% KM (BCA) UCL	0.249
95% Gamma Approximate UCL (Use when n >= 40)	0.278		
95% Adjusted Gamma UCL (Use when n < 40)	0.292		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics (Units in mg/kg)

Number of Valid Data	20	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	9
		Percent Non-Detects	45.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0083	Minimum Detected	-4.791
Maximum Detected	2	Maximum Detected	0.693
Mean of Detected	0.5	Mean of Detected	-1.835
SD of Detected	0.636	SD of Detected	1.932
Minimum Non-Detect	9.80E-04	Minimum Non-Detect	-6.928
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	60.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.794	Shapiro Wilk Test Statistic	0.921
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.28	Mean	-3.427
SD	0.525	SD	2.527
95% DL/2 (t) UCL	0.483	95% H-Stat (DL/2) UCL	16.85

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.649
		SD in Log Scale	2.555
		Mean in Original Scale	0.277
		SD in Original Scale	0.526
		95% t UCL	0.481
		95% Percentile Bootstrap UCL	0.474
		95% BCA Bootstrap UCL	0.557
		95% H-UCL	15.44

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.459	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.09	
nu star	10.1	

		Nonparametric Statistics	
A-D Test Statistic	0.237		
5% A-D Critical Value	0.778	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.778	Mean	0.28
5% K-S Critical Value	0.268	SD	0.512
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.12
		95% KM (t) UCL	0.487
Assuming Gamma Distribution		95% KM (z) UCL	0.477
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.482
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.69
Maximum	2	95% KM (BCA) UCL	0.499
Mean	0.275	95% KM (Percentile Bootstrap) UCL	0.484
Median	0.0102	95% KM (Chebyshev) UCL	0.803
SD	0.527	97.5% KM (Chebyshev) UCL	1.029
k star	0.145	99% KM (Chebyshev) UCL	1.474
Theta star	1.893		
Nu star	5.817	Potential UCLs to Use	
AppChi2	1.547	95% KM (BCA) UCL	0.499
95% Gamma Approximate UCL (Use when n >= 40)	1.035		
95% Adjusted Gamma UCL (Use when n < 40)	1.159		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Di-n-octylphthalate

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	20
Number of Distinct Detected Data	20	Number of Non-Detect Data	4
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.054	Minimum Detected	-2.919
Maximum Detected	42	Maximum Detected	3.738
Mean of Detected	5.926	Mean of Detected	0.191
SD of Detected	9.885	SD of Detected	2.144
Minimum Non-Detect	0.045	Minimum Non-Detect	-3.101
Maximum Non-Detect	0.052	Maximum Non-Detect	-2.957

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	20
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	16.67%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.636	Shapiro Wilk Test Statistic	0.919
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.942	Mean	-0.461
SD	9.261	SD	2.453
95% DL/2 (t) UCL	8.182	95% H-Stat (DL/2) UCL	153.7

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.784	Mean in Log Scale	-0.612
SD	10.27	SD in Log Scale	2.676
95% MLE (t) UCL	7.376	Mean in Original Scale	4.94
95% MLE (Tiku) UCL	7.247	SD in Original Scale	9.263
		95% t UCL	8.18
		95% Percentile Bootstrap UCL	8.39
		95% BCA Bootstrap UCL	9.851
		95% H UCL	364.5

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.384	Data appear Gamma Distributed at 5% Significance Level
Theta Star	15.44	
nu star	15.35	

A-D Test Statistic	0.643	Nonparametric Statistics	
5% A-D Critical Value	0.821	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.821	Mean	4.947
5% K-S Critical Value	0.207	SD	9.064
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.898
		95% KM (t) UCL	8.2
Assuming Gamma Distribution		95% KM (z) UCL	8.069
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	8.183
Minimum	1.00E-06	95% KM (bootstrap t) UCL	11.3
Maximum	42	95% KM (BCA) UCL	8.247
Mean	4.938	95% KM (Percentile Bootstrap) UCL	8.238
Median	0.425	95% KM (Chebyshev) UCL	13.22
SD	9.264	97.5% KM (Chebyshev) UCL	16.8
k star	0.2	99% KM (Chebyshev) UCL	23.83
Theta star	24.65		
Nu star	9.615	Potential UCLs to Use	
AppChi2	3.702	95% KM (Chebyshev) UCL	13.22
95% Gamma Approximate UCL (Use when n >= 40)	12.82		
95% Adjusted Gamma UCL (Use when n < 40)	13.77		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin aldehyde

General Statistics

Number of Valid Data	18	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	12
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.013	Minimum Detected	-4.343
Maximum Detected	0.25	Maximum Detected	-1.386
Mean of Detected	0.1	Mean of Detected	-2.808
SD of Detected	0.0932	SD of Detected	1.227
Minimum Non-Detect	0.0014	Minimum Non-Detect	-6.571
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	77.78%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.899	Shapiro Wilk Test Statistic	0.901
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0381	Mean	-4.786
SD	0.0681	SD	1.994
95% DL/2 (t) UCL	0.066	95% H-Stat (DL/2) UCL	0.488

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.157	Mean in Log Scale	-5.144
SD	0.0726	SD in Log Scale	1.904
95% MLE (t) UCL	0.186	Mean in Original Scale	0.0349
95% MLE (Tiku) UCL	0.218	SD in Original Scale	0.0695
		95% t UCL	0.0633
		95% Percentile Bootstrap UCL	0.0643
		95% BCA Bootstrap UCL	0.0713
		95% H UCL	0.242

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.672	Data appear Normal at 5% Significance Level
Theta Star	0.149	
nu star	8.058	

		Nonparametric Statistics	
A-D Test Statistic	0.296		
5% A-D Critical Value	0.713	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.713	Mean	0.0422
5% K-S Critical Value	0.34	SD	0.0641
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0165
		95% KM (t) UCL	0.071
Assuming Gamma Distribution		95% KM (z) UCL	0.0694
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0683
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0941
Maximum	0.25	95% KM (BCA) UCL	0.114
Mean	0.0334	95% KM (Percentile Bootstrap) UCL	0.0931
Median	1.00E-06	95% KM (Chebyshev) UCL	0.114
SD	0.0702	97.5% KM (Chebyshev) UCL	0.145
k star	0.135	99% KM (Chebyshev) UCL	0.207
Theta star	0.247		
Nu star	4.868	Potential UCLs to Use	
AppChi2	1.091	95% KM (t) UCL	0.071
95% Gamma Approximate UCL (Use when n >= 40)	0.149	95% KM (Percentile Bootstrap) UCL	0.0931
95% Adjusted Gamma UCL (Use when n < 40)	0.175		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor epoxide

General Statistics			
Number of Valid Data	15	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	9
		Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0045	Minimum Detected	-5.404
Maximum Detected	1.3	Maximum Detected	0.262
Mean of Detected	0.254	Mean of Detected	-3.384
SD of Detected	0.517	SD of Detected	2.216
Minimum Non-Detect	0.00053	Minimum Non-Detect	-7.543
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	80.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.583	Shapiro Wilk Test Statistic	0.871
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.104	Mean	-4.993
SD	0.334	SD	2.245
95% DL/2 (t) UCL	0.256	95% H-Stat (DL/2) UCL	1.741

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-5.833
		SD in Log Scale	2.598
		Mean in Original Scale	0.102
		SD in Original Scale	0.335
		95% t UCL	0.254
		95% Percentile Bootstrap UCL	0.273
		95% BCA Bootstrap UCL	0.363
		95% H-UCL	4.662

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.279	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.909		
nu star	3.35		

		Nonparametric Statistics	
A-D Test Statistic	0.687		
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	0.105
5% K-S Critical Value	0.355	SD	0.322
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0912
		95% KM (t) UCL	0.265
Assuming Gamma Distribution		95% KM (z) UCL	0.255
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.255
Minimum	0.000001	95% KM (bootstrap t) UCL	6.568
Maximum	1.3	95% KM (BCA) UCL	0.289
Mean	0.102	95% KM (Percentile Bootstrap) UCL	0.276
Median	0.000001	95% KM (Chebyshev) UCL	0.502
SD	0.335	97.5% KM (Chebyshev) UCL	0.674
k star	0.132	99% KM (Chebyshev) UCL	1.012
Theta star	0.771		
Nu star	3.953	Potential UCLs to Use	
AppChi2	0.703	95% KM (t) UCL	0.265
95% Gamma Approximate UCL (Use when n >= 40)	0.571		
95% Adjusted Gamma UCL (Use when n < 40)	0.721		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	20

Raw Statistics		Log-transformed Statistics	
Minimum	0.0021	Minimum of Log Data	-6.166
Maximum	4	Maximum of Log Data	1.386
Mean	0.708	Mean of log Data	-1.153
Geometric Mean	0.316	SD of log Data	1.668
Median	0.485		
SD	0.841		
Std. Error of Mean	0.172		
Coefficient of Variation	1.187		
Skewness	2.763		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.715	Shapiro Wilk Test Statistic	0.897
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.002	95% H-UCL	4.349
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.212
95% Adjusted-CLT UCL (Chen-1995)	1.094	97.5% Chebyshev (MVUE) UCL	4.115
95% Modified-t UCL (Johnson-1978)	1.018	99% Chebyshev (MVUE) UCL	5.89

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.677	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.046		
MLE of Mean	0.708		
MLE of Standard Deviation	0.861		
nu star	32.49		
Approximate Chi Square Value (.05)	20.46	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	0.99
Adjusted Chi Square Value	19.79	95% Jackknife UCL	1.002
		95% Standard Bootstrap UCL	0.984
Anderson-Darling Test Statistic	0.345	95% Bootstrap-t UCL	1.173
Anderson-Darling 5% Critical Value	0.783	95% Hall's Bootstrap UCL	2.302
Kolmogorov-Smirnov Test Statistic	0.112	95% Percentile Bootstrap UCL	1.011
Kolmogorov-Smirnov 5% Critical Value	0.185	95% BCA Bootstrap UCL	1.098
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.456
		97.5% Chebyshev(Mean, Sd) UCL	1.78
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.416
95% Approximate Gamma UCL (Use when n >= 40)	1.124		
95% Adjusted Gamma UCL (Use when n < 40)	1.163		

Potential UCL to Use	Use 95% Approximate Gamma UCL	1.124

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	22

Raw Statistics		Log-transformed Statistics	
Minimum	8990	Minimum of Log Data	9.104
Maximum	75600	Maximum of Log Data	11.23
Mean	27385	Mean of log Data	10.07
Geometric Mean	23582	SD of log Data	0.558
Median	26550		
SD	16203		
Std. Error of Mean	3307		
Coefficient of Variation	0.592		
Skewness	1.556		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.851	Shapiro Wilk Test Statistic	0.963
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	33054	95% H-UCL	34892
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	41583
95% Adjusted-CLT UCL (Chen-1995)	33948	97.5% Chebyshev (MVUE) UCL	47743
95% Modified-t UCL (Johnson-1978)	33229	99% Chebyshev (MVUE) UCL	59843

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.092	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	8857		
MLE of Mean	27385		
MLE of Standard Deviation	15574		
nu star	148.4		
Approximate Chi Square Value (.05)	121.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	32825
Adjusted Chi Square Value	119.5	95% Jackknife UCL	33054
		95% Standard Bootstrap UCL	32672
Anderson-Darling Test Statistic	0.413	95% Bootstrap-t UCL	34937
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	37680
Kolmogorov-Smirnov Test Statistic	0.113	95% Percentile Bootstrap UCL	32873
Kolmogorov-Smirnov 5% Critical Value	0.179	95% BCA Bootstrap UCL	33644
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	41802
		97.5% Chebyshev(Mean, Sd) UCL	48040
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	60294
95% Approximate Gamma UCL (Use when n >= 40)	33518		
95% Adjusted Gamma UCL (Use when n < 40)	34002		

Potential UCL to Use	Use 95% Approximate Gamma UCL	33518

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	24

Raw Statistics		Log-transformed Statistics	
Minimum	66.2	Minimum of Log Data	4.193
Maximum	1100	Maximum of Log Data	7.003
Mean	336.4	Mean of log Data	5.585
Geometric Mean	266.3	SD of log Data	0.704
Median	245		
SD	245.3		
Std. Error of Mean	50.08		
Coefficient of Variation	0.729		
Skewness	1.548		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.857	Shapiro Wilk Test Statistic	0.984
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	422.2	95% H-UCL	470.2
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	564
95% Adjusted-CLT UCL (Chen-1995)	435.7	97.5% Chebyshev (MVUE) UCL	662.2
95% Modified-t UCL (Johnson-1978)	424.9	99% Chebyshev (MVUE) UCL	855.1

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.034	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	165.4		
MLE of Mean	336.4		
MLE of Standard Deviation	235.9		
nu star	97.64		
Approximate Chi Square Value (.05)	75.84	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	418.8
Adjusted Chi Square Value	74.49	95% Jackknife UCL	422.2
		95% Standard Bootstrap UCL	417.1
Anderson-Darling Test Statistic	0.333	95% Bootstrap-t UCL	449.8
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	467.6
Kolmogorov-Smirnov Test Statistic	0.126	95% Percentile Bootstrap UCL	421.8
Kolmogorov-Smirnov 5% Critical Value	0.18	95% BCA Bootstrap UCL	439.9
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	554.7
		97.5% Chebyshev(Mean, Sd) UCL	649.1
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	834.7
95% Approximate Gamma UCL (Use when n >= 40)	433.1		
95% Adjusted Gamma UCL (Use when n < 40)	440.9		

Potential UCL to Use	Use 95% Approximate Gamma UCL	433.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	22

Raw Statistics		Log-transformed Statistics	
Minimum	0.0026	Minimum of Log Data	-5.952
Maximum	1.6	Maximum of Log Data	0.47
Mean	0.596	Mean of log Data	-1.454
Geometric Mean	0.234	SD of log Data	1.932
Median	0.395		
SD	0.563		
Std. Error of Mean	0.115		
Coefficient of Variation	0.946		
Skewness	0.637		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.863	Shapiro Wilk Test Statistic	0.846
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.793	95% H-UCL	7.498
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.009
95% Adjusted-CLT UCL (Chen-1995)	0.801	97.5% Chebyshev (MVUE) UCL	5.201
95% Modified-t UCL (Johnson-1978)	0.795	99% Chebyshev (MVUE) UCL	7.544

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.598	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.996		
MLE of Mean	0.596		
MLE of Standard Deviation	0.77		
nu star	28.72		
Approximate Chi Square Value (.05)	17.49	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	0.785
Adjusted Chi Square Value	16.87	95% Jackknife UCL	0.793
		95% Standard Bootstrap UCL	0.775
Anderson-Darling Test Statistic	0.547	95% Bootstrap-t UCL	0.813
Anderson-Darling 5% Critical Value	0.792	95% Hall's Bootstrap UCL	0.79
Kolmogorov-Smirnov Test Statistic	0.14	95% Percentile Bootstrap UCL	0.783
Kolmogorov-Smirnov 5% Critical Value	0.186	95% BCA Bootstrap UCL	0.795
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.097
		97.5% Chebyshev(Mean, Sd) UCL	1.314
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.74
95% Approximate Gamma UCL (Use when n >= 40)	0.978		
95% Adjusted Gamma UCL (Use when n < 40)	1.014		

Potential UCL to Use	Use 95% Approximate Gamma UCL	0.978

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	24

Raw Statistics		Log-transformed Statistics	
Minimum	5.9	Minimum of Log Data	1.775
Maximum	58	Maximum of Log Data	4.06
Mean	23.52	Mean of log Data	2.982
Geometric Mean	19.72	SD of log Data	0.607
Median	20.15		
SD	14.82		
Std. Error of Mean	3.025		
Coefficient of Variation	0.63		
Skewness	1.202		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.862	Shapiro Wilk Test Statistic	0.978
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	28.71	95% H-UCL	30.87
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	36.94
95% Adjusted-CLT UCL (Chen-1995)	29.29	97.5% Chebyshev (MVUE) UCL	42.75
95% Modified-t UCL (Johnson-1978)	28.83	99% Chebyshev (MVUE) UCL	54.17

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.646	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	8.89		
MLE of Mean	23.52		
MLE of Standard Deviation	14.46		
nu star	127		
Approximate Chi Square Value (.05)	102	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	28.5
Adjusted Chi Square Value	100.4	95% Jackknife UCL	28.71
		95% Standard Bootstrap UCL	28.27
Anderson-Darling Test Statistic	0.374	95% Bootstrap-t UCL	29.72
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	29.31
Kolmogorov-Smirnov Test Statistic	0.112	95% Percentile Bootstrap UCL	28.59
Kolmogorov-Smirnov 5% Critical Value	0.179	95% BCA Bootstrap UCL	29.09
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	36.71
		97.5% Chebyshev(Mean, Sd) UCL	42.42
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	53.62
95% Approximate Gamma UCL (Use when n >= 40)	29.3		
95% Adjusted Gamma UCL (Use when n < 40)	29.76		

Potential UCL to Use	Use 95% Approximate Gamma UCL	29.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)			
Number of Valid Data	113	Number of Detected Data	97
Number of Distinct Detected Data	84	Number of Non-Detect Data	16
		Percent Non-Detects	14.16%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.04	Minimum Detected	-3.219
Maximum Detected	235	Maximum Detected	5.46
Mean of Detected	11.78	Mean of Detected	0.549
SD of Detected	33.91	SD of Detected	1.974
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.24	Maximum Non-Detect	-1.427
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	31
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	82
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	27.43%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.365	Lilliefors Test Statistic	0.0636
5% Lilliefors Critical Value	0.09	5% Lilliefors Critical Value	0.09
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	10.11	Mean	-0.0639
SD	31.66	SD	2.382
95% DL/2 (t) UCL	15.05	95% H-Stat (DL/2) UCL	37.7
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.897	Mean in Log Scale	-0.0586
SD	38.48	SD in Log Scale	2.373
95% MLE (t) UCL	7.901	Mean in Original Scale	10.11
95% MLE (Tiku) UCL	8.029	SD in Original Scale	31.66
		95% t UCL	15.05
		95% Percentile Bootstrap UCL	15.31
		95% BCA Bootstrap UCL	16.76
		95% H UCL	36.81
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.347	Data appear Lognormal at 5% Significance Level	
Theta Star	33.97		
nu star	67.25		
A-D Test Statistic	4.998	Nonparametric Statistics	
5% A-D Critical Value	0.855	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.855	Mean	10.11
5% K-S Critical Value	0.098	SD	31.52
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2.981
		95% KM (t) UCL	15.06
Assuming Gamma Distribution		95% KM (z) UCL	15.02
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	15.05
Minimum	1.00E-06	95% KM (bootstrap t) UCL	18.76
Maximum	235	95% KM (BCA) UCL	15.97
Mean	10.11	95% KM (Percentile Bootstrap) UCL	15.52
Median	0.882	95% KM (Chebyshev) UCL	23.11
SD	31.66	97.5% KM (Chebyshev) UCL	28.73
k star	0.195	99% KM (Chebyshev) UCL	39.77
Theta star	51.76		
Nu star	44.14	Potential UCLs to Use	
AppChi2	29.9	97.5% KM (Chebyshev) UCL	28.73
95% Gamma Approximate UCL (Use when n >= 40)	14.92		
95% Adjusted Gamma UCL (Use when n < 40)	15		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

4,4'-DDE

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	19
Number of Distinct Detected Data	19	Number of Non-Detect Data	11
		Percent Non-Detects	36.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0051	Minimum Detected	-5.279
Maximum Detected	5.1	Maximum Detected	1.629
Mean of Detected	0.53	Mean of Detected	-2.479
SD of Detected	1.16	SD of Detected	2.199
Minimum Non-Detect	8.90E-04	Minimum Non-Detect	-7.024
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	19
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	63.33%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.478	Shapiro Wilk Test Statistic	0.911
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.338	Mean	-3.712
SD	0.949	SD	2.597
95% DL/2 (t) UCL	0.633	95% H-Stat (DL/2) UCL	7.583

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.987
		SD in Log Scale	2.728
		Mean in Original Scale	0.337
		SD in Original Scale	0.95
		95% t UCL	0.631
		95% Percentile Bootstrap UCL	0.661
		95% BCA Bootstrap UCL	0.826
		95% H-UCL	10.28

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.34	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	1.558	
nu star	12.93	

A-D Test Statistic	0.881	Nonparametric Statistics	
5% A-D Critical Value	0.83	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.83	Mean	0.338
5% K-S Critical Value	0.214	SD	0.933
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.175
		95% KM (t) UCL	0.636
Assuming Gamma Distribution		95% KM (z) UCL	0.626
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.633
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.179
Maximum	5.1	95% KM (BCA) UCL	0.687
Mean	0.336	95% KM (Percentile Bootstrap) UCL	0.637
Median	0.0084	95% KM (Chebyshev) UCL	1.101
SD	0.95	97.5% KM (Chebyshev) UCL	1.431
k star	0.148	99% KM (Chebyshev) UCL	2.08
Theta star	2.265		
Nu star	8.893	Potential UCLs to Use	
AppChi2	3.263	95% KM (BCA) UCL	0.687
95% Gamma Approximate UCL (Use when n >= 40)	0.915		
95% Adjusted Gamma UCL (Use when n < 40)	0.973		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

4,4'-DDT

General Statistics (Units in mg/kg)

Number of Valid Data	19	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	10
		Percent Non-Detects	52.63%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0037	Minimum Detected	-5.599
Maximum Detected	1.8	Maximum Detected	0.588
Mean of Detected	0.624	Mean of Detected	-2.045
SD of Detected	0.72	SD of Detected	2.426
Minimum Non-Detect	0.0013	Minimum Non-Detect	-6.645
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	5
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	73.68%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.819	Shapiro Wilk Test Statistic	0.862
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.3	Mean	-3.87
SD	0.574	SD	2.633
95% DL/2 (t) UCL	0.528	95% H-Stat (DL/2) UCL	18.99

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.553
		SD in Log Scale	3.048
		Mean in Original Scale	0.296
		SD in Original Scale	0.576
		95% t UCL	0.526
		95% Percentile Bootstrap UCL	0.536
		95% BCA Bootstrap UCL	0.567
		95% H-UCL	91.9

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.351	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.776		
nu star	6.322		

		Nonparametric Statistics	
A-D Test Statistic	0.631		
5% A-D Critical Value	0.786	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.786	Mean	0.299
5% K-S Critical Value	0.297	SD	0.56
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.136
		95% KM (t) UCL	0.535
Assuming Gamma Distribution		95% KM (z) UCL	0.523
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.525
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.637
Maximum	1.8	95% KM (BCA) UCL	0.551
Mean	0.296	95% KM (Percentile Bootstrap) UCL	0.522
Median	1.00E-06	95% KM (Chebyshev) UCL	0.893
SD	0.577	97.5% KM (Chebyshev) UCL	1.149
k star	0.131	99% KM (Chebyshev) UCL	1.654
Theta star	2.258		
Nu star	4.974	Potential UCLs to Use	
AppChi2	1.14	95% KM (t) UCL	0.535
95% Gamma Approximate UCL (Use when n >= 40)	1.289		
95% Adjusted Gamma UCL (Use when n < 40)	1.484		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	14
Number of Distinct Detected Data	12	Number of Non-Detect Data	16
		Percent Non-Detects	53.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0011	Minimum Detected	-6.812
Maximum Detected	0.02	Maximum Detected	-3.912
Mean of Detected	0.00609	Mean of Detected	-5.466
SD of Detected	0.00581	SD of Detected	0.876
Minimum Non-Detect	6.80E-04	Minimum Non-Detect	-7.293
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	30
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.776	Shapiro Wilk Test Statistic	0.957
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.27	Mean	-5
SD	0.554	SD	2.925
95% DL/2 (t) UCL	0.442	95% H-Stat (DL/2) UCL	9.388

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.269
		SD in Log Scale	1.065
		Mean in Original Scale	0.00345
		SD in Original Scale	0.00466
		95% t UCL	0.0049
		95% Percentile Bootstrap UCL	0.00496
		95% BCA Bootstrap UCL	0.00546
		95% H-UCL	0.00555

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.237	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.00492		
nu star	34.65		

A-D Test Statistic	0.481	Nonparametric Statistics	
5% A-D Critical Value	0.751	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.751	Mean	0.00408
5% K-S Critical Value	0.233	SD	0.00491
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00104
		95% KM (t) UCL	0.00585
Assuming Gamma Distribution		95% KM (z) UCL	0.00579
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00571
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.00711
Maximum	0.02	95% KM (BCA) UCL	0.0063
Mean	0.00314	95% KM (Percentile Bootstrap) UCL	0.0059
Median	9.85E-04	95% KM (Chebyshev) UCL	0.00862
SD	0.0049	97.5% KM (Chebyshev) UCL	0.0106
k star	0.239	99% KM (Chebyshev) UCL	0.0145
Theta star	0.0131		
Nu star	14.34	Potential UCLs to Use	
AppChi2	6.805	95% KM (t) UCL	0.00585
95% Gamma Approximate UCL (Use when n >= 40)	0.00662		
95% Adjusted Gamma UCL (Use when n < 40)	0.00692		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	30	Number of Distinct Observations	29

Raw Statistics		Log-transformed Statistics	
Minimum	4230	Minimum of Log Data	8.35
Maximum	22000	Maximum of Log Data	9.999
Mean	9546	Mean of log Data	9.074
Geometric Mean	8725	SD of log Data	0.424
Median	8400		
SD	4359		
Std. Error of Mean	795.8		
Coefficient of Variation	0.457		
Skewness	1.237		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.893	Shapiro Wilk Test Statistic	0.975
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	10898	95% H-UCL	11078
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	12828
95% Adjusted-CLT UCL (Chen-1995)	11047	97.5% Chebyshev (MVUE) UCL	14261
95% Modified-t UCL (Johnson-1978)	10928	99% Chebyshev (MVUE) UCL	17077

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.175	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1845		
MLE of Mean	9546		
MLE of Standard Deviation	4196		
nu star	310.5		
Approximate Chi Square Value (.05)	270.7	Nonparametric Statistics	
Adjusted Level of Significance	0.041	95% CLT UCL	10855
Adjusted Chi Square Value	268.5	95% Jackknife UCL	10898
		95% Standard Bootstrap UCL	10869
Anderson-Darling Test Statistic	0.386	95% Bootstrap-t UCL	11179
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL	11151
Kolmogorov-Smirnov Test Statistic	0.107	95% Percentile Bootstrap UCL	10865
Kolmogorov-Smirnov 5% Critical Value	0.16	95% BCA Bootstrap UCL	11016
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13014
		97.5% Chebyshev(Mean, Sd) UCL	14515
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	17464
95% Approximate Gamma UCL (Use when n >= 40)	10950		
95% Adjusted Gamma UCL (Use when n < 40)	11037		

Potential UCL to Use	Use 95% Approximate Gamma UCL	10950

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	29
Number of Distinct Detected Data	25	Number of Non-Detect Data	1
		Percent Non-Detects	3.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.7	Minimum Detected	-0.357
Maximum Detected	13	Maximum Detected	2.565
Mean of Detected	4.298	Mean of Detected	1.071
SD of Detected	3.854	SD of Detected	0.917
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.812	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.926	5% Shapiro Wilk Critical Value	0.926
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.155	Mean	0.828
SD	3.868	SD	1.607
95% DL/2 (t) UCL	5.355	95% H-Stat (DL/2) UCL	22.43

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.088	Mean in Log Scale	0.994
SD	3.905	SD in Log Scale	0.995
95% MLE (t) UCL	5.299	Mean in Original Scale	4.165
95% MLE (Tiku) UCL	5.246	SD in Original Scale	3.857
		95% t UCL	5.361
		95% Percentile Bootstrap UCL	5.332
		95% BCA Bootstrap UCL	5.466
		95% H UCL	6.998

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.309	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.284	
nu star	75.92	

A-D Test Statistic	0.566	Nonparametric Statistics	
5% A-D Critical Value	0.764	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.764	Mean	4.178
5% K-S Critical Value	0.166	SD	3.779
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.702
		95% KM (t) UCL	5.371
Assuming Gamma Distribution		95% KM (z) UCL	5.333
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.369
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.657
Maximum	13	95% KM (BCA) UCL	5.357
Mean	4.155	95% KM (Percentile Bootstrap) UCL	5.33
Median	2.65	95% KM (Chebyshev) UCL	7.239
SD	3.868	97.5% KM (Chebyshev) UCL	8.564
k star	0.661	99% KM (Chebyshev) UCL	11.17
Theta star	6.285		
Nu star	39.66	Potential UCLs to Use	
AppChi2	26.24	95% KM (Chebyshev) UCL	7.239
95% Gamma Approximate UCL (Use when n >= 40)	6.282		
95% Adjusted Gamma UCL (Use when n < 40)	6.436		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzidine

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	5.4	Minimum of Log Data	1.686
Maximum	14	Maximum of Log Data	2.639
Mean	10.6	Mean of log Data	2.314
Geometric Mean	10.12	SD of log Data	0.353
Median	10.5		
SD	3.245		
Std. Error of Mean	1.325		
Coefficient of Variation	0.306		
Skewness	-0.57		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.922	Shapiro Wilk Test Statistic	0.878
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	13.27	95% H-UCL	15.52
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	17.33
95% Adjusted-CLT UCL (Chen-1995)	12.45	97.5% Chebyshev (MVUE) UCL	20.22
95% Modified-t UCL (Johnson-1978)	13.22	99% Chebyshev (MVUE) UCL	25.89

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.533	Data appear Normal at 5% Significance Level	
Theta Star	1.916		
MLE of Mean	10.6		
MLE of Standard Deviation	4.507		
nu star	66.39		
Approximate Chi Square Value (.05)	48.64	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	12.78
Adjusted Chi Square Value	43.21	95% Jackknife UCL	13.27
		95% Standard Bootstrap UCL	12.62
Anderson-Darling Test Statistic	0.361	95% Bootstrap-t UCL	13.22
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	13.12
Kolmogorov-Smirnov Test Statistic	0.195	95% Percentile Bootstrap UCL	12.53
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	12.2
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16.37
		97.5% Chebyshev(Mean, Sd) UCL	18.87
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23.78
95% Approximate Gamma UCL (Use when n >= 40)	14.47		
95% Adjusted Gamma UCL (Use when n < 40)	16.29		

Potential UCL to Use	Use 95% Student's-t UCL	13.27

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Benzo(a)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	30	Number of Detected Data	27
Number of Distinct Detected Data	26	Number of Non-Detect Data	3
		Percent Non-Detects	10.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0018	Minimum Detected	-6.32
Maximum Detected	6.5	Maximum Detected	1.872
Mean of Detected	0.86	Mean of Detected	-1.172
SD of Detected	1.257	SD of Detected	1.886
Minimum Non-Detect	6.00E-04	Minimum Non-Detect	-7.419
Maximum Non-Detect	6.50E-04	Maximum Non-Detect	-7.339
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	27
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	10.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.595	Shapiro Wilk Test Statistic	0.905
5% Shapiro Wilk Critical Value	0.923	5% Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.774	Mean	-1.863
SD	1.219	SD	2.762
95% DL/2 (t) UCL	1.152	95% H-Stat (DL/2) UCL	100.5
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.693	Mean in Log Scale	-1.573
SD	1.291	SD in Log Scale	2.163
95% MLE (t) UCL	1.093	Mean in Original Scale	0.775
95% MLE (Tiku) UCL	1.07	SD in Original Scale	1.219
		95% t UCL	1.153
		95% Percentile Bootstrap UCL	1.166
		95% BCA Bootstrap UCL	1.363
		95% H UCL	11.61
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.562	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.532		
nu star	30.32		
A-D Test Statistic	0.39	Nonparametric Statistics	
5% A-D Critical Value	0.798	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.798	Mean	0.774
5% K-S Critical Value	0.177	SD	1.198
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.223
		95% KM (t) UCL	1.153
Assuming Gamma Distribution		95% KM (z) UCL	1.141
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.152
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.486
Maximum	6.5	95% KM (BCA) UCL	1.247
Mean	0.774	95% KM (Percentile Bootstrap) UCL	1.174
Median	0.47	95% KM (Chebyshev) UCL	1.746
SD	1.219	97.5% KM (Chebyshev) UCL	2.167
k star	0.305	99% KM (Chebyshev) UCL	2.993
Theta star	2.541		
Nu star	18.28	Potential UCLs to Use	
AppChi2	9.595	95% KM (Chebyshev) UCL	1.746
95% Gamma Approximate UCL (Use when n >= 40)	1.475		
95% Adjusted Gamma UCL (Use when n < 40)	1.533		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	30	Number of Detected Data	25
Number of Distinct Detected Data	22	Number of Non-Detect Data	5
		Percent Non-Detects	16.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0078	Minimum Detected	-4.854
Maximum Detected	5.5	Maximum Detected	1.705
Mean of Detected	0.848	Mean of Detected	-1.046
SD of Detected	1.119	SD of Detected	1.642
Minimum Non-Detect	5.90E-04	Minimum Non-Detect	-7.435
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	29
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	96.67%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.657	Shapiro Wilk Test Statistic	0.927
5% Shapiro Wilk Critical Value	0.918	5% Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.769	Mean	-1.926
SD	1.078	SD	2.883
95% DL/2 (t) UCL	1.103	95% H-Stat (DL/2) UCL	165.7
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.517
		SD in Log Scale	1.897
		Mean in Original Scale	0.715
		SD in Original Scale	1.062
		95% t UCL	1.045
		95% Percentile Bootstrap UCL	1.069
		95% BCA Bootstrap UCL	1.197
		95% H-UCL	5.008
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.631	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.344		
nu star	31.57		
A-D Test Statistic	0.413	Nonparametric Statistics	
5% A-D Critical Value	0.789	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.789	Mean	0.727
5% K-S Critical Value	0.182	SD	1.046
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.196
		95% KM (t) UCL	1.06
Assuming Gamma Distribution		95% KM (z) UCL	1.049
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.057
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.282
Maximum	5.5	95% KM (BCA) UCL	1.11
Mean	0.722	95% KM (Percentile Bootstrap) UCL	1.062
Median	0.438	95% KM (Chebyshev) UCL	1.58
SD	1.06	97.5% KM (Chebyshev) UCL	1.95
k star	0.281	99% KM (Chebyshev) UCL	2.675
Theta star	2.568		
Nu star	16.86	Potential UCLs to Use	
AppChi2	8.571	95% KM (Chebyshev) UCL	1.58
95% Gamma Approximate UCL (Use when n >= 40)	1.419		
95% Adjusted Gamma UCL (Use when n < 40)	1.478		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	27
Number of Distinct Detected Data	23	Number of Non-Detect Data	3
		Percent Non-Detects	10.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0047	Minimum Detected	-5.36
Maximum Detected	8.7	Maximum Detected	2.163
Mean of Detected	1.482	Mean of Detected	-0.539
SD of Detected	1.778	SD of Detected	1.812
Minimum Non-Detect	9.50E-04	Minimum Non-Detect	-6.959
Maximum Non-Detect	0.001	Maximum Non-Detect	-6.908

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	27
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	10.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.724	Shapiro Wilk Test Statistic	0.9
5% Shapiro Wilk Critical Value	0.923	5% Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.334	Mean	-1.248
SD	1.743	SD	2.762
95% DL/2 (t) UCL	1.875	95% H-Stat (DL/2) UCL	185.5

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.223	Mean in Log Scale	-0.924
SD	1.851	SD in Log Scale	2.079
95% MLE (t) UCL	1.797	Mean in Original Scale	1.335
95% MLE (Tiku) UCL	1.771	SD in Original Scale	1.742
		95% t UCL	1.876
		95% Percentile Bootstrap UCL	1.889
		95% BCA Bootstrap UCL	2.06
		95% H UCL	16.55

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.606	Data appear Gamma Distributed at 5% Significance Level
Theta Star	2.445	
nu star	32.74	

A-D Test Statistic	0.454	Nonparametric Statistics	
5% A-D Critical Value	0.793	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.793	Mean	1.334
5% K-S Critical Value	0.176	SD	1.713
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.319
		95% KM (t) UCL	1.876
Assuming Gamma Distribution		95% KM (z) UCL	1.859
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.874
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.208
Maximum	8.7	95% KM (BCA) UCL	1.86
Mean	1.334	95% KM (Percentile Bootstrap) UCL	1.914
Median	0.81	95% KM (Chebyshev) UCL	2.724
SD	1.743	97.5% KM (Chebyshev) UCL	3.325
k star	0.308	99% KM (Chebyshev) UCL	4.506
Theta star	4.336		
Nu star	18.46	Potential UCLs to Use	
AppChi2	9.723	95% KM (Chebyshev) UCL	2.724
95% Gamma Approximate UCL (Use when n >= 40)	2.533		
95% Adjusted Gamma UCL (Use when n < 40)	2.631		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	26
Number of Distinct Detected Data	23	Number of Non-Detect Data	4
		Percent Non-Detects	13.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0025	Minimum Detected	-5.991
Maximum Detected	2.3	Maximum Detected	0.833
Mean of Detected	0.572	Mean of Detected	-1.371
SD of Detected	0.532	SD of Detected	1.755
Minimum Non-Detect	8.30E-04	Minimum Non-Detect	-7.094
Maximum Non-Detect	0.07	Maximum Non-Detect	-2.659

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	20
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.869	Shapiro Wilk Test Statistic	0.858
5% Shapiro Wilk Critical Value	0.92	5% Shapiro Wilk Critical Value	0.92
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.497	Mean	-2.075
SD	0.531	SD	2.548
95% DL/2 (t) UCL	0.662	95% H-Stat (DL/2) UCL	31.6

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.358	Mean in Log Scale	-1.816
SD	0.699	SD in Log Scale	2.007
95% MLE (t) UCL	0.575	Mean in Original Scale	0.497
95% MLE (Tiku) UCL	0.593	SD in Original Scale	0.531
		95% t UCL	0.662
		95% Percentile Bootstrap UCL	0.665
		95% BCA Bootstrap UCL	0.688
		95% H UCL	5.309

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.679	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.842		
nu star	35.32		

A-D Test Statistic	0.799	Nonparametric Statistics	
5% A-D Critical Value	0.785	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.785	Mean	0.497
5% K-S Critical Value	0.178	SD	0.522
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0972
		95% KM (t) UCL	0.662
Assuming Gamma Distribution		95% KM (z) UCL	0.657
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.661
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.703
Maximum	2.3	95% KM (BCA) UCL	0.665
Mean	0.496	95% KM (Percentile Bootstrap) UCL	0.663
Median	0.375	95% KM (Chebyshev) UCL	0.92
SD	0.532	97.5% KM (Chebyshev) UCL	1.104
k star	0.289	99% KM (Chebyshev) UCL	1.464
Theta star	1.714		
Nu star	17.36	Potential UCLs to Use	
AppChi2	8.927	99% KM (Chebyshev) UCL	1.464
95% Gamma Approximate UCL (Use when n >= 40)	0.964		
95% Adjusted Gamma UCL (Use when n < 40)	1.003		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	30	Number of Detected Data	26
Number of Distinct Detected Data	24	Number of Non-Detect Data	4
		Percent Non-Detects	13.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0015	Minimum Detected	-6.502
Maximum Detected	2.5	Maximum Detected	0.916
Mean of Detected	0.543	Mean of Detected	-1.608
SD of Detected	0.616	SD of Detected	1.878
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	2.5	Maximum Non-Detect	0.916

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	29
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	96.67%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.819	Shapiro Wilk Test Statistic	0.918
5% Shapiro Wilk Critical Value	0.92	5% Shapiro Wilk Critical Value	0.92
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.513	Mean	-2.143
SD	0.612	SD	2.557
95% DL/2 (t) UCL	0.702	95% H-Stat (DL/2) UCL	30.68
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.018
		SD in Log Scale	2.118
		Mean in Original Scale	0.475
		SD in Original Scale	0.599
		95% t UCL	0.661
		95% Percentile Bootstrap UCL	0.667
		95% BCA Bootstrap UCL	0.683
		95% H-UCL	6.328
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.571	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.952		
nu star	29.69		
A-D Test Statistic	0.229	Nonparametric Statistics	
5% A-D Critical Value	0.797	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.797	Mean	0.485
5% K-S Critical Value	0.18	SD	0.592
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.111
		95% KM (t) UCL	0.674
Assuming Gamma Distribution		95% KM (z) UCL	0.668
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.674
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.723
Maximum	2.5	95% KM (BCA) UCL	0.69
Mean	0.481	95% KM (Percentile Bootstrap) UCL	0.671
Median	0.265	95% KM (Chebyshev) UCL	0.97
SD	0.597	97.5% KM (Chebyshev) UCL	1.18
k star	0.316	99% KM (Chebyshev) UCL	1.593
Theta star	1.522		
Nu star	18.96	Potential UCLs to Use	
AppChi2	10.09	95% KM (Chebyshev) UCL	0.97
95% Gamma Approximate UCL (Use when n >= 40)	0.904		
95% Adjusted Gamma UCL (Use when n < 40)	0.938		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bis(2-ethylhexyl)phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	27
Number of Distinct Detected Data	27	Number of Non-Detect Data	3
		Percent Non-Detects	10.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.1	Minimum Detected	-2.303
Maximum Detected	350	Maximum Detected	5.858
Mean of Detected	86.46	Mean of Detected	2.897
SD of Detected	108.1	SD of Detected	2.378
Minimum Non-Detect	0.088	Minimum Non-Detect	-2.43
Maximum Non-Detect	0.096	Maximum Non-Detect	-2.343

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	27
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	10.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.792	Shapiro Wilk Test Statistic	0.925
5% Shapiro Wilk Critical Value	0.923	5% Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	77.82	Mean	2.299
SD	105.7	SD	2.899
95% DL/2 (t) UCL	110.6	95% H-Stat (DL/2) UCL	12267

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	71.01	Mean in Log Scale	2.37
SD	112.2	SD in Log Scale	2.767
95% MLE (t) UCL	105.8	Mean in Original Scale	77.82
95% MLE (Tiku) UCL	104.1	SD in Original Scale	105.7
		95% t UCL	110.6
		95% Percentile Bootstrap UCL	108.9
		95% BCA Bootstrap UCL	114.5
		95% H UCL	7081

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.396	Data appear Gamma Distributed at 5% Significance Level
Theta Star	218.1	
nu star	21.41	

A-D Test Statistic	0.506	Nonparametric Statistics	
5% A-D Critical Value	0.826	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.826	Mean	77.82
5% K-S Critical Value	0.18	SD	103.9
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	19.33
		95% KM (t) UCL	110.7
Assuming Gamma Distribution		95% KM (z) UCL	109.6
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	110.6
Minimum	1.00E-06	95% KM (bootstrap t) UCL	118.9
Maximum	350	95% KM (BCA) UCL	111
Mean	77.81	95% KM (Percentile Bootstrap) UCL	109.4
Median	15	95% KM (Chebyshev) UCL	162.1
SD	105.7	97.5% KM (Chebyshev) UCL	198.5
k star	0.229	99% KM (Chebyshev) UCL	270.2
Theta star	339.3		
Nu star	13.76	Potential UCLs to Use	
AppChi2	6.406	95% KM (Chebyshev) UCL	162.1
95% Gamma Approximate UCL (Use when n >= 40)	167.1		
95% Adjusted Gamma UCL (Use when n < 40)	175		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	22
Number of Distinct Detected Data	20	Number of Non-Detect Data	8
		Percent Non-Detects	26.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.81	Minimum Detected	-0.211
Maximum Detected	86.4	Maximum Detected	4.459
Mean of Detected	15.79	Mean of Detected	2.079
SD of Detected	19.02	SD of Detected	1.302
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.002	Maximum Non-Detect	-6.215

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.712	Shapiro Wilk Test Statistic	0.934
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	11.58	Mean	-0.317
SD	17.68	SD	4.191
95% DL/2 (t) UCL	17.06	95% H-Stat (DL/2) UCL	1787913

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	7.61	Mean in Log Scale	1.27
SD	21.79	SD in Log Scale	1.796
95% MLE (t) UCL	14.37	Mean in Original Scale	11.71
95% MLE (Tiku) UCL	14.55	SD in Original Scale	17.59
		95% t UCL	17.16
		95% Percentile Bootstrap UCL	17.68
		95% BCA Bootstrap UCL	19.69
		95% H UCL	59.58

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.776	Data appear Gamma Distributed at 5% Significance Level
Theta Star	20.34	
nu star	34.16	

A-D Test Statistic	0.592	Nonparametric Statistics	
5% A-D Critical Value	0.777	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.777	Mean	11.8
5% K-S Critical Value	0.192	SD	17.24
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	3.222
		95% KM (t) UCL	17.27
Assuming Gamma Distribution		95% KM (z) UCL	17.1
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	17.18
Minimum	1.00E-06	95% KM (bootstrap t) UCL	20.48
Maximum	86.4	95% KM (BCA) UCL	17.49
Mean	11.58	95% KM (Percentile Bootstrap) UCL	17.38
Median	2.55	95% KM (Chebyshev) UCL	25.84
SD	17.68	97.5% KM (Chebyshev) UCL	31.92
k star	0.17	99% KM (Chebyshev) UCL	43.85
Theta star	68		
Nu star	10.22	Potential UCLs to Use	
AppChi2	4.078	95% KM (Chebyshev) UCL	25.84
95% Gamma Approximate UCL (Use when n >= 40)	29.01		
95% Adjusted Gamma UCL (Use when n < 40)	30.68		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

cis-1,2-Dichloroethene

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	19
Number of Distinct Detected Data	16	Number of Non-Detect Data	11
		Percent Non-Detects	36.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.001	Minimum Detected	-6.908
Maximum Detected	61	Maximum Detected	4.111
Mean of Detected	3.707	Mean of Detected	-3.554
SD of Detected	13.96	SD of Detected	3.161
Minimum Non-Detect	5.90E-04	Minimum Non-Detect	-7.435
Maximum Non-Detect	0.093	Maximum Non-Detect	-2.375

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	80.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.294	Shapiro Wilk Test Statistic	0.884
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.355	Mean	-4.236
SD	11.15	SD	2.988
95% DL/2 (t) UCL	5.812	95% H-Stat (DL/2) UCL	27.47

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-5.275
		SD in Log Scale	3.581
		Mean in Original Scale	2.348
		SD in Original Scale	11.15
		95% t UCL	5.806
		95% Percentile Bootstrap UCL	6.408
		95% BCA Bootstrap UCL	8.651
		95% H-UCL	246.9

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.167	Data do not follow a Discernable Distribution (0.05)	
Theta Star	22.16		
nu star	6.356		

A-D Test Statistic	2.637	Nonparametric Statistics	
5% A-D Critical Value	0.904	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.904	Mean	2.35
5% K-S Critical Value	0.221	SD	10.96
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2.056
		95% KM (t) UCL	5.843
Assuming Gamma Distribution		95% KM (z) UCL	5.731
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.807
Minimum	1.00E-06	95% KM (bootstrap t) UCL	62.35
Maximum	61	95% KM (BCA) UCL	6.413
Mean	2.348	95% KM (Percentile Bootstrap) UCL	6.349
Median	0.0018	95% KM (Chebyshev) UCL	11.31
SD	11.15	97.5% KM (Chebyshev) UCL	15.19
k star	0.112	99% KM (Chebyshev) UCL	22.8
Theta star	21.01		
Nu star	6.705	Potential UCLs to Use	
AppChi2	2.01	99% KM (Chebyshev) UCL	22.8
95% Gamma Approximate UCL (Use when n >= 40)	7.832		
95% Adjusted Gamma UCL (Use when n < 40)	8.439		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	30	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	2	Minimum of Log Data	0.693
Maximum	15	Maximum of Log Data	2.708
Mean	7.223	Mean of log Data	1.847
Geometric Mean	6.338	SD of log Data	0.528
Median	6.25		
SD	3.751		
Std. Error of Mean	0.685		
Coefficient of Variation	0.519		
Skewness	0.793		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.897	Shapiro Wilk Test Statistic	0.964
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	8.387	95% H-UCL	8.844
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	10.44
95% Adjusted-CLT UCL (Chen-1995)	8.456	97.5% Chebyshev (MVUE) UCL	11.83
95% Modified-t UCL (Johnson-1978)	8.404	99% Chebyshev (MVUE) UCL	14.54

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.607	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.003		
MLE of Mean	7.223		
MLE of Standard Deviation	3.804		
nu star	216.4		
Approximate Chi Square Value (.05)	183.4	Nonparametric Statistics	
Adjusted Level of Significance	0.041	95% CLT UCL	8.35
Adjusted Chi Square Value	181.6	95% Jackknife UCL	8.387
		95% Standard Bootstrap UCL	8.343
Anderson-Darling Test Statistic	0.5	95% Bootstrap-t UCL	8.489
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	8.482
Kolmogorov-Smirnov Test Statistic	0.124	95% Percentile Bootstrap UCL	8.38
Kolmogorov-Smirnov 5% Critical Value	0.161	95% BCA Bootstrap UCL	8.473
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	10.21
		97.5% Chebyshev(Mean, Sd) UCL	11.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	14.04
95% Approximate Gamma UCL (Use when n >= 40)	8.525		
95% Adjusted Gamma UCL (Use when n < 40)	8.607		

Potential UCL to Use	Use 95% Approximate Gamma UCL	8.525

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	19
Number of Distinct Detected Data	18	Number of Non-Detect Data	11
		Percent Non-Detects	36.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0012	Minimum Detected	-6.725
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.157	Mean of Detected	-2.837
SD of Detected	0.232	SD of Detected	1.684
Minimum Non-Detect	8.30E-04	Minimum Non-Detect	-7.094
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	30
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.649	Shapiro Wilk Test Statistic	0.967
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.367	Mean	-2.898
SD	0.54	SD	2.66
95% DL/2 (t) UCL	0.535	95% H-Stat (DL/2) UCL	22.51

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.552
		SD in Log Scale	1.864
		Mean in Original Scale	0.107
		SD in Original Scale	0.195
		95% t UCL	0.167
		95% Percentile Bootstrap UCL	0.169
		95% BCA Bootstrap UCL	0.196
		95% H-UCL	0.591

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.559	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.281	
nu star	21.24	

A-D Test Statistic	0.224	Nonparametric Statistics	
5% A-D Critical Value	0.791	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.791	Mean	0.125
5% K-S Critical Value	0.208	SD	0.21
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0441
		95% KM (t) UCL	0.2
Assuming Gamma Distribution		95% KM (z) UCL	0.198
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.199
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.278
Maximum	1	95% KM (BCA) UCL	0.206
Mean	0.113	95% KM (Percentile Bootstrap) UCL	0.201
Median	0.0573	95% KM (Chebyshev) UCL	0.317
SD	0.194	97.5% KM (Chebyshev) UCL	0.4
k star	0.249	99% KM (Chebyshev) UCL	0.564
Theta star	0.456		
Nu star	14.92	Potential UCLs to Use	
AppChi2	7.203	95% KM (BCA) UCL	0.206
95% Gamma Approximate UCL (Use when n >= 40)	0.235		
95% Adjusted Gamma UCL (Use when n < 40)	0.245		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	12
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0083	Minimum Detected	-4.791
Maximum Detected	4	Maximum Detected	1.386
Mean of Detected	0.792	Mean of Detected	-1.566
SD of Detected	1.178	SD of Detected	2.064
Minimum Non-Detect	9.10E-04	Minimum Non-Detect	-7.002
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	62.50%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.711	Shapiro Wilk Test Statistic	0.939
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.4	Mean	-3.755
SD	0.908	SD	2.916
95% DL/2 (t) UCL	0.717	95% H-Stat (DL/2) UCL	51.72

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.045
		SD in Log Scale	2.965
		Mean in Original Scale	0.397
		SD in Original Scale	0.909
		95% t UCL	0.715
		95% Percentile Bootstrap UCL	0.719
		95% BCA Bootstrap UCL	0.872
		95% H-UCL	49.96

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.415	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.908	
nu star	9.965	

A-D Test Statistic	0.211	Nonparametric Statistics	
5% A-D Critical Value	0.789	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.789	Mean	0.401
5% K-S Critical Value	0.259	SD	0.889
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.189
		95% KM (t) UCL	0.725
Assuming Gamma Distribution		95% KM (z) UCL	0.712
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.717
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.206
Maximum	4	95% KM (BCA) UCL	0.687
Mean	0.396	95% KM (Percentile Bootstrap) UCL	0.744
Median	0.00415	95% KM (Chebyshev) UCL	1.226
SD	0.91	97.5% KM (Chebyshev) UCL	1.584
k star	0.131	99% KM (Chebyshev) UCL	2.285
Theta star	3.032		
Nu star	6.271	Potential UCLs to Use	
AppChi2	1.78	95% KM (t) UCL	0.725
95% Gamma Approximate UCL (Use when n >= 40)	1.395		
95% Adjusted Gamma UCL (Use when n < 40)	1.536		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Di-n-octylphthalate

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	22
Number of Distinct Detected Data	22	Number of Non-Detect Data	8
		Percent Non-Detects	26.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.054	Minimum Detected	-2.919
Maximum Detected	42	Maximum Detected	3.738
Mean of Detected	5.765	Mean of Detected	0.228
SD of Detected	9.488	SD of Detected	2.093
Minimum Non-Detect	0.041	Minimum Non-Detect	-3.194
Maximum Non-Detect	0.052	Maximum Non-Detect	-2.957

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	22
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	26.67%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.634	Shapiro Wilk Test Statistic	0.924
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.234	Mean	-0.842
SD	8.477	SD	2.536
95% DL/2 (t) UCL	6.864	95% H-Stat (DL/2) UCL	103

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.251	Mean in Log Scale	-1.034
SD	10.3	SD in Log Scale	2.781
95% MLE (t) UCL	5.445	Mean in Original Scale	4.231
95% MLE (Tiku) UCL	5.504	SD in Original Scale	8.478
		95% t UCL	6.861
		95% Percentile Bootstrap UCL	6.966
		95% BCA Bootstrap UCL	8.017
		95% H UCL	250.5

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.399	Data appear Gamma Distributed at 5% Significance Level
Theta Star	14.44	
nu star	17.57	

A-D Test Statistic	0.678	Nonparametric Statistics	
5% A-D Critical Value	0.82	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.82	Mean	4.242
5% K-S Critical Value	0.198	SD	8.33
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.557
		95% KM (t) UCL	6.887
Assuming Gamma Distribution		95% KM (z) UCL	6.803
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.865
Minimum	1.00E-06	95% KM (bootstrap t) UCL	8.941
Maximum	42	95% KM (BCA) UCL	7.316
Mean	4.228	95% KM (Percentile Bootstrap) UCL	7.022
Median	0.255	95% KM (Chebyshev) UCL	11.03
SD	8.48	97.5% KM (Chebyshev) UCL	13.96
k star	0.161	99% KM (Chebyshev) UCL	19.73
Theta star	26.24		
Nu star	9.668	Potential UCLs to Use	
AppChi2	3.736	95% KM (Chebyshev) UCL	11.03
95% Gamma Approximate UCL (Use when n >= 40)	10.94		
95% Adjusted Gamma UCL (Use when n < 40)	11.6		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	19
		Percent Non-Detects	63.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0024	Minimum Detected	-6.032
Maximum Detected	2.4	Maximum Detected	0.875
Mean of Detected	0.41	Mean of Detected	-2.476
SD of Detected	0.71	SD of Detected	2.272
Minimum Non-Detect	8.70E-04	Minimum Non-Detect	-7.047
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	7
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	76.67%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.63	Shapiro Wilk Test Statistic	0.95
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.153	Mean	-5.021
SD	0.462	SD	2.67
95% DL/2 (t) UCL	0.297	95% H-Stat (DL/2) UCL	2.82

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.495
		SD in Log Scale	3.483
		Mean in Original Scale	0.151
		SD in Original Scale	0.463
		95% t UCL	0.294
		95% Percentile Bootstrap UCL	0.3
		95% BCA Bootstrap UCL	0.419
		95% H-UCL	40.86

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.361	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.137		
nu star	7.94		

A-D Test Statistic	0.217	Nonparametric Statistics	
5% A-D Critical Value	0.798	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.798	Mean	0.152
5% K-S Critical Value	0.272	SD	0.454
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.087
		95% KM (t) UCL	0.3
Assuming Gamma Distribution		95% KM (z) UCL	0.295
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.296
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.648
Maximum	2.4	95% KM (BCA) UCL	0.325
Mean	0.151	95% KM (Percentile Bootstrap) UCL	0.315
Median	1.00E-06	95% KM (Chebyshev) UCL	0.532
SD	0.463	97.5% KM (Chebyshev) UCL	0.696
k star	0.116	99% KM (Chebyshev) UCL	1.018
Theta star	1.299		
Nu star	6.953	Potential UCLs to Use	
AppChi2	2.145	95% KM (t) UCL	0.3
95% Gamma Approximate UCL (Use when n >= 40)	0.488		
95% Adjusted Gamma UCL (Use when n < 40)	0.525		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor epoxide

General Statistics

Number of Valid Data	19	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	12
		Percent Non-Detects	63.16%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0045	Minimum Detected	-5.404
Maximum Detected	1.6	Maximum Detected	0.47
Mean of Detected	0.446	Mean of Detected	-2.834
SD of Detected	0.694	SD of Detected	2.493
Minimum Non-Detect	5.00E-04	Minimum Non-Detect	-7.601
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017

Note: Data have multiple DLs - Use of KM Method is recommendec	Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	78.95%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.688	Shapiro Wilk Test Statistic	0.857
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.167	Mean	-5.221
SD	0.457	SD	2.701
95% DL/2 (t) UCL	0.348	95% H-Stat (DL/2) UCL	6.993

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.679
		SD in Log Scale	3.472
		Mean in Original Scale	0.165
		SD in Original Scale	0.458
		95% t UCL	0.347
		95% Percentile Bootstrap UCL	0.347
		95% BCA Bootstrap UCL	0.412
		95% H-UCL	155

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.286	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.559	
nu star	4.008	

		Nonparametric Statistics	
A-D Test Statistic	0.653		
5% A-D Critical Value	0.779	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.779	Mean	0.167
5% K-S Critical Value	0.334	SD	0.444
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.11
		95% KM (t) UCL	0.358
Assuming Gamma Distribution		95% KM (z) UCL	0.349
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.348
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.869
Maximum	1.6	95% KM (BCA) UCL	0.404
Mean	0.164	95% KM (Percentile Bootstrap) UCL	0.351
Median	1.00E-06	95% KM (Chebyshev) UCL	0.647
SD	0.458	97.5% KM (Chebyshev) UCL	0.855
k star	0.121	99% KM (Chebyshev) UCL	1.263
Theta star	1.361		
Nu star	4.589	Potential UCLs to Use	
AppChi2	0.967	95% KM (t) UCL	0.358
95% Gamma Approximate UCL (Use when n >= 40)	0.78		
95% Adjusted Gamma UCL (Use when n < 40)	0.905		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	27
Number of Distinct Detected Data	23	Number of Non-Detect Data	3
		Percent Non-Detects	10.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0021	Minimum Detected	-6.166
Maximum Detected	4	Maximum Detected	1.386
Mean of Detected	0.703	Mean of Detected	-1.212
SD of Detected	0.811	SD of Detected	1.763
Minimum Non-Detect	8.50E-04	Minimum Non-Detect	-7.07
Maximum Non-Detect	9.30E-04	Maximum Non-Detect	-6.98

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	27
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	10.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.734	Shapiro Wilk Test Statistic	0.887
5% Shapiro Wilk Critical Value	0.923	5% Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.633	Mean	-1.864
SD	0.797	SD	2.595
95% DL/2 (t) UCL	0.88	95% H-Stat (DL/2) UCL	47.82

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.583	Mean in Log Scale	-1.581
SD	0.847	SD in Log Scale	2.013
95% MLE (t) UCL	0.845	Mean in Original Scale	0.634
95% MLE (Tiku) UCL	0.834	SD in Original Scale	0.797
		95% t UCL	0.881
		95% Percentile Bootstrap UCL	0.89
		95% BCA Bootstrap UCL	0.976
		95% H UCL	6.853

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.649	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.083	
nu star	35.05	

A-D Test Statistic	0.454	Nonparametric Statistics	
5% A-D Critical Value	0.788	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.788	Mean	0.633
5% K-S Critical Value	0.176	SD	0.784
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.146
		95% KM (t) UCL	0.881
Assuming Gamma Distribution		95% KM (z) UCL	0.873
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.88
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.017
Maximum	4	95% KM (BCA) UCL	0.877
Mean	0.633	95% KM (Percentile Bootstrap) UCL	0.885
Median	0.43	95% KM (Chebyshev) UCL	1.269
SD	0.797	97.5% KM (Chebyshev) UCL	1.544
k star	0.325	99% KM (Chebyshev) UCL	2.084
Theta star	1.95		
Nu star	19.47	Potential UCLs to Use	
AppChi2	10.46	95% KM (Chebyshev) UCL	1.269
95% Gamma Approximate UCL (Use when n >= 40)	1.178		
95% Adjusted Gamma UCL (Use when n < 40)	1.222		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	30	Number of Distinct Observations	27

Raw Statistics		Log-transformed Statistics	
Minimum	8990	Minimum of Log Data	9.104
Maximum	75600	Maximum of Log Data	11.23
Mean	26835	Mean of log Data	10.05
Geometric Mean	23248	SD of log Data	0.544
Median	26550		
SD	15400		
Std. Error of Mean	2812		
Coefficient of Variation	0.574		
Skewness	1.496		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.863	Shapiro Wilk Test Statistic	0.961
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	31612	95% H-UCL	32952
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	39008
95% Adjusted-CLT UCL (Chen-1995)	32280	97.5% Chebyshev (MVUE) UCL	44288
95% Modified-t UCL (Johnson-1978)	31740	99% Chebyshev (MVUE) UCL	54660

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.301	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	8130		
MLE of Mean	26835		
MLE of Standard Deviation	14770		
nu star	198		
Approximate Chi Square Value (.05)	166.5	Nonparametric Statistics	
Adjusted Level of Significance	0.041	95% CLT UCL	31459
Adjusted Chi Square Value	164.8	95% Jackknife UCL	31612
		95% Standard Bootstrap UCL	31378
Anderson-Darling Test Statistic	0.497	95% Bootstrap-t UCL	33166
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	33828
Kolmogorov-Smirnov Test Statistic	0.113	95% Percentile Bootstrap UCL	31452
Kolmogorov-Smirnov 5% Critical Value	0.161	95% BCA Bootstrap UCL	32375
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	39090
		97.5% Chebyshev(Mean, Sd) UCL	44393
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	54810
95% Approximate Gamma UCL (Use when n >= 40)	31922		
95% Adjusted Gamma UCL (Use when n < 40)	32244		

Potential UCL to Use	Use 95% Approximate Gamma UCL	31922

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	30	Number of Distinct Observations	30
Raw Statistics		Log-transformed Statistics	
Minimum	38.6	Minimum of Log Data	3.653
Maximum	1100	Maximum of Log Data	7.003
Mean	293.5	Mean of log Data	5.395
Geometric Mean	220.3	SD of log Data	0.787
Median	197.5		
SD	237		
Std. Error of Mean	43.27		
Coefficient of Variation	0.808		
Skewness	1.72		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.835	Shapiro Wilk Test Statistic	0.985
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	367	95% H-UCL	415.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	500.7
95% Adjusted-CLT UCL (Chen-1995)	379.2	97.5% Chebyshev (MVUE) UCL	589.1
95% Modified-t UCL (Johnson-1978)	369.3	99% Chebyshev (MVUE) UCL	762.8
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.726	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	170.1		
MLE of Mean	293.5		
MLE of Standard Deviation	223.4		
nu star	103.5		
Approximate Chi Square Value (.05)	81.06	Nonparametric Statistics	
Adjusted Level of Significance	0.041	95% CLT UCL	364.7
Adjusted Chi Square Value	79.91	95% Jackknife UCL	367
		95% Standard Bootstrap UCL	363.3
Anderson-Darling Test Statistic	0.379	95% Bootstrap-t UCL	386.2
Anderson-Darling 5% Critical Value	0.759	95% Hall's Bootstrap UCL	402.1
Kolmogorov-Smirnov Test Statistic	0.14	95% Percentile Bootstrap UCL	363.6
Kolmogorov-Smirnov 5% Critical Value	0.162	95% BCA Bootstrap UCL	377.6
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	482.1
		97.5% Chebyshev(Mean, Sd) UCL	563.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	724
95% Approximate Gamma UCL (Use when n >= 40)	374.9		
95% Adjusted Gamma UCL (Use when n < 40)	380.2		
Potential UCL to Use		Use 95% Approximate Gamma UCL	374.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	30	Number of Detected Data	27
Number of Distinct Detected Data	25	Number of Non-Detect Data	3
		Percent Non-Detects	10.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0016	Minimum Detected	-6.438
Maximum Detected	1.6	Maximum Detected	0.47
Mean of Detected	0.559	Mean of Detected	-1.633
SD of Detected	0.551	SD of Detected	2.075
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.0011	Maximum Non-Detect	-6.812

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	27
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	10.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.856	Shapiro Wilk Test Statistic	0.848
5% Shapiro Wilk Critical Value	0.923	5% Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.503	Mean	-2.227
SD	0.549	SD	2.672
95% DL/2 (t) UCL	0.673	95% H-Stat (DL/2) UCL	46.55

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.47	Mean in Log Scale	-2.068
SD	0.584	SD in Log Scale	2.374
95% MLE (t) UCL	0.651	Mean in Original Scale	0.503
95% MLE (Tiku) UCL	0.646	SD in Original Scale	0.548
		95% t UCL	0.673
		95% Percentile Bootstrap UCL	0.666
		95% BCA Bootstrap UCL	0.672
		95% H UCL	15.65

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.549	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.019	
nu star	29.62	

		Nonparametric Statistics	
A-D Test Statistic	0.562		
5% A-D Critical Value	0.799	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.799	Mean	0.503
5% K-S Critical Value	0.177	SD	0.539
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.1
		95% KM (t) UCL	0.674
Assuming Gamma Distribution		95% KM (z) UCL	0.668
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.673
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.679
Maximum	1.6	95% KM (BCA) UCL	0.669
Mean	0.503	95% KM (Percentile Bootstrap) UCL	0.66
Median	0.24	95% KM (Chebyshev) UCL	0.941
SD	0.549	97.5% KM (Chebyshev) UCL	1.13
k star	0.307	99% KM (Chebyshev) UCL	1.501
Theta star	1.641		
Nu star	18.39	Potential UCLs to Use	
AppChi2	9.677	95% KM (Chebyshev) UCL	0.941
95% Gamma Approximate UCL (Use when n >= 40)	0.956		
95% Adjusted Gamma UCL (Use when n < 40)	0.994		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	30	Number of Distinct Observations	30
Raw Statistics		Log-transformed Statistics	
Minimum	5.9	Minimum of Log Data	1.775
Maximum	58	Maximum of Log Data	4.06
Mean	22.76	Mean of log Data	2.967
Geometric Mean	19.44	SD of log Data	0.568
Median	18.95		
SD	13.73		
Std. Error of Mean	2.507		
Coefficient of Variation	0.603		
Skewness	1.314		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.861	Shapiro Wilk Test Statistic	0.981
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	27.02	95% H-UCL	28.24
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	33.55
95% Adjusted-CLT UCL (Chen-1995)	27.53	97.5% Chebyshev (MVUE) UCL	38.24
95% Modified-t UCL (Johnson-1978)	27.12	99% Chebyshev (MVUE) UCL	47.46
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.014	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	7.553		
MLE of Mean	22.76		
MLE of Standard Deviation	13.11		
nu star	180.8		
Approximate Chi Square Value (.05)	150.7	Nonparametric Statistics	
Adjusted Level of Significance	0.041	95% CLT UCL	26.88
Adjusted Chi Square Value	149.1	95% Jackknife UCL	27.02
		95% Standard Bootstrap UCL	26.81
Anderson-Darling Test Statistic	0.408	95% Bootstrap-t UCL	28.01
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL	27.76
Kolmogorov-Smirnov Test Statistic	0.103	95% Percentile Bootstrap UCL	26.9
Kolmogorov-Smirnov 5% Critical Value	0.161	95% BCA Bootstrap UCL	27.42
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	33.69
		97.5% Chebyshev(Mean, Sd) UCL	38.42
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	47.7
95% Approximate Gamma UCL (Use when n >= 40)	27.31		
95% Adjusted Gamma UCL (Use when n < 40)	27.6		
Potential UCL to Use		Use 95% Approximate Gamma UCL	27.31

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)

Number of Valid Data	162	Number of Detected Data	132
Number of Distinct Detected Data	103	Number of Non-Detect Data	30
		Percent Non-Detects	18.52%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.035	Minimum Detected	-3.352
Maximum Detected	235	Maximum Detected	5.46
Mean of Detected	11.31	Mean of Detected	0.438
SD of Detected	33.62	SD of Detected	1.995
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	0.24	Maximum Non-Detect	-1.427

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	54
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	108
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.369	Lilliefors Test Statistic	0.0612
5% Lilliefors Critical Value	0.0771	5% Lilliefors Critical Value	0.0771
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	9.223	Mean	-0.355
SD	30.64	SD	2.461
95% DL/2 (t) UCL	13.21	95% H-Stat (DL/2) UCL	29.91

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.363
		SD in Log Scale	2.481
		Mean in Original Scale	9.223
		SD in Original Scale	30.64
		95% t UCL	13.21
		95% Percentile Bootstrap UCL	13.21
		95% BCA Bootstrap UCL	14.77
		95% H-UCL	31.45

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.337	Data appear Lognormal at 5% Significance Level
Theta Star	33.56	
nu star	89	

A-D Test Statistic	7.246	Nonparametric Statistics	
5% A-D Critical Value	0.858	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.858	Mean	9.225
5% K-S Critical Value	0.0877	SD	30.54
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2.409
		95% KM (t) UCL	13.21
Assuming Gamma Distribution		95% KM (z) UCL	13.19
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	13.21
Minimum	1.00E-06	95% KM (bootstrap t) UCL	15.48
Maximum	235	95% KM (BCA) UCL	14.04
Mean	9.219	95% KM (Percentile Bootstrap) UCL	13.36
Median	0.685	95% KM (Chebyshev) UCL	19.73
SD	30.64	97.5% KM (Chebyshev) UCL	24.27
k star	0.171	99% KM (Chebyshev) UCL	33.19
Theta star	53.77		
Nu star	55.55	Potential UCLs to Use	
AppChi2	39.42	97.5% KM (Chebyshev) UCL	24.27
95% Gamma Approximate UCL (Use when n >= 40)	12.99		
95% Adjusted Gamma UCL (Use when n < 40)	13.03		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	29
		Percent Non-Detects	69.05%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0014	Minimum Detected	-6.571
Maximum Detected	0.103	Maximum Detected	-2.273
Mean of Detected	0.0436	Mean of Detected	-3.957
SD of Detected	0.0373	SD of Detected	1.728
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.892	Shapiro Wilk Test Statistic	0.784
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0947	Mean	-3.518
SD	0.253	SD	1.46
95% DL/2 (t) UCL	0.16	95% H-Stat (DL/2) UCL	0.167

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.784
		SD in Log Scale	1.221
		Mean in Original Scale	0.0184
		SD in Original Scale	0.0267
		95% t UCL	0.0253
		95% Percentile Bootstrap UCL	0.0256
		95% BCA Bootstrap UCL	0.0267
		95% H-UCL	0.029

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.612	Data appear Normal at 5% Significance Level	
Theta Star	0.0712		
nu star	15.92		

A-D Test Statistic	0.941	Nonparametric Statistics	
5% A-D Critical Value	0.772	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.772	Mean	0.0248
5% K-S Critical Value	0.246	SD	0.0323
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.00694
		95% KM (t) UCL	0.0365
Assuming Gamma Distribution		95% KM (z) UCL	0.0362
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0364
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0385
Maximum	0.103	95% KM (BCA) UCL	0.0372
Mean	0.0228	95% KM (Percentile Bootstrap) UCL	0.0377
Median	0.0146	95% KM (Chebyshev) UCL	0.0551
SD	0.0273	97.5% KM (Chebyshev) UCL	0.0682
k star	0.276	99% KM (Chebyshev) UCL	0.0939
Theta star	0.0827		
Nu star	23.19	Potential UCLs to Use	
AppChi2	13.24	95% KM (t) UCL	0.0365
95% Gamma Approximate UCL (Use when n >= 40)	0.04	95% KM (Percentile Bootstrap) UCL	0.0377
95% Adjusted Gamma UCL (Use when n < 40)	0.0408		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	42	Number of Distinct Observations	41

Raw Statistics		Log-transformed Statistics	
Minimum	3520	Minimum of Log Data	8.166
Maximum	22200	Maximum of Log Data	10.01
Mean	8355	Mean of log Data	8.915
Geometric Mean	7442	SD of log Data	0.487
Median	8025		
SD	4161		
Std. Error of Mean	642		
Coefficient of Variation	0.498		
Skewness	1.04		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.852	Shapiro Wilk Test Statistic	0.887
Shapiro Wilk Critical Value	0.942	Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	9435	95% H-UCL	9672
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	11213
95% Adjusted-CLT UCL (Chen-1995)	9521	97.5% Chebyshev (MVUE) UCL	12451
95% Modified-t UCL (Johnson-1978)	9452	99% Chebyshev (MVUE) UCL	14883

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.177	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	2000		
MLE of Mean	8355		
MLE of Standard Deviation	4088		
nu star	350.9		
Approximate Chi Square Value (.05)	308.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0443	95% CLT UCL	9411
Adjusted Chi Square Value	307.1	95% Jackknife UCL	9435
		95% Standard Bootstrap UCL	9391
Anderson-Darling Test Statistic	0.754	95% Bootstrap-t UCL	9551
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL	9576
Kolmogorov-Smirnov Test Statistic	0.126	95% Percentile Bootstrap UCL	9450
Kolmogorov-Smirnov 5% Critical Value	0.137	95% BCA Bootstrap UCL	9540
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	11153
		97.5% Chebyshev(Mean, Sd) UCL	12364
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	14742
95% Approximate Gamma UCL (Use when n >= 40)	9503		
95% Adjusted Gamma UCL (Use when n < 40)	9547		

Potential UCL to Use	Use 95% Approximate Gamma UCL	9503

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Observations	42	Number of Distinct Observations	32

Raw Statistics		Log-transformed Statistics	
Minimum	0.41	Minimum of Log Data	-0.892
Maximum	8.7	Maximum of Log Data	2.163
Mean	3.322	Mean of log Data	0.919
Geometric Mean	2.506	SD of log Data	0.827
Median	2.75		
SD	2.252		
Std. Error of Mean	0.347		
Coefficient of Variation	0.678		
Skewness	0.602		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.875	Shapiro Wilk Test Statistic	0.891
Shapiro Wilk Critical Value	0.942	Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	3.907	95% H-UCL	4.674
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	5.669
95% Adjusted-CLT UCL (Chen-1995)	3.928	97.5% Chebyshev (MVUE) UCL	6.612
95% Modified-t UCL (Johnson-1978)	3.912	99% Chebyshev (MVUE) UCL	8.464

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.802	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.843		
MLE of Mean	3.322		
MLE of Standard Deviation	2.475		
nu star	151.4		
Approximate Chi Square Value (.05)	124	Nonparametric Statistics	
Adjusted Level of Significance	0.0443	95% CLT UCL	3.894
Adjusted Chi Square Value	123.1	95% Jackknife UCL	3.907
		95% Standard Bootstrap UCL	3.891
Anderson-Darling Test Statistic	0.436	95% Bootstrap-t UCL	3.971
Anderson-Darling 5% Critical Value	0.761	95% Hall's Bootstrap UCL	3.924
Kolmogorov-Smirnov Test Statistic	0.119	95% Percentile Bootstrap UCL	3.894
Kolmogorov-Smirnov 5% Critical Value	0.138	95% BCA Bootstrap UCL	3.922
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	4.837
		97.5% Chebyshev(Mean, Sd) UCL	5.492
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	6.779
95% Approximate Gamma UCL (Use when n >= 40)	4.058		
95% Adjusted Gamma UCL (Use when n < 40)	4.087		

Potential UCL to Use	Use 95% Approximate Gamma UCL	4.058

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	34
Number of Distinct Detected Data	33	Number of Non-Detect Data	8
		Percent Non-Detects	19.05%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0291	Minimum Detected	-3.537
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.271	Mean of Detected	-1.775
SD of Detected	0.31	SD of Detected	0.983
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	0.088	Maximum Non-Detect	-2.43

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	18
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	24
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	42.86%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.681	Shapiro Wilk Test Statistic	0.974
5% Shapiro Wilk Critical Value	0.933	5% Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.223	Mean	-2.265
SD	0.296	SD	1.409
95% DL/2 (t) UCL	0.3	95% H-Stat (DL/2) UCL	0.524

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.103	Mean in Log Scale	-2.155
SD	0.419	SD in Log Scale	1.204
95% MLE (t) UCL	0.211	Mean in Original Scale	0.224
95% MLE (Tiku) UCL	0.228	SD in Original Scale	0.295
		95% t UCL	0.301
		95% Percentile Bootstrap UCL	0.3
		95% BCA Bootstrap UCL	0.327
		95% H UCL	0.39

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.118	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.242	
nu star	76.04	

		Nonparametric Statistics	
A-D Test Statistic	0.551		
5% A-D Critical Value	0.772	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.772	Mean	0.226
5% K-S Critical Value	0.155	SD	0.291
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0455
		95% KM (t) UCL	0.303
Assuming Gamma Distribution		95% KM (z) UCL	0.301
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.302
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.359
Maximum	1.4	95% KM (BCA) UCL	0.31
Mean	0.219	95% KM (Percentile Bootstrap) UCL	0.309
Median	0.125	95% KM (Chebyshev) UCL	0.424
SD	0.299	97.5% KM (Chebyshev) UCL	0.51
k star	0.271	99% KM (Chebyshev) UCL	0.679
Theta star	0.811		
Nu star	22.72	Potential UCLs to Use	
AppChi2	12.88	95% KM (BCA) UCL	0.31
95% Gamma Approximate UCL (Use when n >= 40)	0.387		
95% Adjusted Gamma UCL (Use when n < 40)	0.395		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	36
Number of Distinct Detected Data	35	Number of Non-Detect Data	6
		Percent Non-Detects	14.29%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0164	Minimum Detected	-4.11
Maximum Detected	1.5	Maximum Detected	0.405
Mean of Detected	0.292	Mean of Detected	-1.727
SD of Detected	0.339	SD of Detected	1.039
Minimum Non-Detect	0.013	Minimum Non-Detect	-4.343
Maximum Non-Detect	0.081	Maximum Non-Detect	-2.513

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	29
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	30.95%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.676	Shapiro Wilk Test Statistic	0.983
5% Shapiro Wilk Critical Value	0.935	5% Shapiro Wilk Critical Value	0.935
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.253	Mean	-2.109
SD	0.328	SD	1.384
95% DL/2 (t) UCL	0.338	95% H-Stat (DL/2) UCL	0.581

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.177	Mean in Log Scale	-2.035
SD	0.41	SD in Log Scale	1.236
95% MLE (t) UCL	0.283	Mean in Original Scale	0.253
95% MLE (Tiku) UCL	0.289	SD in Original Scale	0.328
		95% t UCL	0.339
		95% Percentile Bootstrap UCL	0.345
		95% BCA Bootstrap UCL	0.366
		95% H UCL	0.467

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.068	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.273		
nu star	76.92		

A-D Test Statistic	0.467	Nonparametric Statistics	
5% A-D Critical Value	0.773	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.773	Mean	0.253
5% K-S Critical Value	0.151	SD	0.324
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0507
		95% KM (t) UCL	0.339
Assuming Gamma Distribution		95% KM (z) UCL	0.337
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.338
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.4
Maximum	1.5	95% KM (BCA) UCL	0.347
Mean	0.25	95% KM (Percentile Bootstrap) UCL	0.339
Median	0.148	95% KM (Chebyshev) UCL	0.474
SD	0.33	97.5% KM (Chebyshev) UCL	0.57
k star	0.321	99% KM (Chebyshev) UCL	0.758
Theta star	0.78		
Nu star	26.95	Potential UCLs to Use	
AppChi2	16.11	95% KM (BCA) UCL	0.347
95% Gamma Approximate UCL (Use when n >= 40)	0.419		
95% Adjusted Gamma UCL (Use when n < 40)	0.427		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	37
Number of Distinct Detected Data	36	Number of Non-Detect Data	5
		Percent Non-Detects	11.90%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0202	Minimum Detected	-3.902
Maximum Detected	2.9	Maximum Detected	1.065
Mean of Detected	0.423	Mean of Detected	-1.452
SD of Detected	0.627	SD of Detected	1.079
Minimum Non-Detect	0.017	Minimum Non-Detect	-4.075
Maximum Non-Detect	0.081	Maximum Non-Detect	-2.513
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	31
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	26.19%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.537	Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.936	5% Shapiro Wilk Critical Value	0.936
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.375	Mean	-1.771
SD	0.602	SD	1.364
95% DL/2 (t) UCL	0.531	95% H-Stat (DL/2) UCL	0.781
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.25	Mean in Log Scale	-1.716
SD	0.725	SD in Log Scale	1.253
95% MLE (t) UCL	0.438	Mean in Original Scale	0.376
95% MLE (Tiku) UCL	0.441	SD in Original Scale	0.602
		95% t UCL	0.532
		95% Percentile Bootstrap UCL	0.546
		95% BCA Bootstrap UCL	0.609
		95% H UCL	0.662
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.918	Data appear Lognormal at 5% Significance Level	
Theta Star	0.46		
nu star	67.95		
A-D Test Statistic	1.186	Nonparametric Statistics	
5% A-D Critical Value	0.778	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.778	Mean	0.376
5% K-S Critical Value	0.149	SD	0.594
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.093
		95% KM (t) UCL	0.532
Assuming Gamma Distribution		95% KM (z) UCL	0.529
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.531
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.747
Maximum	2.9	95% KM (BCA) UCL	0.555
Mean	0.372	95% KM (Percentile Bootstrap) UCL	0.547
Median	0.227	95% KM (Chebyshev) UCL	0.781
SD	0.604	97.5% KM (Chebyshev) UCL	0.956
k star	0.339	99% KM (Chebyshev) UCL	1.301
Theta star	1.099		
Nu star	28.46	Potential UCLs to Use	
AppChi2	17.28	95% KM (Chebyshev) UCL	0.781
95% Gamma Approximate UCL (Use when n >= 40)	0.613		
95% Adjusted Gamma UCL (Use when n < 40)	0.624		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	33
Number of Distinct Detected Data	32	Number of Non-Detect Data	9
		Percent Non-Detects	21.43%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0261	Minimum Detected	-3.646
Maximum Detected	1.5	Maximum Detected	0.405
Mean of Detected	0.255	Mean of Detected	-1.807
SD of Detected	0.309	SD of Detected	0.918
Minimum Non-Detect	0.016	Minimum Non-Detect	-4.135
Maximum Non-Detect	0.088	Maximum Non-Detect	-2.43

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	18
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	24
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	42.86%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.62	Shapiro Wilk Test Statistic	0.976
5% Shapiro Wilk Critical Value	0.931	5% Shapiro Wilk Critical Value	0.931
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.205	Mean	-2.296
SD	0.289	SD	1.302
95% DL/2 (t) UCL	0.28	95% H-Stat (DL/2) UCL	0.408

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0853	Mean in Log Scale	-2.208
SD	0.407	SD in Log Scale	1.138
95% MLE (t) UCL	0.191	Mean in Original Scale	0.206
95% MLE (Tiku) UCL	0.207	SD in Original Scale	0.289
		95% t UCL	0.281
		95% Percentile Bootstrap UCL	0.288
		95% BCA Bootstrap UCL	0.311
		95% H UCL	0.328

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.182	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	0.216	
nu star	78.01	

A-D Test Statistic	0.857	Nonparametric Statistics	
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	0.207
5% K-S Critical Value	0.157	SD	0.285
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0446
		95% KM (t) UCL	0.282
Assuming Gamma Distribution		95% KM (z) UCL	0.28
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.281
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.355
Maximum	1.5	95% KM (BCA) UCL	0.288
Mean	0.2	95% KM (Percentile Bootstrap) UCL	0.283
Median	0.117	95% KM (Chebyshev) UCL	0.402
SD	0.292	97.5% KM (Chebyshev) UCL	0.486
k star	0.253	99% KM (Chebyshev) UCL	0.651
Theta star	0.791		
Nu star	21.25	Potential UCLs to Use	
AppChi2	11.78	95% KM (BCA) UCL	0.288
95% Gamma Approximate UCL (Use when n >= 40)	0.361		
95% Adjusted Gamma UCL (Use when n < 40)	0.369		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	41
Number of Distinct Detected Data	38	Number of Non-Detect Data	1
		Percent Non-Detects	2.38%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.15	Minimum Detected	-1.897
Maximum Detected	70.2	Maximum Detected	4.251
Mean of Detected	9.991	Mean of Detected	1.649
SD of Detected	13.57	SD of Detected	1.208
Minimum Non-Detect	0.62	Minimum Non-Detect	-0.478
Maximum Non-Detect	0.62	Maximum Non-Detect	-0.478

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.644	Shapiro Wilk Test Statistic	0.978
5% Shapiro Wilk Critical Value	0.941	5% Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	9.76	Mean	1.582
SD	13.48	SD	1.27
95% DL/2 (t) UCL	13.26	95% H-Stat (DL/2) UCL	18.52

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	9.381	Mean in Log Scale	1.586
SD	13.78	SD in Log Scale	1.262
95% MLE (t) UCL	12.96	Mean in Original Scale	9.761
95% MLE (Tiku) UCL	12.69	SD in Original Scale	13.48
		95% t UCL	13.26
		95% Percentile Bootstrap UCL	13.64
		95% BCA Bootstrap UCL	14.51
		95% H UCL	18.3

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.847	Data appear Gamma Distributed at 5% Significance Level
Theta Star	11.8	
nu star	69.45	

		Nonparametric Statistics	
A-D Test Statistic	0.743		
5% A-D Critical Value	0.783	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.783	Mean	9.756
5% K-S Critical Value	0.143	SD	13.32
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.082
		95% KM (t) UCL	13.26
Assuming Gamma Distribution		95% KM (z) UCL	13.18
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	13.24
Minimum	1.00E-06	95% KM (bootstrap t) UCL	16.04
Maximum	70.2	95% KM (BCA) UCL	13.64
Mean	9.753	95% KM (Percentile Bootstrap) UCL	13.43
Median	4.85	95% KM (Chebyshev) UCL	18.83
SD	13.49	97.5% KM (Chebyshev) UCL	22.76
k star	0.589	99% KM (Chebyshev) UCL	30.47
Theta star	16.56		
Nu star	49.48	Potential UCLs to Use	
AppChi2	34.33	95% KM (Chebyshev) UCL	18.83
95% Gamma Approximate UCL (Use when n >= 40)	14.06		
95% Adjusted Gamma UCL (Use when n < 40)	14.24		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	22
Number of Distinct Detected Data	20	Number of Non-Detect Data	20
		Percent Non-Detects	47.62%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3.1	Minimum Detected	1.131
Maximum Detected	19.1	Maximum Detected	2.95
Mean of Detected	7.573	Mean of Detected	1.888
SD of Detected	4.176	SD of Detected	0.533
Minimum Non-Detect	6	Minimum Non-Detect	1.792
Maximum Non-Detect	13	Maximum Non-Detect	2.565

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	40
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.24%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.885	Shapiro Wilk Test Statistic	0.943
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.874	Mean	1.638
SD	3.55	SD	0.488
95% DL/2 (t) UCL	6.796	95% H-Stat (DL/2) UCL	6.695

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	1.718
		SD in Log Scale	0.429
		Mean in Original Scale	6.183
		SD in Original Scale	3.35
		95% t UCL	7.053
		95% Percentile Bootstrap UCL	7.076
		95% BCA Bootstrap UCL	7.245
		95% H-UCL	6.918

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	3.323	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.279		
nu star	146.2		

A-D Test Statistic	0.534	Nonparametric Statistics	
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	6.133
5% K-S Critical Value	0.186	SD	3.463
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.582
		95% KM (t) UCL	7.113
Assuming Gamma Distribution		95% KM (z) UCL	7.091
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	7.111
Minimum	3.1	95% KM (bootstrap t) UCL	7.328
Maximum	19.1	95% KM (BCA) UCL	7.092
Mean	6.704	95% KM (Percentile Bootstrap) UCL	7.09
Median	5.839	95% KM (Chebyshev) UCL	8.672
SD	3.202	97.5% KM (Chebyshev) UCL	9.77
k star	5.364	99% KM (Chebyshev) UCL	11.93
Theta star	1.25		
Nu star	450.6	Potential UCLs to Use	
AppChi2	402.4	95% KM (t) UCL	7.113
95% Gamma Approximate UCL (Use when n >= 40)	7.507		
95% Adjusted Gamma UCL (Use when n < 40)	7.537		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	21
Number of Distinct Detected Data	21	Number of Non-Detect Data	21
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.027	Minimum Detected	-3.612
Maximum Detected	0.129	Maximum Detected	-2.048
Mean of Detected	0.0662	Mean of Detected	-2.839
SD of Detected	0.0327	SD of Detected	0.521
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.903	Shapiro Wilk Test Statistic	0.91
5% Shapiro Wilk Critical Value	0.908	5% Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.104	Mean	-3.097
SD	0.251	SD	1.086
95% DL/2 (t) UCL	0.17	95% H-Stat (DL/2) UCL	0.124

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.207
		SD in Log Scale	0.575
		Mean in Original Scale	0.0479
		SD in Original Scale	0.0302
		95% t UCL	0.0558
		95% Percentile Bootstrap UCL	0.0557
		95% BCA Bootstrap UCL	0.0562
		95% H-UCL	0.0569

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	3.61	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.0183		
nu star	151.6		

A-D Test Statistic	0.794	Nonparametric Statistics	
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	0.0514
5% K-S Critical Value	0.19	SD	0.0299
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.00516
		95% KM (t) UCL	0.0601
Assuming Gamma Distribution		95% KM (z) UCL	0.0599
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0599
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0615
Maximum	0.129	95% KM (BCA) UCL	0.0612
Mean	0.0428	95% KM (Percentile Bootstrap) UCL	0.0608
Median	0.0369	95% KM (Chebyshev) UCL	0.0739
SD	0.0359	97.5% KM (Chebyshev) UCL	0.0837
k star	0.302	99% KM (Chebyshev) UCL	0.103
Theta star	0.142		
Nu star	25.34	Potential UCLs to Use	
AppChi2	14.87	95% KM (t) UCL	0.0601
95% Gamma Approximate UCL (Use when n >= 40)	0.073		
95% Adjusted Gamma UCL (Use when n < 40)	0.0744		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	32
Number of Distinct Detected Data	31	Number of Non-Detect Data	10
		Percent Non-Detects	23.81%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0341	Minimum Detected	-3.378
Maximum Detected	1.2	Maximum Detected	0.182
Mean of Detected	0.244	Mean of Detected	-1.792
SD of Detected	0.263	SD of Detected	0.869
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	0.088	Maximum Non-Detect	-2.43

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	19
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	23
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	45.24%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.662	Shapiro Wilk Test Statistic	0.967
5% Shapiro Wilk Critical Value	0.93	5% Shapiro Wilk Critical Value	0.93
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.192	Mean	-2.326
SD	0.247	SD	1.296
95% DL/2 (t) UCL	0.256	95% H-Stat (DL/2) UCL	0.391

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0833	Mean in Log Scale	-2.195
SD	0.357	SD in Log Scale	1.072
95% MLE (t) UCL	0.176	Mean in Original Scale	0.194
95% MLE (Tiku) UCL	0.193	SD in Original Scale	0.246
		95% t UCL	0.258
		95% Percentile Bootstrap UCL	0.258
		95% BCA Bootstrap UCL	0.277
		95% H UCL	0.297

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.338	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.182	
nu star	85.62	

		Nonparametric Statistics	
A-D Test Statistic	0.692		
5% A-D Critical Value	0.765	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.765	Mean	0.196
5% K-S Critical Value	0.158	SD	0.242
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0379
		95% KM (t) UCL	0.26
Assuming Gamma Distribution		95% KM (z) UCL	0.258
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.258
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.306
Maximum	1.2	95% KM (BCA) UCL	0.267
Mean	0.186	95% KM (Percentile Bootstrap) UCL	0.262
Median	0.133	95% KM (Chebyshev) UCL	0.361
SD	0.252	97.5% KM (Chebyshev) UCL	0.433
k star	0.239	99% KM (Chebyshev) UCL	0.573
Theta star	0.778		
Nu star	20.09	Potential UCLs to Use	
AppChi2	10.92	95% KM (BCA) UCL	0.267
95% Gamma Approximate UCL (Use when n >= 40)	0.342		
95% Adjusted Gamma UCL (Use when n < 40)	0.35		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	42	Number of Distinct Observations	38

Raw Statistics		Log-transformed Statistics	
Minimum	4530	Minimum of Log Data	8.418
Maximum	28500	Maximum of Log Data	10.26
Mean	12273	Mean of log Data	9.306
Geometric Mean	11001	SD of log Data	0.474
Median	11400		
SD	5868		
Std. Error of Mean	905.4		
Coefficient of Variation	0.478		
Skewness	0.774		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.857	Shapiro Wilk Test Statistic	0.886
Shapiro Wilk Critical Value	0.942	Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	13796	95% H-UCL	14147
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16357
95% Adjusted-CLT UCL (Chen-1995)	13878	97.5% Chebyshev (MVUE) UCL	18124
95% Modified-t UCL (Johnson-1978)	13814	99% Chebyshev (MVUE) UCL	21595

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.41	Data do not follow a Discernable Distribution (0.05)	
Theta Star	2783		
MLE of Mean	12273		
MLE of Standard Deviation	5844		
nu star	370.4		
Approximate Chi Square Value (.05)	326.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0443	95% CLT UCL	13762
Adjusted Chi Square Value	325.4	95% Jackknife UCL	13796
		95% Standard Bootstrap UCL	13761
Anderson-Darling Test Statistic	0.964	95% Bootstrap-t UCL	13991
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL	13955
Kolmogorov-Smirnov Test Statistic	0.151	95% Percentile Bootstrap UCL	13801
Kolmogorov-Smirnov 5% Critical Value	0.137	95% BCA Bootstrap UCL	13905
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16219
		97.5% Chebyshev(Mean, Sd) UCL	17927
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	21281
95% Approximate Gamma UCL (Use when n >= 40)	13910		
95% Adjusted Gamma UCL (Use when n < 40)	13972		

Potential UCL to Use	Use 95% Student's-t UCL	13796
	or 95% Modified-t UCL	13814

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	42	Number of Distinct Observations	41

Raw Statistics		Log-transformed Statistics	
Minimum	38.5	Minimum of Log Data	3.651
Maximum	1125	Maximum of Log Data	7.026
Mean	213	Mean of log Data	5.013
Geometric Mean	150.4	SD of log Data	0.782
Median	129.5		
SD	223.3		
Std. Error of Mean	34.46		
Coefficient of Variation	1.048		
Skewness	2.443		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.669	Shapiro Wilk Test Statistic	0.906
Shapiro Wilk Critical Value	0.942	Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	271	95% H-UCL	264.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	320.4
95% Adjusted-CLT UCL (Chen-1995)	283.6	97.5% Chebyshev (MVUE) UCL	371.5
95% Modified-t UCL (Johnson-1978)	273.2	99% Chebyshev (MVUE) UCL	471.8

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.485	Data do not follow a Discernable Distribution (0.05)	
Theta Star	143.5		
MLE of Mean	213		
MLE of Standard Deviation	174.8		
nu star	124.7		
Approximate Chi Square Value (.05)	99.92	Nonparametric Statistics	
Adjusted Level of Significance	0.0443	95% CLT UCL	269.7
Adjusted Chi Square Value	99.13	95% Jackknife UCL	271
		95% Standard Bootstrap UCL	268.6
Anderson-Darling Test Statistic	1.959	95% Bootstrap-t UCL	292.9
Anderson-Darling 5% Critical Value	0.765	95% Hall's Bootstrap UCL	293.2
Kolmogorov-Smirnov Test Statistic	0.17	95% Percentile Bootstrap UCL	271.3
Kolmogorov-Smirnov 5% Critical Value	0.139	95% BCA Bootstrap UCL	282.5
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	363.2
		97.5% Chebyshev(Mean, Sd) UCL	428.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	555.9
95% Approximate Gamma UCL (Use when n >= 40)	265.9		
95% Adjusted Gamma UCL (Use when n < 40)	268		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	363.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	33
Number of Distinct Detected Data	32	Number of Non-Detect Data	9
		Percent Non-Detects	21.43%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0187	Minimum Detected	-3.979
Maximum Detected	1.2	Maximum Detected	0.182
Mean of Detected	0.213	Mean of Detected	-2.009
SD of Detected	0.249	SD of Detected	0.971
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	0.088	Maximum Non-Detect	-2.43

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	22
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	47.62%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.66	Shapiro Wilk Test Statistic	0.981
5% Shapiro Wilk Critical Value	0.931	5% Shapiro Wilk Critical Value	0.931
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.172	Mean	-2.463
SD	0.234	SD	1.291
95% DL/2 (t) UCL	0.233	95% H-Stat (DL/2) UCL	0.338

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0598	Mean in Log Scale	-2.409
SD	0.344	SD in Log Scale	1.182
95% MLE (t) UCL	0.149	Mean in Original Scale	0.172
95% MLE (Tiku) UCL	0.168	SD in Original Scale	0.233
		95% t UCL	0.233
		95% Percentile Bootstrap UCL	0.236
		95% BCA Bootstrap UCL	0.252
		95% H UCL	0.29

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.135	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.187	
nu star	74.91	

		Nonparametric Statistics	
A-D Test Statistic	0.586		
5% A-D Critical Value	0.771	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.771	Mean	0.173
5% K-S Critical Value	0.157	SD	0.23
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0361
		95% KM (t) UCL	0.234
Assuming Gamma Distribution		95% KM (z) UCL	0.232
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.233
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.269
Maximum	1.2	95% KM (BCA) UCL	0.235
Mean	0.167	95% KM (Percentile Bootstrap) UCL	0.234
Median	0.105	95% KM (Chebyshev) UCL	0.33
SD	0.237	97.5% KM (Chebyshev) UCL	0.398
k star	0.255	99% KM (Chebyshev) UCL	0.532
Theta star	0.656		
Nu star	21.39	Potential UCLs to Use	
AppChi2	11.89	95% KM (BCA) UCL	0.235
95% Gamma Approximate UCL (Use when n >= 40)	0.301		
95% Adjusted Gamma UCL (Use when n < 40)	0.307		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Thallium

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	28
Number of Distinct Detected Data	23	Number of Non-Detect Data	14
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.028	Minimum Detected	-3.576
Maximum Detected	0.16	Maximum Detected	-1.833
Mean of Detected	0.0766	Mean of Detected	-2.651
SD of Detected	0.031	SD of Detected	0.423
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.61	Maximum Non-Detect	-0.494

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.957	Shapiro Wilk Test Statistic	0.975
5% Shapiro Wilk Critical Value	0.924	5% Shapiro Wilk Critical Value	0.924
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0657	Mean	-3.59
SD	0.0664	SD	1.74
95% DL/2 (t) UCL	0.0829	95% H-Stat (DL/2) UCL	0.306

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.947
		SD in Log Scale	0.576
		Mean in Original Scale	0.0613
		SD in Original Scale	0.0339
		95% t UCL	0.0701
		95% Percentile Bootstrap UCL	0.07
		95% BCA Bootstrap UCL	0.0707
		95% H-UCL	0.0739

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	5.592	Data appear Normal at 5% Significance Level	
Theta Star	0.0137		
nu star	313.2		

A-D Test Statistic	0.285	Nonparametric Statistics	
5% A-D Critical Value	0.748	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.748	Mean	0.0621
5% K-S Critical Value	0.166	SD	0.0338
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00545
		95% KM (t) UCL	0.0712
Assuming Gamma Distribution		95% KM (z) UCL	0.071
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0702
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0714
Maximum	0.16	95% KM (BCA) UCL	0.0746
Mean	0.054	95% KM (Percentile Bootstrap) UCL	0.0722
Median	0.0562	95% KM (Chebyshev) UCL	0.0858
SD	0.0426	97.5% KM (Chebyshev) UCL	0.0961
k star	0.257	99% KM (Chebyshev) UCL	0.116
Theta star	0.21		
Nu star	21.58	Potential UCLs to Use	
AppChi2	12.02	95% KM (t) UCL	0.0712
95% Gamma Approximate UCL (Use when n >= 40)	0.0968	95% KM (Percentile Bootstrap) UCL	0.0722
95% Adjusted Gamma UCL (Use when n < 40)	0.0989		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	42	Number of Distinct Observations	39

Raw Statistics		Log-transformed Statistics	
Minimum	6	Minimum of Log Data	1.792
Maximum	54.3	Maximum of Log Data	3.995
Mean	21.21	Mean of log Data	2.877
Geometric Mean	17.76	SD of log Data	0.612
Median	16.5		
SD	12.58		
Std. Error of Mean	1.941		
Coefficient of Variation	0.593		
Skewness	0.729		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.847	Shapiro Wilk Test Statistic	0.882
Shapiro Wilk Critical Value	0.942	Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	24.47	95% H-UCL	25.89
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	30.7
95% Adjusted-CLT UCL (Chen-1995)	24.63	97.5% Chebyshev (MVUE) UCL	34.76
95% Modified-t UCL (Johnson-1978)	24.51	99% Chebyshev (MVUE) UCL	42.74

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.779	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	7.632		
MLE of Mean	21.21		
MLE of Standard Deviation	12.72		
nu star	233.4		
Approximate Chi Square Value (.05)	199	Nonparametric Statistics	
Adjusted Level of Significance	0.0443	95% CLT UCL	24.4
Adjusted Chi Square Value	197.9	95% Jackknife UCL	24.47
		95% Standard Bootstrap UCL	24.3
Anderson-Darling Test Statistic	0.88	95% Bootstrap-t UCL	24.89
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL	24.55
Kolmogorov-Smirnov Test Statistic	0.111	95% Percentile Bootstrap UCL	24.27
Kolmogorov-Smirnov 5% Critical Value	0.137	95% BCA Bootstrap UCL	24.58
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	29.67
		97.5% Chebyshev(Mean, Sd) UCL	33.33
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	40.52
95% Approximate Gamma UCL (Use when n >= 40)	24.87		
95% Adjusted Gamma UCL (Use when n < 40)	25.01		

Potential UCL to Use	Use 95% Approximate Gamma UCL	24.87

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	106	Number of Distinct Observations	98

Raw Statistics		Log-transformed Statistics	
Minimum	3520	Minimum of Log Data	8.166
Maximum	22200	Maximum of Log Data	10.01
Mean	7803	Mean of log Data	8.882
Geometric Mean	7201	SD of log Data	0.394
Median	7030		
SD	3382		
Std. Error of Mean	328.4		
Coefficient of Variation	0.433		
Skewness	1.5		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.13	Lilliefors Test Statistic	0.0636
Lilliefors Critical Value	0.0861	Lilliefors Critical Value	0.0861
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	8348	95% H-UCL	8331
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9117
95% Adjusted-CLT UCL (Chen-1995)	8394	97.5% Chebyshev (MVUE) UCL	9698
95% Modified-t UCL (Johnson-1978)	8356	99% Chebyshev (MVUE) UCL	10838

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	6.223	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	1254		
MLE of Mean	7803		
MLE of Standard Deviation	3128		
nu star	1319		
Approximate Chi Square Value (.05)	1236	Nonparametric Statistics	
Adjusted Level of Significance	0.0477	95% CLT UCL	8343
Adjusted Chi Square Value	1235	95% Jackknife UCL	8348
		95% Standard Bootstrap UCL	8321
Anderson-Darling Test Statistic	1.009	95% Bootstrap-t UCL	8394
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	8383
Kolmogorov-Smirnov Test Statistic	0.0862	95% Percentile Bootstrap UCL	8318
Kolmogorov-Smirnov 5% Critical Value	0.088	95% BCA Bootstrap UCL	8368
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9234
		97.5% Chebyshev(Mean, Sd) UCL	9854
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	11070
95% Approximate Gamma UCL (Use when n >= 40)	8329		
95% Adjusted Gamma UCL (Use when n < 40)	8336		

Potential UCL to Use	Use 95% Approximate Gamma UCL	8329

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Observations	106	Number of Distinct Observations	67
Raw Statistics		Log-transformed Statistics	
Minimum	0.41	Minimum of Log Data	-0.892
Maximum	12.2	Maximum of Log Data	2.501
Mean	2.916	Mean of log Data	0.752
Geometric Mean	2.122	SD of log Data	0.81
Median	1.95		
SD	2.398		
Std. Error of Mean	0.233		
Coefficient of Variation	0.822		
Skewness	1.345		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.191	Lilliefors Test Statistic	0.0923
Lilliefors Critical Value	0.0861	Lilliefors Critical Value	0.0861
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	3.302	95% H-UCL	3.463
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.079
95% Adjusted-CLT UCL (Chen-1995)	3.331	97.5% Chebyshev (MVUE) UCL	4.574
95% Modified-t UCL (Johnson-1978)	3.307	99% Chebyshev (MVUE) UCL	5.547
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.678	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.737		
MLE of Mean	2.916		
MLE of Standard Deviation	2.251		
nu star	355.8		
Approximate Chi Square Value (.05)	313.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0477	95% CLT UCL	3.299
Adjusted Chi Square Value	312.5	95% Jackknife UCL	3.302
		95% Standard Bootstrap UCL	3.3
Anderson-Darling Test Statistic	1.804	95% Bootstrap-t UCL	3.341
Anderson-Darling 5% Critical Value	0.768	95% Hall's Bootstrap UCL	3.341
Kolmogorov-Smirnov Test Statistic	0.118	95% Percentile Bootstrap UCL	3.319
Kolmogorov-Smirnov 5% Critical Value	0.0893	95% BCA Bootstrap UCL	3.33
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.931
		97.5% Chebyshev(Mean, Sd) UCL	4.37
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.233
95% Approximate Gamma UCL (Use when n >= 40)	3.314		
95% Adjusted Gamma UCL (Use when n < 40)	3.319		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	3.931

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	106	Number of Detected Data	49
Number of Distinct Detected Data	47	Number of Non-Detect Data	57
		Percent Non-Detects	53.77%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0248	Minimum Detected	-3.697
Maximum Detected	2.3	Maximum Detected	0.833
Mean of Detected	0.313	Mean of Detected	-1.746
SD of Detected	0.415	SD of Detected	1.081
Minimum Non-Detect	6.10E-04	Minimum Non-Detect	-7.402
Maximum Non-Detect	0.092	Maximum Non-Detect	-2.386
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	71
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	35
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	66.98%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.652	Shapiro Wilk Test Statistic	0.977
5% Shapiro Wilk Critical Value	0.947	5% Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.156	Mean	-3.126
SD	0.316	SD	1.705
95% DL/2 (t) UCL	0.207	95% H-Stat (DL/2) UCL	0.307
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.22
		SD in Log Scale	1.665
		Mean in Original Scale	0.152
		SD in Original Scale	0.318
		95% t UCL	0.204
		95% Percentile Bootstrap UCL	0.207
		95% BCA Bootstrap UCL	0.219
		95% H-UCL	0.256
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.944	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.331		
nu star	92.54		
A-D Test Statistic	0.938	Nonparametric Statistics	
5% A-D Critical Value	0.78	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.78	Mean	0.159
5% K-S Critical Value	0.13	SD	0.313
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0308
		95% KM (t) UCL	0.21
Assuming Gamma Distribution		95% KM (z) UCL	0.21
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.208
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.23
Maximum	2.3	95% KM (BCA) UCL	0.216
Mean	0.144	95% KM (Percentile Bootstrap) UCL	0.216
Median	1.00E-06	95% KM (Chebyshev) UCL	0.293
SD	0.321	97.5% KM (Chebyshev) UCL	0.351
k star	0.128	99% KM (Chebyshev) UCL	0.465
Theta star	1.13		
Nu star	27.11	Potential UCLs to Use	
AppChi2	16.24	95% KM (t) UCL	0.21
95% Gamma Approximate UCL (Use when n >= 40)	0.241		
95% Adjusted Gamma UCL (Use when n < 40)	0.243		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	106	Number of Detected Data	52
Number of Distinct Detected Data	47	Number of Non-Detect Data	54
		Percent Non-Detects	50.94%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0164	Minimum Detected	-4.11
Maximum Detected	2.1	Maximum Detected	0.742
Mean of Detected	0.319	Mean of Detected	-1.712
SD of Detected	0.406	SD of Detected	1.089
Minimum Non-Detect	6.00E-04	Minimum Non-Detect	-7.419
Maximum Non-Detect	0.092	Maximum Non-Detect	-2.386
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	65
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	41
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	61.32%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.229	Lilliefors Test Statistic	0.0696
5% Lilliefors Critical Value	0.123	5% Lilliefors Critical Value	0.123
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.168	Mean	-3.012
SD	0.32	SD	1.7
95% DL/2 (t) UCL	0.22	95% H-Stat (DL/2) UCL	0.34
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.088
		SD in Log Scale	1.646
		Mean in Original Scale	0.165
		SD in Original Scale	0.321
		95% t UCL	0.216
		95% Percentile Bootstrap UCL	0.218
		95% BCA Bootstrap UCL	0.232
		95% H-UCL	0.281
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.964	Data appear Lognormal at 5% Significance Level	
Theta Star	0.331		
nu star	100.2		
A-D Test Statistic	0.959	Nonparametric Statistics	
5% A-D Critical Value	0.78	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.78	Mean	0.167
5% K-S Critical Value	0.127	SD	0.319
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0313
		95% KM (t) UCL	0.219
Assuming Gamma Distribution		95% KM (z) UCL	0.218
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.216
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.236
Maximum	2.1	95% KM (BCA) UCL	0.223
Mean	0.157	95% KM (Percentile Bootstrap) UCL	0.221
Median	1.00E-06	95% KM (Chebyshev) UCL	0.303
SD	0.325	97.5% KM (Chebyshev) UCL	0.362
k star	0.133	99% KM (Chebyshev) UCL	0.478
Theta star	1.18		
Nu star	28.15	Potential UCLs to Use	
AppChi2	17.04	95% KM (BCA) UCL	0.223
95% Gamma Approximate UCL (Use when n >= 40)	0.259		
95% Adjusted Gamma UCL (Use when n < 40)	0.261		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	106	Number of Detected Data	55
Number of Distinct Detected Data	50	Number of Non-Detect Data	51
		Percent Non-Detects	48.11%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0202	Minimum Detected	-3.902
Maximum Detected	2.9	Maximum Detected	1.065
Mean of Detected	0.454	Mean of Detected	-1.412
SD of Detected	0.646	SD of Detected	1.111
Minimum Non-Detect	9.70E-04	Minimum Non-Detect	-6.938
Maximum Non-Detect	0.092	Maximum Non-Detect	-2.386

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	61
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	45
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	57.55%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.292	Lilliefors Test Statistic	0.0815
5% Lilliefors Critical Value	0.119	5% Lilliefors Critical Value	0.119
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.247	Mean	-2.698
SD	0.511	SD	1.718
95% DL/2 (t) UCL	0.329	95% H-Stat (DL/2) UCL	0.485

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.702
		SD in Log Scale	1.636
		Mean in Original Scale	0.245
		SD in Original Scale	0.512
		95% t UCL	0.328
		95% Percentile Bootstrap UCL	0.334
		95% BCA Bootstrap UCL	0.355
		95% H-UCL	0.405

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.897	Data appear Lognormal at 5% Significance Level	
Theta Star	0.506		
nu star	98.71		

A-D Test Statistic	1.649	Nonparametric Statistics	
5% A-D Critical Value	0.783	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.783	Mean	0.247
5% K-S Critical Value	0.124	SD	0.509
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0499
		95% KM (t) UCL	0.33
Assuming Gamma Distribution		95% KM (z) UCL	0.329
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.327
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.357
Maximum	2.9	95% KM (BCA) UCL	0.342
Mean	0.235	95% KM (Percentile Bootstrap) UCL	0.334
Median	0.0263	95% KM (Chebyshev) UCL	0.464
SD	0.516	97.5% KM (Chebyshev) UCL	0.558
k star	0.134	99% KM (Chebyshev) UCL	0.743
Theta star	1.751		
Nu star	28.51	Potential UCLs to Use	
AppChi2	17.33	95% KM (Chebyshev) UCL	0.464
95% Gamma Approximate UCL (Use when n >= 40)	0.387		
95% Adjusted Gamma UCL (Use when n < 40)	0.39		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)			
Number of Valid Data	106	Number of Detected Data	44
Number of Distinct Detected Data	40	Number of Non-Detect Data	62
		Percent Non-Detects	58.49%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0261	Minimum Detected	-3.646
Maximum Detected	1.5	Maximum Detected	0.405
Mean of Detected	0.27	Mean of Detected	-1.752
SD of Detected	0.319	SD of Detected	0.911
Minimum Non-Detect	8.50E-04	Minimum Non-Detect	-7.07
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	75
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	31
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	70.75%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.641	Shapiro Wilk Test Statistic	0.97
5% Shapiro Wilk Critical Value	0.944	5% Shapiro Wilk Critical Value	0.944
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.126	Mean	-3.119
SD	0.238	SD	1.52
95% DL/2 (t) UCL	0.164	95% H-Stat (DL/2) UCL	0.211
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.179
		SD in Log Scale	1.439
		Mean in Original Scale	0.123
		SD in Original Scale	0.239
		95% t UCL	0.161
		95% Percentile Bootstrap UCL	0.164
		95% BCA Bootstrap UCL	0.175
		95% H-UCL	0.17
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.204	Data appear Lognormal at 5% Significance Level	
Theta Star	0.224		
nu star	105.9		
A-D Test Statistic	1.288	Nonparametric Statistics	
5% A-D Critical Value	0.772	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.772	Mean	0.129
5% K-S Critical Value	0.136	SD	0.235
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0231
		95% KM (t) UCL	0.167
Assuming Gamma Distribution		95% KM (z) UCL	0.167
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.163
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.18
Maximum	1.5	95% KM (BCA) UCL	0.183
Mean	0.112	95% KM (Percentile Bootstrap) UCL	0.172
Median	1.00E-06	95% KM (Chebyshev) UCL	0.23
SD	0.244	97.5% KM (Chebyshev) UCL	0.273
k star	0.123	99% KM (Chebyshev) UCL	0.359
Theta star	0.912		
Nu star	26.02	Potential UCLs to Use	
AppChi2	15.4	95% KM (t) UCL	0.167
95% Gamma Approximate UCL (Use when n >= 40)	0.189	95% KM (% Bootstrap) UCL	0.172
95% Adjusted Gamma UCL (Use when n < 40)	0.19		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	106	Number of Detected Data	69
Number of Distinct Detected Data	59	Number of Non-Detect Data	37
		Percent Non-Detects	34.91%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.049	Minimum Detected	-3.016
Maximum Detected	70.2	Maximum Detected	4.251
Mean of Detected	9.587	Mean of Detected	1.295
SD of Detected	13.87	SD of Detected	1.647
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.68	Maximum Non-Detect	-0.386

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	45
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	61
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	42.45%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.246	Lilliefors Test Statistic	0.105
5% Lilliefors Critical Value	0.107	5% Lilliefors Critical Value	0.107
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	6.303	Mean	-0.124
SD	12.04	SD	2.632
95% DL/2 (t) UCL	8.243	95% H-Stat (DL/2) UCL	80.85

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.59	Mean in Log Scale	0.0675
SD	17.46	SD in Log Scale	2.203
95% MLE (t) UCL	3.405	Mean in Original Scale	6.292
95% MLE (Tiku) UCL	3.823	SD in Original Scale	12.04
		95% t UCL	8.233
		95% Percentile Bootstrap UCL	8.26
		95% BCA Bootstrap UCL	8.866
		95% H UCL	26.01

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.617	Data appear Gamma Distributed at 5% Significance Level
Theta Star	15.54	
nu star	85.12	

A-D Test Statistic	0.725	Nonparametric Statistics	
5% A-D Critical Value	0.804	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.804	Mean	6.263
5% K-S Critical Value	0.112	SD	12
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.174
		95% KM (t) UCL	8.211
Assuming Gamma Distribution		95% KM (z) UCL	8.194
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	8.203
Minimum	1.00E-06	95% KM (bootstrap t) UCL	8.779
Maximum	70.2	95% KM (BCA) UCL	8.446
Mean	6.241	95% KM (Percentile Bootstrap) UCL	8.248
Median	1.6	95% KM (Chebyshev) UCL	11.38
SD	12.07	97.5% KM (Chebyshev) UCL	13.59
k star	0.137	99% KM (Chebyshev) UCL	17.94
Theta star	45.6		
Nu star	29.01	Potential UCLs to Use	
AppChi2	17.72	95% KM (BCA) UCL	8.446
95% Gamma Approximate UCL (Use when n >= 40)	10.22		
95% Adjusted Gamma UCL (Use when n < 40)	10.29		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Data	106	Number of Detected Data	70
Number of Distinct Detected Data	53	Number of Non-Detect Data	36
		Percent Non-Detects	33.96%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.6	Minimum Detected	0.956
Maximum Detected	19.1	Maximum Detected	2.95
Mean of Detected	6.93	Mean of Detected	1.84
SD of Detected	3.291	SD of Detected	0.433
Minimum Non-Detect	5.8	Minimum Non-Detect	1.758
Maximum Non-Detect	13	Maximum Non-Detect	2.565

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	102
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	96.23%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.147	Lilliefors Test Statistic	0.0707
5% Lilliefors Critical Value	0.106	5% Lilliefors Critical Value	0.106
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.82	Mean	1.649
SD	3.124	SD	0.456
95% DL/2 (t) UCL	6.324	95% H-Stat (DL/2) UCL	6.254

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	1.749
		SD in Log Scale	0.383
		Mean in Original Scale	6.229
		SD in Original Scale	2.87
		95% t UCL	6.692
		95% Percentile Bootstrap UCL	6.696
		95% BCA Bootstrap UCL	6.751
		95% H-UCL	6.609

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	5.146	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.347	
nu star	720.4	

A-D Test Statistic	0.68	Nonparametric Statistics	
5% A-D Critical Value	0.754	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.754	Mean	6.213
5% K-S Critical Value	0.107	SD	2.931
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.299
		95% KM (t) UCL	6.709
Assuming Gamma Distribution		95% KM (z) UCL	6.705
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.709
Minimum	2.6	95% KM (bootstrap t) UCL	6.751
Maximum	19.1	95% KM (BCA) UCL	6.692
Mean	6.529	95% KM (Percentile Bootstrap) UCL	6.728
Median	6.137	95% KM (Chebyshev) UCL	7.517
SD	2.814	97.5% KM (Chebyshev) UCL	8.081
k star	6.53	99% KM (Chebyshev) UCL	9.189
Theta star	1		
Nu star	1384	Potential UCLs to Use	
AppChi2	1299	95% KM (Percentile Bootstrap) UCL	6.728
95% Gamma Approximate UCL (Use when n >= 40)	6.958		
95% Adjusted Gamma UCL (Use when n < 40)	6.964		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	106	Number of Detected Data	43
Number of Distinct Detected Data	41	Number of Non-Detect Data	63
		Percent Non-Detects	59.43%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0341	Minimum Detected	-3.378
Maximum Detected	1.8	Maximum Detected	0.588
Mean of Detected	0.283	Mean of Detected	-1.683
SD of Detected	0.339	SD of Detected	0.884
Minimum Non-Detect	8.80E-04	Minimum Non-Detect	-7.036
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303
Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	73
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	33
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	68.87%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.636	Shapiro Wilk Test Statistic	0.977
5% Shapiro Wilk Critical Value	0.943	5% Shapiro Wilk Critical Value	0.943
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.129	Mean	-3.14
SD	0.25	SD	1.561
95% DL/2 (t) UCL	0.169	95% H-Stat (DL/2) UCL	0.224
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.108
		SD in Log Scale	1.411
		Mean in Original Scale	0.127
		SD in Original Scale	0.251
		95% t UCL	0.168
		95% Percentile Bootstrap UCL	0.171
		95% BCA Bootstrap UCL	0.185
		95% H-UCL	0.174
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.25	Data appear Lognormal at 5% Significance Level	
Theta Star	0.227		
nu star	107.5		
A-D Test Statistic	1.175	Nonparametric Statistics	
5% A-D Critical Value	0.771	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.771	Mean	0.137
5% K-S Critical Value	0.138	SD	0.245
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0241
		95% KM (t) UCL	0.177
Assuming Gamma Distribution		95% KM (z) UCL	0.176
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.173
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.193
Maximum	1.8	95% KM (BCA) UCL	0.189
Mean	0.115	95% KM (Percentile Bootstrap) UCL	0.182
Median	1.00E-06	95% KM (Chebyshev) UCL	0.242
SD	0.256	97.5% KM (Chebyshev) UCL	0.287
k star	0.121	99% KM (Chebyshev) UCL	0.377
Theta star	0.95		
Nu star	25.66	Potential UCLs to Use	
AppChi2	15.12	95% KM (t) UCL	0.177
95% Gamma Approximate UCL (Use when n >= 40)	0.195	95% KM (% Bootstrap) UCL	0.182
95% Adjusted Gamma UCL (Use when n < 40)	0.197		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics (Units in mg/kg)

Number of Valid Observations	106	Number of Distinct Observations	89

Raw Statistics		Log-transformed Statistics	
Minimum	4530	Minimum of Log Data	8.418
Maximum	28600	Maximum of Log Data	10.26
Mean	13239	Mean of log Data	9.413
Geometric Mean	12249	SD of log Data	0.403
Median	13100		
SD	5161		
Std. Error of Mean	501.3		
Coefficient of Variation	0.39		
Skewness	0.573		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.0864	Lilliefors Test Statistic	0.0782
Lilliefors Critical Value	0.0861	Lilliefors Critical Value	0.0861
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	14071	95% H-UCL	14250
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	15625
95% Adjusted-CLT UCL (Chen-1995)	14093	97.5% Chebyshev (MVUE) UCL	16641
95% Modified-t UCL (Johnson-1978)	14075	99% Chebyshev (MVUE) UCL	18638

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	6.415	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2064		
MLE of Mean	13239		
MLE of Standard Deviation	5227		
nu star	1360		
Approximate Chi Square Value (.05)	1275	Nonparametric Statistics	
Adjusted Level of Significance	0.0477	95% CLT UCL	14063
Adjusted Chi Square Value	1274	95% Jackknife UCL	14071
		95% Standard Bootstrap UCL	14073
Anderson-Darling Test Statistic	0.754	95% Bootstrap-t UCL	14131
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	14142
Kolmogorov-Smirnov Test Statistic	0.0769	95% Percentile Bootstrap UCL	14085
Kolmogorov-Smirnov 5% Critical Value	0.088	95% BCA Bootstrap UCL	14103
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	15424
		97.5% Chebyshev(Mean, Sd) UCL	16369
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	18226
95% Approximate Gamma UCL (Use when n >= 40)	14117		
95% Adjusted Gamma UCL (Use when n < 40)	14130		

Potential UCL to Use	Use 95% Approximate Gamma UCL	14117

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)			
Number of Valid Observations	106	Number of Distinct Observations	97
Raw Statistics		Log-transformed Statistics	
Minimum	38.5	Minimum of Log Data	3.651
Maximum	1125	Maximum of Log Data	7.026
Mean	160	Mean of log Data	4.79
Geometric Mean	120.3	SD of log Data	0.676
Median	103		
SD	164.2		
Std. Error of Mean	15.95		
Coefficient of Variation	1.026		
Skewness	3.203		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.252	Lilliefors Test Statistic	0.119
Lilliefors Critical Value	0.0861	Lilliefors Critical Value	0.0861
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	186.5	95% H-UCL	172
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	198.3
95% Adjusted-CLT UCL (Chen-1995)	191.5	97.5% Chebyshev (MVUE) UCL	218.8
95% Modified-t UCL (Johnson-1978)	187.3	99% Chebyshev (MVUE) UCL	259.2
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.856	Data do not follow a Discernable Distribution (0.05)	
Theta Star	86.2		
MLE of Mean	160		
MLE of Standard Deviation	117.4		
nu star	393.5		
Approximate Chi Square Value (.05)	348.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0477	95% CLT UCL	186.2
Adjusted Chi Square Value	347.9	95% Jackknife UCL	186.5
		95% Standard Bootstrap UCL	186
Anderson-Darling Test Statistic	6.022	95% Bootstrap-t UCL	194.2
Anderson-Darling 5% Critical Value	0.766	95% Hall's Bootstrap UCL	193.6
Kolmogorov-Smirnov Test Statistic	0.172	95% Percentile Bootstrap UCL	187.6
Kolmogorov-Smirnov 5% Critical Value	0.0892	95% BCA Bootstrap UCL	192.3
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	229.5
		97.5% Chebyshev(Mean, Sd) UCL	259.6
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	318.7
95% Approximate Gamma UCL (Use when n >= 40)	180.7		
95% Adjusted Gamma UCL (Use when n < 40)	181		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	229.5

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	106	Number of Detected Data	45
Number of Distinct Detected Data	42	Number of Non-Detect Data	61
		Percent Non-Detects	57.55%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0187	Minimum Detected	-3.979
Maximum Detected	4.3	Maximum Detected	1.459
Mean of Detected	0.319	Mean of Detected	-1.902
SD of Detected	0.66	SD of Detected	1.138
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.092	Maximum Non-Detect	-2.386

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	75
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	31
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	70.75%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.418	Shapiro Wilk Test Statistic	0.974
5% Shapiro Wilk Critical Value	0.945	5% Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.148	Mean	-3.284
SD	0.452	SD	1.666
95% DL/2 (t) UCL	0.221	95% H-Stat (DL/2) UCL	0.241

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.573
		SD in Log Scale	1.75
		Mean in Original Scale	0.142
		SD in Original Scale	0.454
		95% t UCL	0.215
		95% Percentile Bootstrap UCL	0.222
		95% BCA Bootstrap UCL	0.267
		95% H-UCL	0.217

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.747	Data appear Lognormal at 5% Significance Level	
Theta Star	0.427		
nu star	67.19		

A-D Test Statistic	1.883	Nonparametric Statistics	
5% A-D Critical Value	0.788	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.788	Mean	0.148
5% K-S Critical Value	0.137	SD	0.45
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0442
		95% KM (t) UCL	0.221
Assuming Gamma Distribution		95% KM (z) UCL	0.221
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.22
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.316
Maximum	4.3	95% KM (BCA) UCL	0.245
Mean	0.135	95% KM (Percentile Bootstrap) UCL	0.229
Median	1.00E-06	95% KM (Chebyshev) UCL	0.341
SD	0.456	97.5% KM (Chebyshev) UCL	0.424
k star	0.121	99% KM (Chebyshev) UCL	0.588
Theta star	1.123		
Nu star	25.57	Potential UCLs to Use	
AppChi2	15.05	95% KM (BCA) UCL	0.245
95% Gamma Approximate UCL (Use when n >= 40)	0.23		
95% Adjusted Gamma UCL (Use when n < 40)	0.232		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Thallium

General Statistics (Units in mg/kg)

Number of Valid Data	106	Number of Detected Data	56
Number of Distinct Detected Data	37	Number of Non-Detect Data	50
		Percent Non-Detects	47.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.028	Minimum Detected	-3.576
Maximum Detected	0.16	Maximum Detected	-1.833
Mean of Detected	0.0715	Mean of Detected	-2.714
SD of Detected	0.029	SD of Detected	0.392
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.61	Maximum Non-Detect	-0.494

Note: Data have multiple DLs - Use of KM Method is recommendec		Number treated as Non-Detect	106
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.133	Lilliefors Test Statistic	0.0778
5% Lilliefors Critical Value	0.118	5% Lilliefors Critical Value	0.118
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0444	Mean	-4.233
SD	0.053	SD	1.8
95% DL/2 (t) UCL	0.0529	95% H-Stat (DL/2) UCL	0.126

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.181
		SD in Log Scale	0.62
		Mean in Original Scale	0.05
		SD in Original Scale	0.0315
		95% t UCL	0.0551
		95% Percentile Bootstrap UCL	0.0552
		95% BCA Bootstrap UCL	0.0555
		95% H-UCL	0.0565

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	6.404	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0112		
nu star	717.2		

A-D Test Statistic	0.384	Nonparametric Statistics	
5% A-D Critical Value	0.752	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.752	Mean	0.0514
5% K-S Critical Value	0.119	SD	0.0302
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00299
		95% KM (t) UCL	0.0564
Assuming Gamma Distribution		95% KM (z) UCL	0.0563
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0556
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0565
Maximum	0.16	95% KM (BCA) UCL	0.0598
Mean	0.0389	95% KM (Percentile Bootstrap) UCL	0.0579
Median	0.036	95% KM (Chebyshev) UCL	0.0645
SD	0.0407	97.5% KM (Chebyshev) UCL	0.0701
k star	0.19	99% KM (Chebyshev) UCL	0.0812
Theta star	0.204		
Nu star	40.36	Potential UCLs to Use	
AppChi2	26.8	95% KM (t) UCL	0.0564
95% Gamma Approximate UCL (Use when n >= 40)	0.0586		
95% Adjusted Gamma UCL (Use when n < 40)	0.0589		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	106	Number of Distinct Observations	90
Raw Statistics		Log-transformed Statistics	
Minimum	6	Minimum of Log Data	1.792
Maximum	54.3	Maximum of Log Data	3.995
Mean	19.2	Mean of log Data	2.825
Geometric Mean	16.86	SD of log Data	0.504
Median	15.75		
SD	10.45		
Std. Error of Mean	1.015		
Coefficient of Variation	0.544		
Skewness	1.215		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.17	Lilliefors Test Statistic	0.074
Lilliefors Critical Value	0.0861	Lilliefors Critical Value	0.0861
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	20.89	95% H-UCL	20.95
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	23.43
95% Adjusted-CLT UCL (Chen-1995)	21	97.5% Chebyshev (MVUE) UCL	25.3
95% Modified-t UCL (Johnson-1978)	20.91	99% Chebyshev (MVUE) UCL	28.96
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.898	Data appear Lognormal at 5% Significance Level	
Theta Star	4.927		
MLE of Mean	19.2		
MLE of Standard Deviation	9.727		
nu star	826.3		
Approximate Chi Square Value (.05)	760.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0477	95% CLT UCL	20.87
Adjusted Chi Square Value	759.7	95% Jackknife UCL	20.89
		95% Standard Bootstrap UCL	20.85
Anderson-Darling Test Statistic	1.684	95% Bootstrap-t UCL	21.1
Anderson-Darling 5% Critical Value	0.756	95% Hall's Bootstrap UCL	20.94
Kolmogorov-Smirnov Test Statistic	0.108	95% Percentile Bootstrap UCL	20.94
Kolmogorov-Smirnov 5% Critical Value	0.0882	95% BCA Bootstrap UCL	20.91
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	23.63
		97.5% Chebyshev(Mean, Sd) UCL	25.54
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	29.3
95% Approximate Gamma UCL (Use when n >= 40)	20.86		
95% Adjusted Gamma UCL (Use when n < 40)	20.89		
Potential UCL to Use		Use 95% H-UCL	20.95

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Floodplain Soil

Aluminum

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	12
Raw Statistics		Log-transformed Statistics	
Minimum	6860	Minimum of Log Data	8.833
Maximum	36900	Maximum of Log Data	10.52
Mean	19802	Mean of log Data	9.777
Geometric Mean	17623	SD of log Data	0.516
Median	16200		
SD	9746		
Std. Error of Mean	2814		
Coefficient of Variation	0.492		
Skewness	0.607		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.927	Shapiro Wilk Test Statistic	0.965
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	24854	95% H-UCL	28180
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	33128
95% Adjusted-CLT UCL (Chen-1995)	24956	97.5% Chebyshev (MVUE) UCL	38856
95% Modified-t UCL (Johnson-1978)	24937	99% Chebyshev (MVUE) UCL	50109
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.392	Data appear Normal at 5% Significance Level	
Theta Star	5838		
MLE of Mean	19802		
MLE of Standard Deviation	10752		
nu star	81.41		
Approximate Chi Square Value (.05)	61.61	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	24430
Adjusted Chi Square Value	58.99	95% Jackknife UCL	24854
		95% Standard Bootstrap UCL	24388
Anderson-Darling Test Statistic	0.246	95% Bootstrap-t UCL	26114
Anderson-Darling 5% Critical Value	0.734	95% Hall's Bootstrap UCL	25164
Kolmogorov-Smirnov Test Statistic	0.15	95% Percentile Bootstrap UCL	24363
Kolmogorov-Smirnov 5% Critical Value	0.246	95% BCA Bootstrap UCL	24788
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	32066
		97.5% Chebyshev(Mean, Sd) UCL	37372
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	47796
95% Approximate Gamma UCL (Use when n >= 40)	26162		
95% Adjusted Gamma UCL (Use when n < 40)	27325		
Potential UCL to Use		Use 95% Student's-t UCL	24854

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics

Number of Valid Observations	12	Number of Distinct Observations	12

Raw Statistics		Log-transformed Statistics	
Minimum	2.4	Minimum of Log Data	0.875
Maximum	12.7	Maximum of Log Data	2.542
Mean	5.767	Mean of log Data	1.648
Geometric Mean	5.199	SD of log Data	0.467
Median	5.05		
SD	2.916		
Std. Error of Mean	0.842		
Coefficient of Variation	0.506		
Skewness	1.379		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.885	Shapiro Wilk Test Statistic	0.984
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	7.278	95% H-UCL	7.798
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9.19
95% Adjusted-CLT UCL (Chen-1995)	7.509	97.5% Chebyshev (MVUE) UCL	10.68
95% Modified-t UCL (Johnson-1978)	7.334	99% Chebyshev (MVUE) UCL	13.61

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.794	Data appear Normal at 5% Significance Level	
Theta Star	1.52		
MLE of Mean	5.767		
MLE of Standard Deviation	2.96		
nu star	91.06		
Approximate Chi Square Value (.05)	70.06	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	7.151
Adjusted Chi Square Value	67.25	95% Jackknife UCL	7.278
		95% Standard Bootstrap UCL	7.113
Anderson-Darling Test Statistic	0.24	95% Bootstrap-t UCL	7.973
Anderson-Darling 5% Critical Value	0.732	95% Hall's Bootstrap UCL	9.388
Kolmogorov-Smirnov Test Statistic	0.131	95% Percentile Bootstrap UCL	7.217
Kolmogorov-Smirnov 5% Critical Value	0.246	95% BCA Bootstrap UCL	7.542
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9.436
		97.5% Chebyshev(Mean, Sd) UCL	11.02
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	14.14
95% Approximate Gamma UCL (Use when n >= 40)	7.496		
95% Adjusted Gamma UCL (Use when n < 40)	7.808		

Potential UCL to Use	Use 95% Student's-t UCL	7.278

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics

Number of Valid Data	12	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	1
		Percent Non-Detects	8.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.24	Minimum Detected	-1.427
Maximum Detected	1.6	Maximum Detected	0.47
Mean of Detected	0.693	Mean of Detected	-0.543
SD of Detected	0.44	SD of Detected	0.623
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.014	Maximum Non-Detect	-4.269

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.885	Shapiro Wilk Test Statistic	0.962
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.636	Mean	-0.912
SD	0.464	SD	1.407
95% DL/2 (t) UCL	0.876	95% H-Stat (DL/2) UCL	5.208

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.617	Mean in Log Scale	-0.672
SD	0.477	SD in Log Scale	0.743
95% MLE (t) UCL	0.865	Mean in Original Scale	0.645
95% MLE (Tiku) UCL	0.864	SD in Original Scale	0.451
		95% t UCL	0.879
		95% Percentile Bootstrap UCL	0.855
		95% BCA Bootstrap UCL	0.883
		95% H UCL	1.173

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.237	Data appear Normal at 5% Significance Level
Theta Star	0.31	
nu star	49.22	

		Nonparametric Statistics	
A-D Test Statistic	0.26		
5% A-D Critical Value	0.734	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.734	Mean	0.655
5% K-S Critical Value	0.257	SD	0.421
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.127
		95% KM (t) UCL	0.884
Assuming Gamma Distribution		95% KM (z) UCL	0.865
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.883
Minimum	0.000001	95% KM (bootstrap t) UCL	0.97
Maximum	1.6	95% KM (BCA) UCL	0.853
Mean	0.635	95% KM (Percentile Bootstrap) UCL	0.868
Median	0.53	95% KM (Chebyshev) UCL	1.211
SD	0.465	97.5% KM (Chebyshev) UCL	1.451
k star	0.451	99% KM (Chebyshev) UCL	1.923
Theta star	1.408		
Nu star	10.82	Potential UCLs to Use	
AppChi2	4.461	95% KM (t) UCL	0.884
95% Gamma Approximate UCL (Use when n >= 40)	1.54	95% KM (Percentile Bootstrap) UCL	0.868
95% Adjusted Gamma UCL (Use when n < 40)	1.781		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	12
Raw Statistics		Log-transformed Statistics	
Minimum	0.14	Minimum of Log Data	-1.966
Maximum	1.5	Maximum of Log Data	0.405
Mean	0.706	Mean of log Data	-0.543
Geometric Mean	0.581	SD of log Data	0.691
Median	0.593		
SD	0.432		
Std. Error of Mean	0.125		
Coefficient of Variation	0.612		
Skewness	0.679		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.922	Shapiro Wilk Test Statistic	0.958
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.93	95% H-UCL	1.217
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.373
95% Adjusted-CLT UCL (Chen-1995)	0.938	97.5% Chebyshev (MVUE) UCL	1.655
95% Modified-t UCL (Johnson-1978)	0.934	99% Chebyshev (MVUE) UCL	2.21
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.093	Data appear Normal at 5% Significance Level	
Theta Star	0.337		
MLE of Mean	0.706		
MLE of Standard Deviation	0.488		
nu star	50.24		
Approximate Chi Square Value (.05)	34.96	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	0.911
Adjusted Chi Square Value	33.03	95% Jackknife UCL	0.93
		95% Standard Bootstrap UCL	0.903
Anderson-Darling Test Statistic	0.226	95% Bootstrap-t UCL	0.957
Anderson-Darling 5% Critical Value	0.74	95% Hall's Bootstrap UCL	0.929
Kolmogorov-Smirnov Test Statistic	0.149	95% Percentile Bootstrap UCL	0.91
Kolmogorov-Smirnov 5% Critical Value	0.248	95% BCA Bootstrap UCL	0.913
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.25
		97.5% Chebyshev(Mean, Sd) UCL	1.485
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.947
95% Approximate Gamma UCL (Use when n >= 40)	1.015		
95% Adjusted Gamma UCL (Use when n < 40)	1.074		
Potential UCL to Use		Use 95% Student's-t UCL	0.93

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	0.2	Minimum of Log Data	-1.609
Maximum	2	Maximum of Log Data	0.693
Mean	1.055	Mean of log Data	-0.143
Geometric Mean	0.867	SD of log Data	0.699
Median	0.905		
SD	0.636		
Std. Error of Mean	0.184		
Coefficient of Variation	0.603		
Skewness	0.519		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.889	Shapiro Wilk Test Statistic	0.932
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.385	95% H-UCL	1.84
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2.071
95% Adjusted-CLT UCL (Chen-1995)	1.387	97.5% Chebyshev (MVUE) UCL	2.499
95% Modified-t UCL (Johnson-1978)	1.39	99% Chebyshev (MVUE) UCL	3.34
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.079	Data appear Normal at 5% Significance Level	
Theta Star	0.508		
MLE of Mean	1.055		
MLE of Standard Deviation	0.732		
nu star	49.9		
Approximate Chi Square Value (.05)	34.68	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	1.358
Adjusted Chi Square Value	32.76	95% Jackknife UCL	1.385
		95% Standard Bootstrap UCL	1.343
Anderson-Darling Test Statistic	0.336	95% Bootstrap-t UCL	1.44
Anderson-Darling 5% Critical Value	0.74	95% Hall's Bootstrap UCL	1.347
Kolmogorov-Smirnov Test Statistic	0.156	95% Percentile Bootstrap UCL	1.347
Kolmogorov-Smirnov 5% Critical Value	0.248	95% BCA Bootstrap UCL	1.377
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.856
		97.5% Chebyshev(Mean, Sd) UCL	2.203
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.883
95% Approximate Gamma UCL (Use when n >= 40)	1.519		
95% Adjusted Gamma UCL (Use when n < 40)	1.608		
Potential UCL to Use		Use 95% Student's-t UCL	1.385

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	12	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	1
		Percent Non-Detects	8.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.19	Minimum Detected	-1.661
Maximum Detected	0.77	Maximum Detected	-0.261
Mean of Detected	0.427	Mean of Detected	-0.953
SD of Detected	0.203	SD of Detected	0.478
Minimum Non-Detect	0.019	Minimum Non-Detect	-3.963
Maximum Non-Detect	0.019	Maximum Non-Detect	-3.963

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.904	Shapiro Wilk Test Statistic	0.951
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.392	Mean	-1.262
SD	0.228	SD	1.162
95% DL/2 (t) UCL	0.511	95% H-Stat (DL/2) UCL	1.718

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.385	Mean in Log Scale	-1.052
SD	0.234	SD in Log Scale	0.569
95% MLE (t) UCL	0.506	Mean in Original Scale	0.402
95% MLE (Tiku) UCL	0.508	SD in Original Scale	0.213
		95% t UCL	0.512
		95% Percentile Bootstrap UCL	0.496
		95% BCA Bootstrap UCL	0.506
		95% H UCL	0.602

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	3.713	Data appear Normal at 5% Significance Level
Theta Star	0.115	
nu star	81.69	

		Nonparametric Statistics	
A-D Test Statistic	0.27		
5% A-D Critical Value	0.731	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.731	Mean	0.408
5% K-S Critical Value	0.256	SD	0.197
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0595
		95% KM (t) UCL	0.514
Assuming Gamma Distribution		95% KM (z) UCL	0.505
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.513
Minimum	0.000001	95% KM (bootstrap t) UCL	0.537
Maximum	0.77	95% KM (BCA) UCL	0.509
Mean	0.392	95% KM (Percentile Bootstrap) UCL	0.508
Median	0.355	95% KM (Chebyshev) UCL	0.667
SD	0.23	97.5% KM (Chebyshev) UCL	0.779
k star	0.485	99% KM (Chebyshev) UCL	1
Theta star	0.808		
Nu star	11.63	Potential UCLs to Use	
AppChi2	4.985	95% KM (t) UCL	0.514
95% Gamma Approximate UCL (Use when n >= 40)	0.914	95% KM (Percentile Bootstrap) UCL	0.508
95% Adjusted Gamma UCL (Use when n < 40)	1.05		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	4.9	Minimum of Log Data	1.589
Maximum	21.3	Maximum of Log Data	3.059
Mean	10.85	Mean of log Data	2.309
Geometric Mean	10.06	SD of log Data	0.408
Median	10.03		
SD	4.51		
Std. Error of Mean	1.302		
Coefficient of Variation	0.416		
Skewness	1.042		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.935	Shapiro Wilk Test Statistic	0.989
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	13.19	95% H-UCL	14.04
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16.52
95% Adjusted-CLT UCL (Chen-1995)	13.41	97.5% Chebyshev (MVUE) UCL	18.97
95% Modified-t UCL (Johnson-1978)	13.26	99% Chebyshev (MVUE) UCL	23.78
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.115	Data appear Normal at 5% Significance Level	
Theta Star	2.122		
MLE of Mean	10.85		
MLE of Standard Deviation	4.799		
nu star	122.8		
Approximate Chi Square Value (.05)	98.18	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	13
Adjusted Chi Square Value	94.83	95% Jackknife UCL	13.19
		95% Standard Bootstrap UCL	12.93
Anderson-Darling Test Statistic	0.159	95% Bootstrap-t UCL	13.91
Anderson-Darling 5% Critical Value	0.731	95% Hall's Bootstrap UCL	14.67
Kolmogorov-Smirnov Test Statistic	0.123	95% Percentile Bootstrap UCL	13.08
Kolmogorov-Smirnov 5% Critical Value	0.246	95% BCA Bootstrap UCL	13.24
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16.53
		97.5% Chebyshev(Mean, Sd) UCL	18.99
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23.81
95% Approximate Gamma UCL (Use when n >= 40)	13.57		
95% Adjusted Gamma UCL (Use when n < 40)	14.05		
Potential UCL to Use		Use 95% Student's-t UCL	13.19

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics			
Number of Valid Data	12	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	7
		Percent Non-Detects	58.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.12	Minimum Detected	-2.12
Maximum Detected	0.25	Maximum Detected	-1.386
Mean of Detected	0.192	Mean of Detected	-1.684
SD of Detected	0.0526	SD of Detected	0.297
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	0.019	Maximum Non-Detect	-3.963

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	58.33%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.963	Shapiro Wilk Test Statistic	0.939
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.085	Mean	-3.485
SD	0.0997	SD	1.601
95% DL/2 (t) UCL	0.137	95% H-Stat (DL/2) UCL	0.802
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.23
		SD in Log Scale	0.533
		Mean in Original Scale	0.123
		SD in Original Scale	0.0693
		95% t UCL	0.159
		95% Percentile Bootstrap UCL	0.155
		95% BCA Bootstrap UCL	0.16
		95% H-UCL	0.176
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	6.189	Data appear Normal at 5% Significance Level	
Theta Star	0.031		
nu star	61.89		
A-D Test Statistic	0.256	Nonparametric Statistics	
5% A-D Critical Value	0.679	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.679	Mean	0.15
5% K-S Critical Value	0.357	SD	0.0467
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0151
		95% KM (t) UCL	0.177
Assuming Gamma Distribution		95% KM (z) UCL	0.175
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.18
Minimum	0.000001	95% KM (bootstrap t) UCL	0.171
Maximum	0.25	95% KM (BCA) UCL	0.232
Mean	0.08	95% KM (Percentile Bootstrap) UCL	0.212
Median	0.000001	95% KM (Chebyshev) UCL	0.216
SD	0.104	97.5% KM (Chebyshev) UCL	0.244
k star	0.15	99% KM (Chebyshev) UCL	0.3
Theta star	0.532		
Nu star	3.607	Potential UCLs to Use	
AppChi2	0.573	95% KM (t) UCL	0.177
95% Gamma Approximate UCL (Use when n >= 40)	0.504	95% KM (Percentile Bootstrap) UCL	0.212
95% Adjusted Gamma UCL (Use when n < 40)	0.685		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-c,d)pyrene

General Statistics			
Number of Valid Data	12	Number of Detected Data	11
Number of Distinct Detected Data	10	Number of Non-Detect Data	1
		Percent Non-Detects	8.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.17	Minimum Detected	-1.772
Maximum Detected	0.83	Maximum Detected	-0.186
Mean of Detected	0.454	Mean of Detected	-0.913
SD of Detected	0.23	SD of Detected	0.53
Minimum Non-Detect	0.017	Minimum Non-Detect	-4.075
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.913	Shapiro Wilk Test Statistic	0.953
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.417	Mean	-1.234
SD	0.254	SD	1.222
95% DL/2 (t) UCL	0.548	95% H-Stat (DL/2) UCL	2.098
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.408	Mean in Log Scale	-1.022
SD	0.261	SD in Log Scale	0.63
95% MLE (t) UCL	0.543	Mean in Original Scale	0.425
95% MLE (Tiku) UCL	0.545	SD in Original Scale	0.241
		95% t UCL	0.55
		95% Percentile Bootstrap UCL	0.539
		95% BCA Bootstrap UCL	0.547
		95% H UCL	0.681
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	3.14	Data appear Normal at 5% Significance Level	
Theta Star	0.144		
nu star	69.07		
A-D Test Statistic	0.267	Nonparametric Statistics	
5% A-D Critical Value	0.732	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.732	Mean	0.43
5% K-S Critical Value	0.256	SD	0.224
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0678
		95% KM (t) UCL	0.552
Assuming Gamma Distribution		95% KM (z) UCL	0.542
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.55
Minimum	0.000001	95% KM (bootstrap t) UCL	0.581
Maximum	0.83	95% KM (BCA) UCL	0.553
Mean	0.416	95% KM (Percentile Bootstrap) UCL	0.541
Median	0.38	95% KM (Chebyshev) UCL	0.726
SD	0.255	97.5% KM (Chebyshev) UCL	0.853
k star	0.477	99% KM (Chebyshev) UCL	1.105
Theta star	0.872		
Nu star	11.44	Potential UCLs to Use	
AppChi2	4.863	95% KM (t) UCL	0.552
95% Gamma Approximate UCL (Use when n >= 40)	0.979	95% KM (Percentile Bootstrap) UCL	0.541
95% Adjusted Gamma UCL (Use when n < 40)	1.126		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	11000	Minimum of Log Data	9.306
Maximum	49500	Maximum of Log Data	10.81
Mean	26271	Mean of log Data	10.07
Geometric Mean	23687	SD of log Data	0.477
Median	21725		
SD	12584		
Std. Error of Mean	3633		
Coefficient of Variation	0.479		
Skewness	0.785		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.909	Shapiro Wilk Test Statistic	0.963
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	32795	95% H-UCL	35963
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	42375
95% Adjusted-CLT UCL (Chen-1995)	33125	97.5% Chebyshev (MVUE) UCL	49344
95% Modified-t UCL (Johnson-1978)	32932	99% Chebyshev (MVUE) UCL	63034
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.798	Data appear Normal at 5% Significance Level	
Theta Star	6916		
MLE of Mean	26271		
MLE of Standard Deviation	13480		
nu star	91.16		
Approximate Chi Square Value (.05)	70.14	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	32246
Adjusted Chi Square Value	67.34	95% Jackknife UCL	32795
		95% Standard Bootstrap UCL	32009
Anderson-Darling Test Statistic	0.285	95% Bootstrap-t UCL	34461
Anderson-Darling 5% Critical Value	0.732	95% Hall's Bootstrap UCL	33721
Kolmogorov-Smirnov Test Statistic	0.185	95% Percentile Bootstrap UCL	32025
Kolmogorov-Smirnov 5% Critical Value	0.246	95% BCA Bootstrap UCL	32688
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	42106
		97.5% Chebyshev(Mean, Sd) UCL	48958
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	62417
95% Approximate Gamma UCL (Use when n >= 40)	34142		
95% Adjusted Gamma UCL (Use when n < 40)	35566		
Potential UCL to Use		Use 95% Student's-t UCL	32795

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	12
Raw Statistics		Log-transformed Statistics	
Minimum	191	Minimum of Log Data	5.252
Maximum	1150	Maximum of Log Data	7.048
Mean	562	Mean of log Data	6.212
Geometric Mean	498.6	SD of log Data	0.52
Median	472		
SD	284.9		
Std. Error of Mean	82.25		
Coefficient of Variation	0.507		
Skewness	0.812		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.94	Shapiro Wilk Test Statistic	0.987
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	709.7	95% H-UCL	801.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	941.9
95% Adjusted-CLT UCL (Chen-1995)	717.9	97.5% Chebyshev (MVUE) UCL	1106
95% Modified-t UCL (Johnson-1978)	712.9	99% Chebyshev (MVUE) UCL	1427
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.309	Data appear Normal at 5% Significance Level	
Theta Star	169.9		
MLE of Mean	562		
MLE of Standard Deviation	309		
nu star	79.41		
Approximate Chi Square Value (.05)	59.88	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	697.3
Adjusted Chi Square Value	57.3	95% Jackknife UCL	709.7
		95% Standard Bootstrap UCL	691.4
Anderson-Darling Test Statistic	0.158	95% Bootstrap-t UCL	754.3
Anderson-Darling 5% Critical Value	0.735	95% Hall's Bootstrap UCL	724.3
Kolmogorov-Smirnov Test Statistic	0.131	95% Percentile Bootstrap UCL	702.9
Kolmogorov-Smirnov 5% Critical Value	0.246	95% BCA Bootstrap UCL	700.3
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	920.5
		97.5% Chebyshev(Mean, Sd) UCL	1076
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1380
95% Approximate Gamma UCL (Use when n >= 40)	745.3		
95% Adjusted Gamma UCL (Use when n < 40)	778.9		
Potential UCL to Use		Use 95% Student's-t UCL	709.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	0.11	Minimum of Log Data	-2.207
Maximum	4.5	Maximum of Log Data	1.504
Mean	0.732	Mean of log Data	-0.962
Geometric Mean	0.382	SD of log Data	1.042
Median	0.285		
SD	1.218		
Std. Error of Mean	0.352		
Coefficient of Variation	1.665		
Skewness	3.164		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.517	Shapiro Wilk Test Statistic	0.904
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.363	95% H-UCL	1.683
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.486
95% Adjusted-CLT UCL (Chen-1995)	1.653	97.5% Chebyshev (MVUE) UCL	1.862
95% Modified-t UCL (Johnson-1978)	1.417	99% Chebyshev (MVUE) UCL	2.6
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.73	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	1.002		
MLE of Mean	0.732		
MLE of Standard Deviation	0.856		
nu star	17.52		
Approximate Chi Square Value (.05)	9.048	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	1.31
Adjusted Chi Square Value	8.134	95% Jackknife UCL	1.363
		95% Standard Bootstrap UCL	1.284
Anderson-Darling Test Statistic	1.012	95% Bootstrap-t UCL	3.104
Anderson-Darling 5% Critical Value	0.76	95% Hall's Bootstrap UCL	3.288
Kolmogorov-Smirnov Test Statistic	0.235	95% Percentile Bootstrap UCL	1.37
Kolmogorov-Smirnov 5% Critical Value	0.253	95% BCA Bootstrap UCL	1.761
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.264
		97.5% Chebyshev(Mean, Sd) UCL	2.927
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4.23
95% Approximate Gamma UCL (Use when n >= 40)	1.417		
95% Adjusted Gamma UCL (Use when n < 40)	1.576		
Potential UCL to Use		Use 95% Approximate Gamma UCL	1.417

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics

Number of Valid Data	12	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	1
		Percent Non-Detects	8.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.2	Minimum Detected	-1.609
Maximum Detected	3	Maximum Detected	1.099
Mean of Detected	0.8	Mean of Detected	-0.55
SD of Detected	0.816	SD of Detected	0.793
Minimum Non-Detect	0.017	Minimum Non-Detect	-4.075
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.704	Shapiro Wilk Test Statistic	0.952
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.734	Mean	-0.901
SD	0.811	SD	1.433
95% DL/2 (t) UCL	1.155	95% H-Stat (DL/2) UCL	5.752

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.696	Mean in Log Scale	-0.711
SD	0.829	SD in Log Scale	0.941
95% MLE (t) UCL	1.126	Mean in Original Scale	0.741
95% MLE (Tiku) UCL	1.109	SD in Original Scale	0.805
		95% t UCL	1.158
		95% Percentile Bootstrap UCL	1.138
		95% BCA Bootstrap UCL	1.313
		95% H UCL	1.695

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.28	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.626	
nu star	28.15	

A-D Test Statistic	0.541	Nonparametric Statistics	
5% A-D Critical Value	0.741	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.741	Mean	0.75
5% K-S Critical Value	0.259	SD	0.763
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.231
		95% KM (t) UCL	1.165
Assuming Gamma Distribution		95% KM (z) UCL	1.131
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.162
Minimum	0.000001	95% KM (bootstrap t) UCL	1.961
Maximum	3	95% KM (BCA) UCL	1.155
Mean	0.734	95% KM (Percentile Bootstrap) UCL	1.152
Median	0.49	95% KM (Chebyshev) UCL	1.758
SD	0.812	97.5% KM (Chebyshev) UCL	2.194
k star	0.412	99% KM (Chebyshev) UCL	3.05
Theta star	1.779		
Nu star	9.897	Potential UCLs to Use	
AppChi2	3.877	95% KM (Chebyshev) UCL	1.758
95% Gamma Approximate UCL (Use when n >= 40)	1.873		
95% Adjusted Gamma UCL (Use when n < 40)	2.185		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics			
Number of Valid Data	12	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	2
		Percent Non-Detects	16.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.021	Minimum Detected	-3.863
Maximum Detected	0.127	Maximum Detected	-2.068
Mean of Detected	0.0618	Mean of Detected	-2.974
SD of Detected	0.0399	SD of Detected	0.651
Minimum Non-Detect	0.018	Minimum Non-Detect	-4.017
Maximum Non-Detect	0.022	Maximum Non-Detect	-3.817
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	25.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.857	Shapiro Wilk Test Statistic	0.928
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0531	Mean	-3.247
SD	0.0414	SD	0.869
95% DL/2 (t) UCL	0.0746	95% H-Stat (DL/2) UCL	0.115
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0478	Mean in Log Scale	-3.213
SD	0.047	SD in Log Scale	0.815
95% MLE (t) UCL	0.0722	Mean in Original Scale	0.0535
95% MLE (Tiku) UCL	0.073	SD in Original Scale	0.0409
		95% t UCL	0.0747
		95% Percentile Bootstrap UCL	0.0722
		95% BCA Bootstrap UCL	0.0741
		95% H UCL	0.106
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	2.024	Data appear Normal at 5% Significance Level	
Theta Star	0.0305		
nu star	40.47		
A-D Test Statistic	0.419	Nonparametric Statistics	
5% A-D Critical Value	0.733	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.733	Mean	0.055
5% K-S Critical Value	0.269	SD	0.0378
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0115
		95% KM (t) UCL	0.0756
Assuming Gamma Distribution		95% KM (z) UCL	0.0739
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0752
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0823
Maximum	0.127	95% KM (BCA) UCL	0.0756
Mean	0.0515	95% KM (Percentile Bootstrap) UCL	0.0743
Median	0.0375	95% KM (Chebyshev) UCL	0.105
SD	0.0434	97.5% KM (Chebyshev) UCL	0.127
k star	0.331	99% KM (Chebyshev) UCL	0.169
Theta star	0.155		
Nu star	7.952	Potential UCLs to Use	
AppChi2	2.708	95% KM (t) UCL	0.0756
95% Gamma Approximate UCL (Use when n >= 40)	0.151	95% KM (Percentile Bootstrap) UCL	0.0743
95% Adjusted Gamma UCL (Use when n < 40)	0.181		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	12
Raw Statistics		Log-transformed Statistics	
Minimum	15.6	Minimum of Log Data	2.747
Maximum	80.3	Maximum of Log Data	4.386
Mean	42.88	Mean of log Data	3.649
Geometric Mean	38.42	SD of log Data	0.499
Median	36.9		
SD	20.61		
Std. Error of Mean	5.951		
Coefficient of Variation	0.481		
Skewness	0.662		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.935	Shapiro Wilk Test Statistic	0.976
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	53.56	95% H-UCL	60.01
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	70.64
95% Adjusted-CLT UCL (Chen-1995)	53.88	97.5% Chebyshev (MVUE) UCL	82.6
95% Modified-t UCL (Johnson-1978)	53.75	99% Chebyshev (MVUE) UCL	106.1
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.598	Data appear Normal at 5% Significance Level	
Theta Star	11.92		
MLE of Mean	42.88		
MLE of Standard Deviation	22.6		
nu star	86.34		
Approximate Chi Square Value (.05)	65.92	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	52.66
Adjusted Chi Square Value	63.21	95% Jackknife UCL	53.56
		95% Standard Bootstrap UCL	52.42
Anderson-Darling Test Statistic	0.181	95% Bootstrap-t UCL	55.55
Anderson-Darling 5% Critical Value	0.733	95% Hall's Bootstrap UCL	52.72
Kolmogorov-Smirnov Test Statistic	0.119	95% Percentile Bootstrap UCL	52.85
Kolmogorov-Smirnov 5% Critical Value	0.246	95% BCA Bootstrap UCL	53.1
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	68.81
		97.5% Chebyshev(Mean, Sd) UCL	80.04
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	102.1
95% Approximate Gamma UCL (Use when n >= 40)	56.16		
95% Adjusted Gamma UCL (Use when n < 40)	58.57		
Potential UCL to Use		Use 95% Student's-t UCL	53.56

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	6860	Minimum of Log Data	8.833
Maximum	36900	Maximum of Log Data	10.52
Mean	18565	Mean of log Data	9.721
Geometric Mean	16656	SD of log Data	0.481
Median	15600		
SD	8766		
Std. Error of Mean	1789		
Coefficient of Variation	0.472		
Skewness	0.633		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.922	Shapiro Wilk Test Statistic	0.964
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	21631	95% H-UCL	22772
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	26862
95% Adjusted-CLT UCL (Chen-1995)	21755	97.5% Chebyshev (MVUE) UCL	30437
95% Modified-t UCL (Johnson-1978)	21670	99% Chebyshev (MVUE) UCL	37459
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.202	Data appear Normal at 5% Significance Level	
Theta Star	4418		
MLE of Mean	18565		
MLE of Standard Deviation	9056		
nu star	201.7		
Approximate Chi Square Value (.05)	169.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	21508
Adjusted Chi Square Value	167.8	95% Jackknife UCL	21631
		95% Standard Bootstrap UCL	21367
Anderson-Darling Test Statistic	0.397	95% Bootstrap-t UCL	21907
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL	21722
Kolmogorov-Smirnov Test Statistic	0.124	95% Percentile Bootstrap UCL	21497
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	21753
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	26365
		97.5% Chebyshev(Mean, Sd) UCL	29740
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	36369
95% Approximate Gamma UCL (Use when n >= 40)	22047		
95% Adjusted Gamma UCL (Use when n < 40)	22317		
Potential UCL to Use		Use 95% Student's-t UCL	21631

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	22
Raw Statistics		Log-transformed Statistics	
Minimum	0.95	Minimum of Log Data	-0.0513
Maximum	12.7	Maximum of Log Data	2.542
Mean	4.669	Mean of log Data	1.34
Geometric Mean	3.818	SD of log Data	0.685
Median	3.8		
SD	2.914		
Std. Error of Mean	0.595		
Coefficient of Variation	0.624		
Skewness	1.055		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.919	Shapiro Wilk Test Statistic	0.953
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	5.688	95% H-UCL	6.572
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7.884
95% Adjusted-CLT UCL (Chen-1995)	5.784	97.5% Chebyshev (MVUE) UCL	9.231
95% Modified-t UCL (Johnson-1978)	5.71	99% Chebyshev (MVUE) UCL	11.88
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.338	Data appear Normal at 5% Significance Level	
Theta Star	1.997		
MLE of Mean	4.669		
MLE of Standard Deviation	3.053		
nu star	112.2		
Approximate Chi Square Value (.05)	88.79	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	5.647
Adjusted Chi Square Value	87.32	95% Jackknife UCL	5.688
		95% Standard Bootstrap UCL	5.661
Anderson-Darling Test Statistic	0.251	95% Bootstrap-t UCL	5.895
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	5.896
Kolmogorov-Smirnov Test Statistic	0.109	95% Percentile Bootstrap UCL	5.715
Kolmogorov-Smirnov 5% Critical Value	0.18	95% BCA Bootstrap UCL	5.742
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	7.262
		97.5% Chebyshev(Mean, Sd) UCL	8.384
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	10.59
95% Approximate Gamma UCL (Use when n >= 40)	5.902		
95% Adjusted Gamma UCL (Use when n < 40)	6.001		
Potential UCL to Use		Use 95% Student's-t UCL	5.688

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics			
Number of Valid Data	24	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	10
		Percent Non-Detects	41.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.24	Minimum Detected	-1.427
Maximum Detected	1.7	Maximum Detected	0.531
Mean of Detected	0.814	Mean of Detected	-0.409
SD of Detected	0.528	SD of Detected	0.671
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	0.015	Maximum Non-Detect	-4.2
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	14
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	41.67%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.857	Shapiro Wilk Test Statistic	0.929
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.477	Mean	-2.335
SD	0.568	SD	2.382
95% DL/2 (t) UCL	0.676	95% H-Stat (DL/2) UCL	17.42
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.227	Mean in Log Scale	-1.125
SD	0.853	SD in Log Scale	1.028
95% MLE (t) UCL	0.525	Mean in Original Scale	0.527
95% MLE (Tiku) UCL	0.568	SD in Original Scale	0.527
		95% t UCL	0.712
		95% Percentile Bootstrap UCL	0.706
		95% BCA Bootstrap UCL	0.736
		95% H UCL	0.957
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	2.104	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.387		
nu star	58.9		
A-D Test Statistic	0.494	Nonparametric Statistics	
5% A-D Critical Value	0.744	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.744	Mean	0.575
5% K-S Critical Value	0.231	SD	0.48
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.102
		95% KM (t) UCL	0.749
Assuming Gamma Distribution		95% KM (z) UCL	0.742
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.743
Minimum	0.000001	95% KM (bootstrap t) UCL	0.803
Maximum	1.7	95% KM (BCA) UCL	0.804
Mean	0.475	95% KM (Percentile Bootstrap) UCL	0.769
Median	0.305	95% KM (Chebyshev) UCL	1.018
SD	0.57	97.5% KM (Chebyshev) UCL	1.21
k star	0.156	99% KM (Chebyshev) UCL	1.587
Theta star	3.037		
Nu star	7.501	Potential UCLs to Use	
AppChi2	2.45	95% KM (t) UCL	0.749
95% Gamma Approximate UCL (Use when n >= 40)	1.453		
95% Adjusted Gamma UCL (Use when n < 40)	1.581		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics			
Number of Valid Data	24	Number of Detected Data	15
Number of Distinct Detected Data	15	Number of Non-Detect Data	9
		Percent Non-Detects	37.50%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.14	Minimum Detected	-1.966
Maximum Detected	2.1	Maximum Detected	0.742
Mean of Detected	0.843	Mean of Detected	-0.404
SD of Detected	0.571	SD of Detected	0.741
Minimum Non-Detect	0.013	Minimum Non-Detect	-4.343
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	15
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	37.50%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.906	Shapiro Wilk Test Statistic	0.968
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.53	Mean	-2.109
SD	0.608	SD	2.322
95% DL/2 (t) UCL	0.742	95% H-Stat (DL/2) UCL	17.01
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.311	Mean in Log Scale	-1.081
SD	0.862	SD in Log Scale	1.081
95% MLE (t) UCL	0.613	Mean in Original Scale	0.57
95% MLE (Tiku) UCL	0.647	SD in Original Scale	0.573
		95% t UCL	0.771
		95% Percentile Bootstrap UCL	0.76
		95% BCA Bootstrap UCL	0.807
		95% H UCL	1.106
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.883	Data appear Normal at 5% Significance Level	
Theta Star	0.448		
nu star	56.48		
A-D Test Statistic	0.278	Nonparametric Statistics	
5% A-D Critical Value	0.746	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.746	Mean	0.579
5% K-S Critical Value	0.224	SD	0.553
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.117
		95% KM (t) UCL	0.78
Assuming Gamma Distribution		95% KM (z) UCL	0.772
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.757
Minimum	0.000001	95% KM (bootstrap t) UCL	0.786
Maximum	2.1	95% KM (BCA) UCL	0.847
Mean	0.527	95% KM (Percentile Bootstrap) UCL	0.812
Median	0.375	95% KM (Chebyshev) UCL	1.089
SD	0.61	97.5% KM (Chebyshev) UCL	1.31
k star	0.167	99% KM (Chebyshev) UCL	1.743
Theta star	3.157		
Nu star	8.012	Potential UCLs to Use	
AppChi2	2.742	95% KM (t) UCL	0.78
95% Gamma Approximate UCL (Use when n >= 40)	1.54	95% KM (Percentile Bootstrap) UCL	0.812
95% Adjusted Gamma UCL (Use when n < 40)	1.669		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics			
Number of Valid Data	24	Number of Detected Data	15
Number of Distinct Detected Data	14	Number of Non-Detect Data	9
		Percent Non-Detects	37.50%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.2	Minimum Detected	-1.609
Maximum Detected	2.9	Maximum Detected	1.065
Mean of Detected	1.246	Mean of Detected	-0.0129
SD of Detected	0.827	SD of Detected	0.746
Minimum Non-Detect	0.016	Minimum Non-Detect	-4.135
Maximum Non-Detect	0.021	Maximum Non-Detect	-3.863
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	15
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	37.50%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.905	Shapiro Wilk Test Statistic	0.954
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.782	Mean	-1.776
SD	0.889	SD	2.398
95% DL/2 (t) UCL	1.093	95% H-Stat (DL/2) UCL	32.52
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.463	Mean in Log Scale	-0.684
SD	1.264	SD in Log Scale	1.069
95% MLE (t) UCL	0.905	Mean in Original Scale	0.843
95% MLE (Tiku) UCL	0.955	SD in Original Scale	0.837
		95% t UCL	1.135
		95% Percentile Bootstrap UCL	1.133
		95% BCA Bootstrap UCL	1.163
		95% H UCL	1.609
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.883	Data appear Normal at 5% Significance Level	
Theta Star	0.662		
nu star	56.49		
A-D Test Statistic	0.35	Nonparametric Statistics	
5% A-D Critical Value	0.746	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.746	Mean	0.854
5% K-S Critical Value	0.224	SD	0.81
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.171
		95% KM (t) UCL	1.147
Assuming Gamma Distribution		95% KM (z) UCL	1.135
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.114
Minimum	0.000001	95% KM (bootstrap t) UCL	1.161
Maximum	2.9	95% KM (BCA) UCL	1.27
Mean	0.779	95% KM (Percentile Bootstrap) UCL	1.188
Median	0.555	95% KM (Chebyshev) UCL	1.6
SD	0.892	97.5% KM (Chebyshev) UCL	1.922
k star	0.163	99% KM (Chebyshev) UCL	2.556
Theta star	4.77		
Nu star	7.839	Potential UCLs to Use	
AppChi2	2.642	95% KM (t) UCL	1.147
95% Gamma Approximate UCL (Use when n >= 40)	2.311	95% KM (Percentile Bootstrap) UCL	1.188
95% Adjusted Gamma UCL (Use when n < 40)	2.509		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics			
Number of Valid Data	24	Number of Detected Data	14
Number of Distinct Detected Data	14	Number of Non-Detect Data	10
		Percent Non-Detects	41.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.19	Minimum Detected	-1.661
Maximum Detected	0.89	Maximum Detected	-0.117
Mean of Detected	0.481	Mean of Detected	-0.86
SD of Detected	0.25	SD of Detected	0.532
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	0.02	Maximum Non-Detect	-3.912

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	14
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	41.67%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.886	Shapiro Wilk Test Statistic	0.933
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.284	Mean	-2.493
SD	0.304	SD	2.015
95% DL/2 (t) UCL	0.391	95% H-Stat (DL/2) UCL	3.542
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.156	Mean in Log Scale	-1.424
SD	0.456	SD in Log Scale	0.802
95% MLE (t) UCL	0.316	Mean in Original Scale	0.327
95% MLE (Tiku) UCL	0.339	SD in Original Scale	0.265
		95% t UCL	0.42
		95% Percentile Bootstrap UCL	0.414
		95% BCA Bootstrap UCL	0.424
		95% H UCL	0.488
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	3.22	Data appear Normal at 5% Significance Level	
Theta Star	0.15		
nu star	90.16		
A-D Test Statistic	0.425	Nonparametric Statistics	
5% A-D Critical Value	0.74	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.74	Mean	0.36
5% K-S Critical Value	0.23	SD	0.234
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0495
		95% KM (t) UCL	0.445
Assuming Gamma Distribution		95% KM (z) UCL	0.441
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.437
Minimum	0.000001	95% KM (bootstrap t) UCL	0.461
Maximum	0.89	95% KM (BCA) UCL	0.46
Mean	0.281	95% KM (Percentile Bootstrap) UCL	0.455
Median	0.23	95% KM (Chebyshev) UCL	0.576
SD	0.307	97.5% KM (Chebyshev) UCL	0.669
k star	0.162	99% KM (Chebyshev) UCL	0.853
Theta star	1.732		
Nu star	7.783	Potential UCLs to Use	
AppChi2	2.61	95% KM (t) UCL	0.445
95% Gamma Approximate UCL (Use when n >= 40)	0.837	95% KM (Percentile Bootstrap) UCL	0.455
95% Adjusted Gamma UCL (Use when n < 40)	0.909		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	22
Raw Statistics		Log-transformed Statistics	
Minimum	4.9	Minimum of Log Data	1.589
Maximum	22.6	Maximum of Log Data	3.118
Mean	10.2	Mean of log Data	2.229
Geometric Mean	9.286	SD of log Data	0.432
Median	8.95		
SD	4.803		
Std. Error of Mean	0.98		
Coefficient of Variation	0.471		
Skewness	1.247		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.872	Shapiro Wilk Test Statistic	0.954
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	11.88	95% H-UCL	12.12
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	14.17
95% Adjusted-CLT UCL (Chen-1995)	12.08	97.5% Chebyshev (MVUE) UCL	15.92
95% Modified-t UCL (Johnson-1978)	11.92	99% Chebyshev (MVUE) UCL	19.33
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.84	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.107		
MLE of Mean	10.2		
MLE of Standard Deviation	4.635		
nu star	232.3		
Approximate Chi Square Value (.05)	198.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	11.81
Adjusted Chi Square Value	195.8	95% Jackknife UCL	11.88
		95% Standard Bootstrap UCL	11.76
Anderson-Darling Test Statistic	0.515	95% Bootstrap-t UCL	12.34
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL	12.24
Kolmogorov-Smirnov Test Statistic	0.151	95% Percentile Bootstrap UCL	11.85
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	12
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	14.47
		97.5% Chebyshev(Mean, Sd) UCL	16.32
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	19.95
95% Approximate Gamma UCL (Use when n >= 40)	11.96		
95% Adjusted Gamma UCL (Use when n < 40)	12.1		
Potential UCL to Use		Use 95% Approximate Gamma UCL	11.96

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-c,d)pyrene

General Statistics			
Number of Valid Data	24	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	10
		Percent Non-Detects	41.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.17	Minimum Detected	-1.772
Maximum Detected	1.2	Maximum Detected	0.182
Mean of Detected	0.529	Mean of Detected	-0.801
SD of Detected	0.312	SD of Detected	0.599
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	14
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	41.67%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.908	Shapiro Wilk Test Statistic	0.965
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.312	Mean	-2.494
SD	0.352	SD	2.096
95% DL/2 (t) UCL	0.435	95% H-Stat (DL/2) UCL	4.77
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.16	Mean in Log Scale	-1.444
SD	0.527	SD in Log Scale	0.918
95% MLE (t) UCL	0.345	Mean in Original Scale	0.35
95% MLE (Tiku) UCL	0.372	SD in Original Scale	0.319
		95% t UCL	0.462
		95% Percentile Bootstrap UCL	0.448
		95% BCA Bootstrap UCL	0.473
		95% H UCL	0.574
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	2.581	Data appear Normal at 5% Significance Level	
Theta Star	0.205		
nu star	72.27		
A-D Test Statistic	0.312	Nonparametric Statistics	
5% A-D Critical Value	0.742	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.742	Mean	0.379
5% K-S Critical Value	0.23	SD	0.29
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0614
		95% KM (t) UCL	0.484
Assuming Gamma Distribution		95% KM (z) UCL	0.48
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.475
Minimum	0.000001	95% KM (bootstrap t) UCL	0.511
Maximum	1.2	95% KM (BCA) UCL	0.512
Mean	0.308	95% KM (Percentile Bootstrap) UCL	0.495
Median	0.235	95% KM (Chebyshev) UCL	0.647
SD	0.355	97.5% KM (Chebyshev) UCL	0.762
k star	0.161	99% KM (Chebyshev) UCL	0.99
Theta star	1.918		
Nu star	7.717	Potential UCLs to Use	
AppChi2	2.572	95% KM (t) UCL	0.484
95% Gamma Approximate UCL (Use when n >= 40)	0.925	95% KM (Percentile Bootstrap) UCL	0.495
95% Adjusted Gamma UCL (Use when n < 40)	1.005		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	23
Raw Statistics		Log-transformed Statistics	
Minimum	10100	Minimum of Log Data	9.22
Maximum	54000	Maximum of Log Data	10.9
Mean	24952	Mean of log Data	9.996
Geometric Mean	21936	SD of log Data	0.514
Median	21725		
SD	13425		
Std. Error of Mean	2740		
Coefficient of Variation	0.538		
Skewness	1.02		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.866	Shapiro Wilk Test Statistic	0.946
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	29649	95% H-UCL	30992
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	36740
95% Adjusted-CLT UCL (Chen-1995)	30069	97.5% Chebyshev (MVUE) UCL	41872
95% Modified-t UCL (Johnson-1978)	29744	99% Chebyshev (MVUE) UCL	51953
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.563	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	7003		
MLE of Mean	24952		
MLE of Standard Deviation	13219		
nu star	171		
Approximate Chi Square Value (.05)	141.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	29460
Adjusted Chi Square Value	139.9	95% Jackknife UCL	29649
		95% Standard Bootstrap UCL	29377
Anderson-Darling Test Statistic	0.528	95% Bootstrap-t UCL	30638
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	29788
Kolmogorov-Smirnov Test Statistic	0.119	95% Percentile Bootstrap UCL	29421
Kolmogorov-Smirnov 5% Critical Value	0.179	95% BCA Bootstrap UCL	30346
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	36897
		97.5% Chebyshev(Mean, Sd) UCL	42066
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	52219
95% Approximate Gamma UCL (Use when n >= 40)	30098		
95% Adjusted Gamma UCL (Use when n < 40)	30501		
Potential UCL to Use		Use 95% Approximate Gamma UCL	30098

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	58.9	Minimum of Log Data	4.076
Maximum	1600	Maximum of Log Data	7.378
Mean	486.7	Mean of log Data	5.909
Geometric Mean	368.3	SD of log Data	0.797
Median	410.5		
SD	373		
Std. Error of Mean	76.13		
Coefficient of Variation	0.766		
Skewness	1.452		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.87	Shapiro Wilk Test Statistic	0.987
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	617.2	95% H-UCL	740.3
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	883.3
95% Adjusted-CLT UCL (Chen-1995)	636.1	97.5% Chebyshev (MVUE) UCL	1050
95% Modified-t UCL (Johnson-1978)	621	99% Chebyshev (MVUE) UCL	1378
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.729	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	281.6		
MLE of Mean	486.7		
MLE of Standard Deviation	370.2		
nu star	82.97		
Approximate Chi Square Value (.05)	62.98	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	612
Adjusted Chi Square Value	61.76	95% Jackknife UCL	617.2
		95% Standard Bootstrap UCL	608.2
Anderson-Darling Test Statistic	0.172	95% Bootstrap-t UCL	657.8
Anderson-Darling 5% Critical Value	0.756	95% Hall's Bootstrap UCL	656.3
Kolmogorov-Smirnov Test Statistic	0.0923	95% Percentile Bootstrap UCL	620.4
Kolmogorov-Smirnov 5% Critical Value	0.18	95% BCA Bootstrap UCL	628.7
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	818.6
		97.5% Chebyshev(Mean, Sd) UCL	962.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1244
95% Approximate Gamma UCL (Use when n >= 40)	641.3		
95% Adjusted Gamma UCL (Use when n < 40)	654		
Potential UCL to Use		Use 95% Approximate Gamma UCL	641.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics

Number of Valid Data	24	Number of Detected Data	18
Number of Distinct Detected Data	16	Number of Non-Detect Data	6
		Percent Non-Detects	25.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.11	Minimum Detected	-2.207
Maximum Detected	4.6	Maximum Detected	1.526
Mean of Detected	0.82	Mean of Detected	-0.966
SD of Detected	1.379	SD of Detected	1.115
Minimum Non-Detect	0.0022	Minimum Non-Detect	-6.119
Maximum Non-Detect	0.0022	Maximum Non-Detect	-6.119

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.522	Shapiro Wilk Test Statistic	0.866
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.615	Mean	-2.427
SD	1.24	SD	2.758
95% DL/2 (t) UCL	1.049	95% H-Stat (DL/2) UCL	88.26

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.35	Mean in Log Scale	-1.622
SD	1.477	SD in Log Scale	1.533
95% MLE (t) UCL	0.867	Mean in Original Scale	0.623
95% MLE (Tiku) UCL	0.871	SD in Original Scale	1.236
		95% t UCL	1.055
		95% Percentile Bootstrap UCL	1.037
		95% BCA Bootstrap UCL	1.235
		95% H UCL	1.851

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.684	Data do not follow a Discernable Distribution (0.05)
Theta Star	1.198	
nu star	24.63	

		Nonparametric Statistics	
A-D Test Statistic	1.781		
5% A-D Critical Value	0.777	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.777	Mean	0.643
5% K-S Critical Value	0.211	SD	1.201
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.252
		95% KM (t) UCL	1.075
Assuming Gamma Distribution		95% KM (z) UCL	1.057
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.07
Minimum	0.000001	95% KM (bootstrap t) UCL	2.499
Maximum	4.6	95% KM (BCA) UCL	1.085
Mean	0.615	95% KM (Percentile Bootstrap) UCL	1.057
Median	0.195	95% KM (Chebyshev) UCL	1.742
SD	1.24	97.5% KM (Chebyshev) UCL	2.218
k star	0.202	99% KM (Chebyshev) UCL	3.152
Theta star	3.04		
Nu star	9.709	Potential UCLs to Use	
AppChi2	3.761	97.5% KM (Chebyshev) UCL	2.218
95% Gamma Approximate UCL (Use when n >= 40)	1.588		
95% Adjusted Gamma UCL (Use when n < 40)	1.704		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics			
Number of Valid Data	24	Number of Detected Data	14
Number of Distinct Detected Data	14	Number of Non-Detect Data	10
		Percent Non-Detects	41.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.2	Minimum Detected	-1.609
Maximum Detected	3	Maximum Detected	1.099
Mean of Detected	0.913	Mean of Detected	-0.395
SD of Detected	0.793	SD of Detected	0.798
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	14
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	41.67%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.807	Shapiro Wilk Test Statistic	0.964
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.536	Mean	-2.257
SD	0.75	SD	2.33
95% DL/2 (t) UCL	0.798	95% H-Stat (DL/2) UCL	15.14
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.199	Mean in Log Scale	-1.26
SD	1.106	SD in Log Scale	1.232
95% MLE (t) UCL	0.585	Mean in Original Scale	0.57
95% MLE (Tiku) UCL	0.64	SD in Original Scale	0.726
		95% t UCL	0.825
		95% Percentile Bootstrap UCL	0.83
		95% BCA Bootstrap UCL	0.929
		95% H UCL	1.265
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.455	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.628		
nu star	40.74		
A-D Test Statistic	0.453	Nonparametric Statistics	
5% A-D Critical Value	0.748	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.748	Mean	0.616
5% K-S Critical Value	0.232	SD	0.681
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.144
		95% KM (t) UCL	0.863
Assuming Gamma Distribution		95% KM (z) UCL	0.853
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.848
Minimum	0.000001	95% KM (bootstrap t) UCL	0.988
Maximum	3	95% KM (BCA) UCL	0.893
Mean	0.533	95% KM (Percentile Bootstrap) UCL	0.875
Median	0.285	95% KM (Chebyshev) UCL	1.245
SD	0.753	97.5% KM (Chebyshev) UCL	1.517
k star	0.154	99% KM (Chebyshev) UCL	2.052
Theta star	3.459		
Nu star	7.393	Potential UCLs to Use	
AppChi2	2.389	95% KM (t) UCL	0.863
95% Gamma Approximate UCL (Use when n >= 40)	1.649		
95% Adjusted Gamma UCL (Use when n < 40)	1.796		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics			
Number of Valid Data	24	Number of Detected Data	13
Number of Distinct Detected Data	12	Number of Non-Detect Data	11
		Percent Non-Detects	45.83%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.021	Minimum Detected	-3.863
Maximum Detected	0.127	Maximum Detected	-2.068
Mean of Detected	0.059	Mean of Detected	-3.001
SD of Detected	0.0362	SD of Detected	0.61
Minimum Non-Detect	0.018	Minimum Non-Detect	-4.017
Maximum Non-Detect	0.023	Maximum Non-Detect	-3.772
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	50.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.876	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0364	Mean	-3.751
SD	0.0362	SD	0.944
95% DL/2 (t) UCL	0.0491	95% H-Stat (DL/2) UCL	0.0596
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0212	Mean in Log Scale	-3.743
SD	0.0527	SD in Log Scale	0.96
95% MLE (t) UCL	0.0396	Mean in Original Scale	0.0367
95% MLE (Tiku) UCL	0.044	SD in Original Scale	0.036
		95% t UCL	0.0493
		95% Percentile Bootstrap UCL	0.0489
		95% BCA Bootstrap UCL	0.0508
		95% H UCL	0.0618
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	2.427	Data appear Normal at 5% Significance Level	
Theta Star	0.0243		
nu star	63.1		
A-D Test Statistic	0.325	Nonparametric Statistics	
5% A-D Critical Value	0.739	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.739	Mean	0.0416
5% K-S Critical Value	0.238	SD	0.0318
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00676
		95% KM (t) UCL	0.0531
Assuming Gamma Distribution		95% KM (z) UCL	0.0527
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0521
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0568
Maximum	0.127	95% KM (BCA) UCL	0.0565
Mean	0.0319	95% KM (Percentile Bootstrap) UCL	0.0533
Median	0.0225	95% KM (Chebyshev) UCL	0.071
SD	0.0398	97.5% KM (Chebyshev) UCL	0.0838
k star	0.174	99% KM (Chebyshev) UCL	0.109
Theta star	0.183		
Nu star	8.369	Potential UCLs to Use	
AppChi2	2.951	95% KM (t) UCL	0.0531
95% Gamma Approximate UCL (Use when n >= 40)	0.0906	95% KM (Percentile Bootstrap) UCL	0.0533
95% Adjusted Gamma UCL (Use when n < 40)	0.098		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	23
Raw Statistics		Log-transformed Statistics	
Minimum	15.6	Minimum of Log Data	2.747
Maximum	80.3	Maximum of Log Data	4.386
Mean	40.3	Mean of log Data	3.578
Geometric Mean	35.81	SD of log Data	0.497
Median	35.35		
SD	20.24		
Std. Error of Mean	4.132		
Coefficient of Variation	0.502		
Skewness	0.774		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.897	Shapiro Wilk Test Statistic	0.952
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	47.39	95% H-UCL	49.74
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	58.83
95% Adjusted-CLT UCL (Chen-1995)	47.8	97.5% Chebyshev (MVUE) UCL	66.85
95% Modified-t UCL (Johnson-1978)	47.49	99% Chebyshev (MVUE) UCL	82.61
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.866	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	10.42		
MLE of Mean	40.3		
MLE of Standard Deviation	20.5		
nu star	185.6		
Approximate Chi Square Value (.05)	155.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	47.1
Adjusted Chi Square Value	153.1	95% Jackknife UCL	47.39
		95% Standard Bootstrap UCL	46.89
Anderson-Darling Test Statistic	0.452	95% Bootstrap-t UCL	47.86
Anderson-Darling 5% Critical Value	0.748	95% Hall's Bootstrap UCL	47.16
Kolmogorov-Smirnov Test Statistic	0.13	95% Percentile Bootstrap UCL	47.25
Kolmogorov-Smirnov 5% Critical Value	0.179	95% BCA Bootstrap UCL	47.19
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	58.31
		97.5% Chebyshev(Mean, Sd) UCL	66.11
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	81.41
95% Approximate Gamma UCL (Use when n >= 40)	48.23		
95% Adjusted Gamma UCL (Use when n < 40)	48.85		
Potential UCL to Use		Use 95% Approximate Gamma UCL	48.23

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	0.0012	Minimum of Log Data	-6.725
Maximum	0.067	Maximum of Log Data	-2.703
Mean	0.0152	Mean of log Data	-4.798
Geometric Mean	0.00825	SD of log Data	1.2
Median	0.0079		
SD	0.0174		
Std. Error of Mean	0.00335		
Coefficient of Variation	1.141		
Skewness	2.008		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.743	Shapiro Wilk Test Statistic	0.944
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0209	95% H-UCL	0.0327
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0356
95% Adjusted-CLT UCL (Chen-1995)	0.0221	97.5% Chebyshev (MVUE) UCL	0.044
95% Modified-t UCL (Johnson-1978)	0.0212	99% Chebyshev (MVUE) UCL	0.0604
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.865	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0176		
MLE of Mean	0.0152		
MLE of Standard Deviation	0.0164		
nu star	46.73		
Approximate Chi Square Value (.05)	32.05	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	0.0207
Adjusted Chi Square Value	31.27	95% Jackknife UCL	0.0209
		95% Standard Bootstrap UCL	0.0205
Anderson-Darling Test Statistic	0.504	95% Bootstrap-t UCL	0.0243
Anderson-Darling 5% Critical Value	0.776	95% Hall's Bootstrap UCL	0.029
Kolmogorov-Smirnov Test Statistic	0.125	95% Percentile Bootstrap UCL	0.021
Kolmogorov-Smirnov 5% Critical Value	0.173	95% BCA Bootstrap UCL	0.0219
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0298
		97.5% Chebyshev(Mean, Sd) UCL	0.0361
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.0485
95% Approximate Gamma UCL (Use when n >= 40)	0.0222		
95% Adjusted Gamma UCL (Use when n < 40)	0.0228		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.0222

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	6590	Minimum of Log Data	8.793
Maximum	27050	Maximum of Log Data	10.21
Mean	12631	Mean of log Data	9.389
Geometric Mean	11954	SD of log Data	0.331
Median	11600		
SD	4568		
Std. Error of Mean	879.1		
Coefficient of Variation	0.362		
Skewness	1.437		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.887	Shapiro Wilk Test Statistic	0.971
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	14130	95% H-UCL	14232
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16169
95% Adjusted-CLT UCL (Chen-1995)	14337	97.5% Chebyshev (MVUE) UCL	17713
95% Modified-t UCL (Johnson-1978)	14171	99% Chebyshev (MVUE) UCL	20746
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	8.234	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1534		
MLE of Mean	12631		
MLE of Standard Deviation	4402		
nu star	444.7		
Approximate Chi Square Value (.05)	396.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	14077
Adjusted Chi Square Value	393.9	95% Jackknife UCL	14130
		95% Standard Bootstrap UCL	14051
Anderson-Darling Test Statistic	0.46	95% Bootstrap-t UCL	14499
Anderson-Darling 5% Critical Value	0.744	95% Hall's Bootstrap UCL	14531
Kolmogorov-Smirnov Test Statistic	0.135	95% Percentile Bootstrap UCL	14084
Kolmogorov-Smirnov 5% Critical Value	0.168	95% BCA Bootstrap UCL	14312
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16463
		97.5% Chebyshev(Mean, Sd) UCL	18121
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	21378
95% Approximate Gamma UCL (Use when n >= 40)	14155		
95% Adjusted Gamma UCL (Use when n < 40)	14259		
Potential UCL to Use		Use 95% Approximate Gamma UCL	14155

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics

Number of Valid Observations	27	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	1.55	Minimum of Log Data	0.438
Maximum	21.3	Maximum of Log Data	3.059
Mean	6.602	Mean of log Data	1.689
Geometric Mean	5.416	SD of log Data	0.659
Median	5.2		
SD	4.339		
Std. Error of Mean	0.835		
Coefficient of Variation	0.657		
Skewness	1.595		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.874	Shapiro Wilk Test Statistic	0.975
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	8.026	95% H-UCL	8.848
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	10.61
95% Adjusted-CLT UCL (Chen-1995)	8.249	97.5% Chebyshev (MVUE) UCL	12.31
95% Modified-t UCL (Johnson-1978)	8.069	99% Chebyshev (MVUE) UCL	15.66
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.407	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.743		
MLE of Mean	6.602		
MLE of Standard Deviation	4.255		
nu star	130		
Approximate Chi Square Value (.05)	104.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	7.975
Adjusted Chi Square Value	103.2	95% Jackknife UCL	8.026
		95% Standard Bootstrap UCL	7.93
Anderson-Darling Test Statistic	0.187	95% Bootstrap-t UCL	8.347
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	8.826
Kolmogorov-Smirnov Test Statistic	0.0849	95% Percentile Bootstrap UCL	7.993
Kolmogorov-Smirnov 5% Critical Value	0.17	95% BCA Bootstrap UCL	8.256
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	10.24
		97.5% Chebyshev(Mean, Sd) UCL	11.82
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	14.91
95% Approximate Gamma UCL (Use when n >= 40)	8.2		
95% Adjusted Gamma UCL (Use when n < 40)	8.316		
Potential UCL to Use		Use 95% Approximate Gamma UCL	8.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	0.026	Minimum of Log Data	-3.65
Maximum	2.4	Maximum of Log Data	0.875
Mean	0.518	Mean of log Data	-1.31
Geometric Mean	0.27	SD of log Data	1.272
Median	0.31		
SD	0.579		
Std. Error of Mean	0.111		
Coefficient of Variation	1.117		
Skewness	1.772		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.797	Shapiro Wilk Test Statistic	0.963
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.708	95% H-UCL	1.246
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.313
95% Adjusted-CLT UCL (Chen-1995)	0.742	97.5% Chebyshev (MVUE) UCL	1.632
95% Modified-t UCL (Johnson-1978)	0.715	99% Chebyshev (MVUE) UCL	2.259
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.821	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.632		
MLE of Mean	0.518		
MLE of Standard Deviation	0.572		
nu star	44.31		
Approximate Chi Square Value (.05)	30.05	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	0.702
Adjusted Chi Square Value	29.29	95% Jackknife UCL	0.708
		95% Standard Bootstrap UCL	0.7
Anderson-Darling Test Statistic	0.304	95% Bootstrap-t UCL	0.776
Anderson-Darling 5% Critical Value	0.778	95% Hall's Bootstrap UCL	0.781
Kolmogorov-Smirnov Test Statistic	0.114	95% Percentile Bootstrap UCL	0.71
Kolmogorov-Smirnov 5% Critical Value	0.174	95% BCA Bootstrap UCL	0.741
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.004
		97.5% Chebyshev(Mean, Sd) UCL	1.214
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.627
95% Approximate Gamma UCL (Use when n >= 40)	0.765		
95% Adjusted Gamma UCL (Use when n < 40)	0.784		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.765

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	0.035	Minimum of Log Data	-3.352
Maximum	2.6	Maximum of Log Data	0.956
Mean	0.602	Mean of log Data	-1.119
Geometric Mean	0.326	SD of log Data	1.217
Median	0.34		
SD	0.66		
Std. Error of Mean	0.127		
Coefficient of Variation	1.096		
Skewness	1.704		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.796	Shapiro Wilk Test Statistic	0.967
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.819	95% H-UCL	1.342
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.451
95% Adjusted-CLT UCL (Chen-1995)	0.855	97.5% Chebyshev (MVUE) UCL	1.796
95% Modified-t UCL (Johnson-1978)	0.826	99% Chebyshev (MVUE) UCL	2.472
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.869	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.693		
MLE of Mean	0.602		
MLE of Standard Deviation	0.646		
nu star	46.9		
Approximate Chi Square Value (.05)	32.18	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	0.811
Adjusted Chi Square Value	31.4	95% Jackknife UCL	0.819
		95% Standard Bootstrap UCL	0.806
Anderson-Darling Test Statistic	0.265	95% Bootstrap-t UCL	0.913
Anderson-Darling 5% Critical Value	0.775	95% Hall's Bootstrap UCL	0.89
Kolmogorov-Smirnov Test Statistic	0.094	95% Percentile Bootstrap UCL	0.827
Kolmogorov-Smirnov 5% Critical Value	0.173	95% BCA Bootstrap UCL	0.849
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.156
		97.5% Chebyshev(Mean, Sd) UCL	1.395
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.865
95% Approximate Gamma UCL (Use when n >= 40)	0.877		
95% Adjusted Gamma UCL (Use when n < 40)	0.899		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.877

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	0.039	Minimum of Log Data	-3.244
Maximum	2.7	Maximum of Log Data	0.993
Mean	0.717	Mean of log Data	-0.912
Geometric Mean	0.402	SD of log Data	1.212
Median	0.48		
SD	0.727		
Std. Error of Mean	0.14		
Coefficient of Variation	1.013		
Skewness	1.382		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.832	Shapiro Wilk Test Statistic	0.958
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.956	95% H-UCL	1.631
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.768
95% Adjusted-CLT UCL (Chen-1995)	0.987	97.5% Chebyshev (MVUE) UCL	2.186
95% Modified-t UCL (Johnson-1978)	0.962	99% Chebyshev (MVUE) UCL	3.008
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.91	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.789		
MLE of Mean	0.717		
MLE of Standard Deviation	0.752		
nu star	49.13		
Approximate Chi Square Value (.05)	34.04	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	0.947
Adjusted Chi Square Value	33.23	95% Jackknife UCL	0.956
		95% Standard Bootstrap UCL	0.942
Anderson-Darling Test Statistic	0.244	95% Bootstrap-t UCL	1.013
Anderson-Darling 5% Critical Value	0.773	95% Hall's Bootstrap UCL	1.005
Kolmogorov-Smirnov Test Statistic	0.0951	95% Percentile Bootstrap UCL	0.951
Kolmogorov-Smirnov 5% Critical Value	0.173	95% BCA Bootstrap UCL	0.988
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.327
		97.5% Chebyshev(Mean, Sd) UCL	1.591
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.109
95% Approximate Gamma UCL (Use when n >= 40)	1.035		
95% Adjusted Gamma UCL (Use when n < 40)	1.061		
Potential UCL to Use		Use 95% Approximate Gamma UCL	1.035

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	0.016	Minimum of Log Data	-4.135
Maximum	1.8	Maximum of Log Data	0.588
Mean	0.349	Mean of log Data	-1.63
Geometric Mean	0.196	SD of log Data	1.184
Median	0.21		
SD	0.392		
Std. Error of Mean	0.0754		
Coefficient of Variation	1.124		
Skewness	2.281		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.76	Shapiro Wilk Test Statistic	0.981
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.477	95% H-UCL	0.751
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.824
95% Adjusted-CLT UCL (Chen-1995)	0.508	97.5% Chebyshev (MVUE) UCL	1.016
95% Modified-t UCL (Johnson-1978)	0.483	99% Chebyshev (MVUE) UCL	1.394
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.914	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.382		
MLE of Mean	0.349		
MLE of Standard Deviation	0.365		
nu star	49.35		
Approximate Chi Square Value (.05)	34.22	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	0.473
Adjusted Chi Square Value	33.42	95% Jackknife UCL	0.477
		95% Standard Bootstrap UCL	0.471
Anderson-Darling Test Statistic	0.182	95% Bootstrap-t UCL	0.558
Anderson-Darling 5% Critical Value	0.773	95% Hall's Bootstrap UCL	0.617
Kolmogorov-Smirnov Test Statistic	0.0765	95% Percentile Bootstrap UCL	0.475
Kolmogorov-Smirnov 5% Critical Value	0.173	95% BCA Bootstrap UCL	0.504
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.678
		97.5% Chebyshev(Mean, Sd) UCL	0.82
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.099
95% Approximate Gamma UCL (Use when n >= 40)	0.503		
95% Adjusted Gamma UCL (Use when n < 40)	0.515		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.503

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	26
Raw Statistics		Log-transformed Statistics	
Minimum	0.039	Minimum of Log Data	-3.244
Maximum	2.8	Maximum of Log Data	1.03
Mean	0.601	Mean of log Data	-1.173
Geometric Mean	0.31	SD of log Data	1.251
Median	0.31		
SD	0.705		
Std. Error of Mean	0.136		
Coefficient of Variation	1.174		
Skewness	1.923		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.758	Shapiro Wilk Test Statistic	0.958
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.832	95% H-UCL	1.368
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.456
95% Adjusted-CLT UCL (Chen-1995)	0.878	97.5% Chebyshev (MVUE) UCL	1.807
95% Modified-t UCL (Johnson-1978)	0.841	99% Chebyshev (MVUE) UCL	2.496
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.81	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.742		
MLE of Mean	0.601		
MLE of Standard Deviation	0.667		
nu star	43.74		
Approximate Chi Square Value (.05)	29.58	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	0.824
Adjusted Chi Square Value	28.83	95% Jackknife UCL	0.832
		95% Standard Bootstrap UCL	0.819
Anderson-Darling Test Statistic	0.423	95% Bootstrap-t UCL	0.966
Anderson-Darling 5% Critical Value	0.778	95% Hall's Bootstrap UCL	0.983
Kolmogorov-Smirnov Test Statistic	0.116	95% Percentile Bootstrap UCL	0.832
Kolmogorov-Smirnov 5% Critical Value	0.174	95% BCA Bootstrap UCL	0.887
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.192
		97.5% Chebyshev(Mean, Sd) UCL	1.449
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.951
95% Approximate Gamma UCL (Use when n >= 40)	0.889		
95% Adjusted Gamma UCL (Use when n < 40)	0.911		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.889

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics			
Number of Valid Data	27	Number of Detected Data	18
Number of Distinct Detected Data	17	Number of Non-Detect Data	9
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.14	Minimum Detected	-1.966
Maximum Detected	5.6	Maximum Detected	1.723
Mean of Detected	1.864	Mean of Detected	0.163
SD of Detected	1.612	SD of Detected	1.105
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.019	Maximum Non-Detect	-3.963

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	18
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.885	Shapiro Wilk Test Statistic	0.939
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.246	Mean	-1.61
SD	1.579	SD	2.763
95% DL/2 (t) UCL	1.764	95% H-Stat (DL/2) UCL	163.4
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.768	Mean in Log Scale	-0.707
SD	2.116	SD in Log Scale	1.581
95% MLE (t) UCL	1.463	Mean in Original Scale	1.277
95% MLE (Tiku) UCL	1.516	SD in Original Scale	1.555
		95% t UCL	1.787
		95% Percentile Bootstrap UCL	1.784
		95% BCA Bootstrap UCL	1.863
		95% H UCL	4.88
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.06	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.759		
nu star	38.16		
A-D Test Statistic	0.281	Nonparametric Statistics	
5% A-D Critical Value	0.762	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.762	Mean	1.29
5% K-S Critical Value	0.208	SD	1.515
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.3
		95% KM (t) UCL	1.801
Assuming Gamma Distribution		95% KM (z) UCL	1.783
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.794
Minimum	0.000001	95% KM (bootstrap t) UCL	1.934
Maximum	5.6	95% KM (BCA) UCL	1.846
Mean	1.243	95% KM (Percentile Bootstrap) UCL	1.799
Median	0.69	95% KM (Chebyshev) UCL	2.598
SD	1.581	97.5% KM (Chebyshev) UCL	3.164
k star	0.168	99% KM (Chebyshev) UCL	4.276
Theta star	7.395		
Nu star	9.076	Potential UCLs to Use	
AppChi2	3.373	95% KM (Percentile Bootstrap) UCL	1.799
95% Gamma Approximate UCL (Use when n >= 40)	3.345		
95% Adjusted Gamma UCL (Use when n < 40)	3.577		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics			
Number of Valid Data	27	Number of Detected Data	23
Number of Distinct Detected Data	23	Number of Non-Detect Data	4
		Percent Non-Detects	14.81%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0027	Minimum Detected	-5.915
Maximum Detected	0.18	Maximum Detected	-1.715
Mean of Detected	0.0459	Mean of Detected	-3.649
SD of Detected	0.0493	SD of Detected	1.174
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.055	Maximum Non-Detect	-2.9

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	77.78%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.784	Shapiro Wilk Test Statistic	0.974
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0416	Mean	-3.742
SD	0.0467	SD	1.132
95% DL/2 (t) UCL	0.057	95% H-Stat (DL/2) UCL	0.082
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.781
		SD in Log Scale	1.137
		Mean in Original Scale	0.0408
		SD in Original Scale	0.0471
		95% t UCL	0.0563
		95% Percentile Bootstrap UCL	0.0554
		95% BCA Bootstrap UCL	0.0588
		95% H-UCL	0.0796
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.911	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0504		
nu star	41.9		
A-D Test Statistic	0.223	Nonparametric Statistics	
5% A-D Critical Value	0.769	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.769	Mean	0.0412
5% K-S Critical Value	0.187	SD	0.0462
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00914
		95% KM (t) UCL	0.0568
Assuming Gamma Distribution		95% KM (z) UCL	0.0562
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0567
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0627
Maximum	0.18	95% KM (BCA) UCL	0.0556
Mean	0.0408	95% KM (Percentile Bootstrap) UCL	0.0567
Median	0.023	95% KM (Chebyshev) UCL	0.081
SD	0.0473	97.5% KM (Chebyshev) UCL	0.0983
k star	0.487	99% KM (Chebyshev) UCL	0.132
Theta star	0.0838		
Nu star	26.32	Potential UCLs to Use	
AppChi2	15.62	95% KM (Chebyshev) UCL	0.081
95% Gamma Approximate UCL (Use when n >= 40)	0.0688		
95% Adjusted Gamma UCL (Use when n < 40)	0.0712		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	2.5	Minimum of Log Data	0.916
Maximum	27.8	Maximum of Log Data	3.325
Mean	10.86	Mean of log Data	2.226
Geometric Mean	9.265	SD of log Data	0.596
Median	10.2		
SD	6.064		
Std. Error of Mean	1.167		
Coefficient of Variation	0.558		
Skewness	0.87		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.932	Shapiro Wilk Test Statistic	0.973
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	12.85	95% H-UCL	14.07
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16.79
95% Adjusted-CLT UCL (Chen-1995)	12.99	97.5% Chebyshev (MVUE) UCL	19.3
95% Modified-t UCL (Johnson-1978)	12.89	99% Chebyshev (MVUE) UCL	24.24
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.958	Data appear Normal at 5% Significance Level	
Theta Star	3.673		
MLE of Mean	10.86		
MLE of Standard Deviation	6.317		
nu star	159.7		
Approximate Chi Square Value (.05)	131.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	12.78
Adjusted Chi Square Value	129.9	95% Jackknife UCL	12.85
		95% Standard Bootstrap UCL	12.76
Anderson-Darling Test Statistic	0.268	95% Bootstrap-t UCL	13.14
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	13.23
Kolmogorov-Smirnov Test Statistic	0.0956	95% Percentile Bootstrap UCL	12.76
Kolmogorov-Smirnov 5% Critical Value	0.169	95% BCA Bootstrap UCL	12.88
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	15.95
		97.5% Chebyshev(Mean, Sd) UCL	18.15
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	22.47
95% Approximate Gamma UCL (Use when n >= 40)	13.19		
95% Adjusted Gamma UCL (Use when n < 40)	13.36		
Potential UCL to Use		Use 95% Student's-t UCL	12.85

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	0.0051	Minimum of Log Data	-5.279
Maximum	0.61	Maximum of Log Data	-0.494
Mean	0.122	Mean of log Data	-2.724
Geometric Mean	0.0656	SD of log Data	1.238
Median	0.062		
SD	0.135		
Std. Error of Mean	0.0259		
Coefficient of Variation	1.108		
Skewness	2.076		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.783	Shapiro Wilk Test Statistic	0.973
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.166	95% H-UCL	0.282
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.302
95% Adjusted-CLT UCL (Chen-1995)	0.175	97.5% Chebyshev (MVUE) UCL	0.374
95% Modified-t UCL (Johnson-1978)	0.168	99% Chebyshev (MVUE) UCL	0.516
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.862	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.141		
MLE of Mean	0.122		
MLE of Standard Deviation	0.131		
nu star	46.56		
Approximate Chi Square Value (.05)	31.91	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	0.164
Adjusted Chi Square Value	31.13	95% Jackknife UCL	0.166
		95% Standard Bootstrap UCL	0.164
Anderson-Darling Test Statistic	0.265	95% Bootstrap-t UCL	0.183
Anderson-Darling 5% Critical Value	0.776	95% Hall's Bootstrap UCL	0.202
Kolmogorov-Smirnov Test Statistic	0.122	95% Percentile Bootstrap UCL	0.166
Kolmogorov-Smirnov 5% Critical Value	0.173	95% BCA Bootstrap UCL	0.175
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.235
		97.5% Chebyshev(Mean, Sd) UCL	0.284
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.38
95% Approximate Gamma UCL (Use when n >= 40)	0.177		
95% Adjusted Gamma UCL (Use when n < 40)	0.182		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.177

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-c,d)pyrene

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	26
Raw Statistics		Log-transformed Statistics	
Minimum	0.016	Minimum of Log Data	-4.135
Maximum	1.6	Maximum of Log Data	0.47
Mean	0.32	Mean of log Data	-1.683
Geometric Mean	0.186	SD of log Data	1.159
Median	0.24		
SD	0.343		
Std. Error of Mean	0.066		
Coefficient of Variation	1.072		
Skewness	2.275		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.773	Shapiro Wilk Test Statistic	0.973
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.432	95% H-UCL	0.678
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.751
95% Adjusted-CLT UCL (Chen-1995)	0.459	97.5% Chebyshev (MVUE) UCL	0.924
95% Modified-t UCL (Johnson-1978)	0.437	99% Chebyshev (MVUE) UCL	1.264
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.965	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.331		
MLE of Mean	0.32		
MLE of Standard Deviation	0.325		
nu star	52.1		
Approximate Chi Square Value (.05)	36.52	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	0.428
Adjusted Chi Square Value	35.69	95% Jackknife UCL	0.432
		95% Standard Bootstrap UCL	0.43
Anderson-Darling Test Statistic	0.167	95% Bootstrap-t UCL	0.491
Anderson-Darling 5% Critical Value	0.772	95% Hall's Bootstrap UCL	0.596
Kolmogorov-Smirnov Test Statistic	0.0807	95% Percentile Bootstrap UCL	0.437
Kolmogorov-Smirnov 5% Critical Value	0.173	95% BCA Bootstrap UCL	0.458
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.607
		97.5% Chebyshev(Mean, Sd) UCL	0.732
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.976
95% Approximate Gamma UCL (Use when n >= 40)	0.456		
95% Adjusted Gamma UCL (Use when n < 40)	0.467		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.456

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Iron

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	26
Raw Statistics		Log-transformed Statistics	
Minimum	10100	Minimum of Log Data	9.22
Maximum	73750	Maximum of Log Data	11.21
Mean	21791	Mean of log Data	9.897
Geometric Mean	19871	SD of log Data	0.404
Median	19800		
SD	12016		
Std. Error of Mean	2313		
Coefficient of Variation	0.551		
Skewness	3.31		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.661	Shapiro Wilk Test Statistic	0.913
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25735	95% H-UCL	25054
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	28986
95% Adjusted-CLT UCL (Chen-1995)	27168	97.5% Chebyshev (MVUE) UCL	32228
95% Modified-t UCL (Johnson-1978)	25981	99% Chebyshev (MVUE) UCL	38597
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.988	Data do not follow a Discernable Distribution (0.05)	
Theta Star	4369		
MLE of Mean	21791		
MLE of Standard Deviation	9757		
nu star	269.4		
Approximate Chi Square Value (.05)	232.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	25595
Adjusted Chi Square Value	230.2	95% Jackknife UCL	25735
		95% Standard Bootstrap UCL	25486
Anderson-Darling Test Statistic	1.129	95% Bootstrap-t UCL	28954
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL	43071
Kolmogorov-Smirnov Test Statistic	0.208	95% Percentile Bootstrap UCL	25939
Kolmogorov-Smirnov 5% Critical Value	0.168	95% BCA Bootstrap UCL	27874
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	31871
		97.5% Chebyshev(Mean, Sd) UCL	36233
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	44800
95% Approximate Gamma UCL (Use when n >= 40)	25261		
95% Adjusted Gamma UCL (Use when n < 40)	25502		
Potential UCL to Use		Use 95% Student's-t UCL	25735
		or 95% Modified-t UCL	25981

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	27
Raw Statistics		Log-transformed Statistics	
Minimum	94.1	Minimum of Log Data	4.544
Maximum	1960	Maximum of Log Data	7.581
Mean	584.2	Mean of log Data	6.144
Geometric Mean	465.7	SD of log Data	0.74
Median	522		
SD	391		
Std. Error of Mean	75.25		
Coefficient of Variation	0.669		
Skewness	1.707		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.869	Shapiro Wilk Test Statistic	0.928
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	712.5	95% H-UCL	843.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1013
95% Adjusted-CLT UCL (Chen-1995)	734.4	97.5% Chebyshev (MVUE) UCL	1190
95% Modified-t UCL (Johnson-1978)	716.6	99% Chebyshev (MVUE) UCL	1537
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.122	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	275.2		
MLE of Mean	584.2		
MLE of Standard Deviation	401		
nu star	114.6		
Approximate Chi Square Value (.05)	90.9	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	707.9
Adjusted Chi Square Value	89.55	95% Jackknife UCL	712.5
		95% Standard Bootstrap UCL	707.8
Anderson-Darling Test Statistic	0.43	95% Bootstrap-t UCL	762.6
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL	803.8
Kolmogorov-Smirnov Test Statistic	0.101	95% Percentile Bootstrap UCL	705.6
Kolmogorov-Smirnov 5% Critical Value	0.17	95% BCA Bootstrap UCL	734.5
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	912.2
		97.5% Chebyshev(Mean, Sd) UCL	1054
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1333
95% Approximate Gamma UCL (Use when n >= 40)	736.6		
95% Adjusted Gamma UCL (Use when n < 40)	747.7		
Potential UCL to Use		Use 95% Approximate Gamma UCL	736.6

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	0.027	Minimum of Log Data	-3.612
Maximum	2	Maximum of Log Data	0.693
Mean	0.44	Mean of log Data	-1.48
Geometric Mean	0.228	SD of log Data	1.253
Median	0.27		
SD	0.5		
Std. Error of Mean	0.0962		
Coefficient of Variation	1.137		
Skewness	1.746		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.784	Shapiro Wilk Test Statistic	0.959
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.604	95% H-UCL	1.009
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.073
95% Adjusted-CLT UCL (Chen-1995)	0.632	97.5% Chebyshev (MVUE) UCL	1.332
95% Modified-t UCL (Johnson-1978)	0.609	99% Chebyshev (MVUE) UCL	1.84
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.815	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.539		
MLE of Mean	0.44		
MLE of Standard Deviation	0.487		
nu star	44.02		
Approximate Chi Square Value (.05)	29.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	0.598
Adjusted Chi Square Value	29.05	95% Jackknife UCL	0.604
		95% Standard Bootstrap UCL	0.596
Anderson-Darling Test Statistic	0.432	95% Bootstrap-t UCL	0.65
Anderson-Darling 5% Critical Value	0.778	95% Hall's Bootstrap UCL	0.655
Kolmogorov-Smirnov Test Statistic	0.134	95% Percentile Bootstrap UCL	0.602
Kolmogorov-Smirnov 5% Critical Value	0.174	95% BCA Bootstrap UCL	0.632
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.859
		97.5% Chebyshev(Mean, Sd) UCL	1.04
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.397
95% Approximate Gamma UCL (Use when n >= 40)	0.649		
95% Adjusted Gamma UCL (Use when n < 40)	0.666		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.649

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics			
Number of Valid Data	42	Number of Detected Data	37
Number of Distinct Detected Data	34	Number of Non-Detect Data	5
		Percent Non-Detects	11.90%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00785	Minimum Detected	-4.847
Maximum Detected	3.73	Maximum Detected	1.316
Mean of Detected	0.423	Mean of Detected	-1.943
SD of Detected	0.762	SD of Detected	1.452
Minimum Non-Detect	0.011	Minimum Non-Detect	-4.51
Maximum Non-Detect	0.043	Maximum Non-Detect	-3.147
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	30
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	28.57%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.578	Shapiro Wilk Test Statistic	0.958
5% Shapiro Wilk Critical Value	0.936	5% Shapiro Wilk Critical Value	0.936
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.375	Mean	-2.238
SD	0.726	SD	1.599
95% DL/2 (t) UCL	0.563	95% H-Stat (DL/2) UCL	0.829
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.19	Mean in Log Scale	-2.257
SD	0.897	SD in Log Scale	1.619
95% MLE (t) UCL	0.423	Mean in Original Scale	0.374
95% MLE (Tiku) UCL	0.43	SD in Original Scale	0.726
		95% t UCL	0.563
		95% Percentile Bootstrap UCL	0.575
		95% BCA Bootstrap UCL	0.628
		95% H UCL	0.854
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.546	Data appear Lognormal at 5% Significance Level	
Theta Star	0.776		
nu star	40.37		
A-D Test Statistic	2.03	Nonparametric Statistics	
5% A-D Critical Value	0.805	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.805	Mean	0.375
5% K-S Critical Value	0.153	SD	0.718
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.112
		95% KM (t) UCL	0.564
Assuming Gamma Distribution		95% KM (z) UCL	0.559
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.563
Minimum	0.000001	95% KM (bootstrap t) UCL	0.686
Maximum	3.73	95% KM (BCA) UCL	0.58
Mean	0.373	95% KM (Percentile Bootstrap) UCL	0.566
Median	0.0865	95% KM (Chebyshev) UCL	0.864
SD	0.727	97.5% KM (Chebyshev) UCL	1.076
k star	0.287	99% KM (Chebyshev) UCL	1.492
Theta star	1.298		
Nu star	24.13	Potential UCLs to Use	
AppChi2	13.94	95% KM (Chebyshev) UCL	0.864
95% Gamma Approximate UCL (Use when n >= 40)	0.645		
95% Adjusted Gamma UCL (Use when n < 40)	0.658		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	26
Raw Statistics		Log-transformed Statistics	
Minimum	15.7	Minimum of Log Data	2.754
Maximum	151.5	Maximum of Log Data	5.021
Mean	37.98	Mean of log Data	3.463
Geometric Mean	31.93	SD of log Data	0.551
Median	27.5		
SD	28.62		
Std. Error of Mean	5.508		
Coefficient of Variation	0.754		
Skewness	2.758		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.696	Shapiro Wilk Test Statistic	0.923
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	47.37	95% H-UCL	46.21
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	54.87
95% Adjusted-CLT UCL (Chen-1995)	50.16	97.5% Chebyshev (MVUE) UCL	62.64
95% Modified-t UCL (Johnson-1978)	47.86	99% Chebyshev (MVUE) UCL	77.89
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.724	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	13.94		
MLE of Mean	37.98		
MLE of Standard Deviation	23.01		
nu star	147.1		
Approximate Chi Square Value (.05)	120.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	47.04
Adjusted Chi Square Value	118.5	95% Jackknife UCL	47.37
		95% Standard Bootstrap UCL	46.87
Anderson-Darling Test Statistic	1.058	95% Bootstrap-t UCL	54.57
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL	87.33
Kolmogorov-Smirnov Test Statistic	0.16	95% Percentile Bootstrap UCL	47.17
Kolmogorov-Smirnov 5% Critical Value	0.169	95% BCA Bootstrap UCL	50.66
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	61.99
		97.5% Chebyshev(Mean, Sd) UCL	72.37
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	92.78
95% Approximate Gamma UCL (Use when n >= 40)	46.53		
95% Adjusted Gamma UCL (Use when n < 40)	47.14		
Potential UCL to Use		Use 95% Approximate Gamma UCL	46.53

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics			
Number of Valid Data	52	Number of Detected Data	39
Number of Distinct Detected Data	33	Number of Non-Detect Data	13
		Percent Non-Detects	25.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00043	Minimum Detected	-7.752
Maximum Detected	0.2	Maximum Detected	-1.609
Mean of Detected	0.0221	Mean of Detected	-4.797
SD of Detected	0.0376	SD of Detected	1.501
Minimum Non-Detect	0.0004	Minimum Non-Detect	-7.824
Maximum Non-Detect	0.00055	Maximum Non-Detect	-7.506

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	37
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	28.85%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.578	Shapiro Wilk Test Statistic	0.973
5% Shapiro Wilk Critical Value	0.939	5% Shapiro Wilk Critical Value	0.939
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0166	Mean	-5.704
SD	0.0338	SD	2.049
95% DL/2 (t) UCL	0.0245	95% H-Stat (DL/2) UCL	0.0772
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.00775	Mean in Log Scale	-5.635
SD	0.0421	SD in Log Scale	1.967
95% MLE (t) UCL	0.0175	Mean in Original Scale	0.0167
95% MLE (Tiku) UCL	0.0179	SD in Original Scale	0.0338
		95% t UCL	0.0245
		95% Percentile Bootstrap UCL	0.0246
		95% BCA Bootstrap UCL	0.0284
		95% H UCL	0.0653
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.592	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0373		
nu star	46.2		
A-D Test Statistic	0.769	Nonparametric Statistics	
5% A-D Critical Value	0.801	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.801	Mean	0.0167
5% K-S Critical Value	0.148	SD	0.0334
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0047
		95% KM (t) UCL	0.0246
Assuming Gamma Distribution		95% KM (z) UCL	0.0244
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0245
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0314
Maximum	0.2	95% KM (BCA) UCL	0.0262
Mean	0.0166	95% KM (Percentile Bootstrap) UCL	0.025
Median	0.00455	95% KM (Chebyshev) UCL	0.0372
SD	0.0338	97.5% KM (Chebyshev) UCL	0.046
k star	0.241	99% KM (Chebyshev) UCL	0.0635
Theta star	0.0689		
Nu star	25.03	Potential UCLs to Use	
AppChi2	14.64	95% KM (Chebyshev) UCL	0.0372
95% Gamma Approximate UCL (Use when n >= 40)	0.0284		
95% Adjusted Gamma UCL (Use when n < 40)	0.0288		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics

Number of Valid Observations	52	Number of Distinct Observations	48

Raw Statistics		Log-transformed Statistics	
Minimum	4760	Minimum of Log Data	8.468
Maximum	27050	Maximum of Log Data	10.21
Mean	12337	Mean of log Data	9.367
Geometric Mean	11694	SD of log Data	0.33
Median	11500		
SD	4201		
Std. Error of Mean	582.6		
Coefficient of Variation	0.341		
Skewness	1.11		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.111	Lilliefors Test Statistic	0.0546
Lilliefors Critical Value	0.123	Lilliefors Critical Value	0.123
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	13313	95% H-UCL	13380
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	14855
95% Adjusted-CLT UCL (Chen-1995)	13391	97.5% Chebyshev (MVUE) UCL	15945
95% Modified-t UCL (Johnson-1978)	13328	99% Chebyshev (MVUE) UCL	18085

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	8.973	Data appear Normal at 5% Significance Level	
Theta Star	1375		
MLE of Mean	12337		
MLE of Standard Deviation	4118		
nu star	933.2		
Approximate Chi Square Value (.05)	863.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0454	95% CLT UCL	13295
Adjusted Chi Square Value	861.4	95% Jackknife UCL	13313
		95% Standard Bootstrap UCL	13295
Anderson-Darling Test Statistic	0.281	95% Bootstrap-t UCL	13435
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	13444
Kolmogorov-Smirnov Test Statistic	0.07	95% Percentile Bootstrap UCL	13305
Kolmogorov-Smirnov 5% Critical Value	0.123	95% BCA Bootstrap UCL	13418
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	14876
		97.5% Chebyshev(Mean, Sd) UCL	15975
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	18133
95% Approximate Gamma UCL (Use when n >= 40)	13336		
95% Adjusted Gamma UCL (Use when n < 40)	13366		

Potential UCL to Use	Use 95% Student's-t UCL	13313

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics

Number of Valid Data	52	Number of Detected Data	49
Number of Distinct Detected Data	42	Number of Non-Detect Data	3
		Percent Non-Detects	5.77%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.38	Minimum Detected	-0.968
Maximum Detected	23	Maximum Detected	3.135
Mean of Detected	5.742	Mean of Detected	1.343
SD of Detected	5.269	SD of Detected	0.956
Minimum Non-Detect	0.11	Minimum Non-Detect	-2.207
Maximum Non-Detect	0.11	Maximum Non-Detect	-2.207

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.824	Shapiro Wilk Test Statistic	0.977
5% Shapiro Wilk Critical Value	0.947	5% Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.414	Mean	1.098
SD	5.284	SD	1.363
95% DL/2 (t) UCL	6.642	95% H-Stat (DL/2) UCL	12.83

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	5.247	Mean in Log Scale	1.212
SD	5.476	SD in Log Scale	1.071
95% MLE (t) UCL	6.52	Mean in Original Scale	5.434
95% MLE (Tiku) UCL	6.467	SD in Original Scale	5.264
		95% t UCL	6.657
		95% Percentile Bootstrap UCL	6.725
		95% BCA Bootstrap UCL	6.776
		95% H UCL	8.538

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.307	Data appear Gamma Distributed at 5% Significance Level
Theta Star	4.395	
nu star	128.1	

A-D Test Statistic	0.409	Nonparametric Statistics	
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	5.433
5% K-S Critical Value	0.129	SD	5.214
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.731
		95% KM (t) UCL	6.657
Assuming Gamma Distribution		95% KM (z) UCL	6.635
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.649
Minimum	0.000001	95% KM (bootstrap t) UCL	6.905
Maximum	23	95% KM (BCA) UCL	6.774
Mean	5.411	95% KM (Percentile Bootstrap) UCL	6.662
Median	3.6	95% KM (Chebyshev) UCL	8.617
SD	5.287	97.5% KM (Chebyshev) UCL	9.995
k star	0.501	99% KM (Chebyshev) UCL	12.7
Theta star	10.81		
Nu star	52.08	Potential UCLs to Use	
AppChi2	36.5	95% KM (Chebyshev) UCL	8.617
95% Gamma Approximate UCL (Use when n >= 40)	7.72		
95% Adjusted Gamma UCL (Use when n < 40)	7.799		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics			
Number of Valid Data	52	Number of Detected Data	45
Number of Distinct Detected Data	42	Number of Non-Detect Data	7
		Percent Non-Detects	13.46%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00019	Minimum Detected	-8.568
Maximum Detected	4.6	Maximum Detected	1.526
Mean of Detected	0.555	Mean of Detected	-2.262
SD of Detected	0.984	SD of Detected	2.526
Minimum Non-Detect	0.00043	Minimum Non-Detect	-7.752
Maximum Non-Detect	0.0005	Maximum Non-Detect	-7.601
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	43
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	17.31%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.58	Shapiro Wilk Test Statistic	0.909
5% Shapiro Wilk Critical Value	0.945	5% Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.48	Mean	-3.086
SD	0.934	SD	3.154
95% DL/2 (t) UCL	0.697	95% H-Stat (DL/2) UCL	67.24
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.355	Mean in Log Scale	-2.927
SD	1.052	SD in Log Scale	2.901
95% MLE (t) UCL	0.599	Mean in Original Scale	0.48
95% MLE (Tiku) UCL	0.591	SD in Original Scale	0.934
		95% t UCL	0.697
		95% Percentile Bootstrap UCL	0.712
		95% BCA Bootstrap UCL	0.784
		95% H UCL	26.16
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.383	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.449		
nu star	34.45		
A-D Test Statistic	0.292	Nonparametric Statistics	
5% A-D Critical Value	0.839	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.839	Mean	0.48
5% K-S Critical Value	0.141	SD	0.925
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.13
		95% KM (t) UCL	0.697
Assuming Gamma Distribution		95% KM (z) UCL	0.693
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.697
Minimum	0.000001	95% KM (bootstrap t) UCL	0.858
Maximum	4.6	95% KM (BCA) UCL	0.718
Mean	0.48	95% KM (Percentile Bootstrap) UCL	0.7
Median	0.13	95% KM (Chebyshev) UCL	1.045
SD	0.934	97.5% KM (Chebyshev) UCL	1.29
k star	0.232	99% KM (Chebyshev) UCL	1.771
Theta star	2.066		
Nu star	24.16	Potential UCLs to Use	
AppChi2	13.97	95% KM (Chebyshev) UCL	1.045
95% Gamma Approximate UCL (Use when n >= 40)	0.83		
95% Adjusted Gamma UCL (Use when n < 40)	0.843		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics			
Number of Valid Data	52	Number of Detected Data	47
Number of Distinct Detected Data	41	Number of Non-Detect Data	5
		Percent Non-Detects	9.62%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0039	Minimum Detected	-5.547
Maximum Detected	4.9	Maximum Detected	1.589
Mean of Detected	0.589	Mean of Detected	-1.966
SD of Detected	1.008	SD of Detected	2.063
Minimum Non-Detect	0.00032	Minimum Non-Detect	-8.047
Maximum Non-Detect	0.00037	Maximum Non-Detect	-7.902
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	5
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	47
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	9.62%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.608	Shapiro Wilk Test Statistic	0.925
5% Shapiro Wilk Critical Value	0.946	5% Shapiro Wilk Critical Value	0.946
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.532	Mean	-2.611
SD	0.973	SD	2.798
95% DL/2 (t) UCL	0.758	95% H-Stat (DL/2) UCL	23.53
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.467	Mean in Log Scale	-2.403
SD	1.032	SD in Log Scale	2.381
95% MLE (t) UCL	0.707	Mean in Original Scale	0.532
95% MLE (Tiku) UCL	0.691	SD in Original Scale	0.973
		95% t UCL	0.758
		95% Percentile Bootstrap UCL	0.759
		95% BCA Bootstrap UCL	0.802
		95% H UCL	6.089
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.435	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.353		
nu star	40.89		
A-D Test Statistic	0.568	Nonparametric Statistics	
5% A-D Critical Value	0.826	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.826	Mean	0.533
5% K-S Critical Value	0.138	SD	0.963
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.135
		95% KM (t) UCL	0.759
Assuming Gamma Distribution		95% KM (z) UCL	0.755
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.759
Minimum	0.000001	95% KM (bootstrap t) UCL	0.88
Maximum	4.9	95% KM (BCA) UCL	0.789
Mean	0.532	95% KM (Percentile Bootstrap) UCL	0.773
Median	0.155	95% KM (Chebyshev) UCL	1.121
SD	0.973	97.5% KM (Chebyshev) UCL	1.376
k star	0.278	99% KM (Chebyshev) UCL	1.876
Theta star	1.914		
Nu star	28.92	Potential UCLs to Use	
AppChi2	17.65	95% KM (Chebyshev) UCL	1.121
95% Gamma Approximate UCL (Use when n >= 40)	0.872		
95% Adjusted Gamma UCL (Use when n < 40)	0.885		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics			
Number of Valid Data	52	Number of Detected Data	45
Number of Distinct Detected Data	42	Number of Non-Detect Data	7
		Percent Non-Detects	13.46%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00033	Minimum Detected	-8.016
Maximum Detected	5.7	Maximum Detected	1.74
Mean of Detected	0.7	Mean of Detected	-1.843
SD of Detected	1.099	SD of Detected	2.394
Minimum Non-Detect	0.00046	Minimum Non-Detect	-7.684
Maximum Non-Detect	0.00052	Maximum Non-Detect	-7.562
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	44
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	15.38%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.653	Shapiro Wilk Test Statistic	0.905
5% Shapiro Wilk Critical Value	0.945	5% Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.606	Mean	-2.716
SD	1.049	SD	3.153
95% DL/2 (t) UCL	0.85	95% H-Stat (DL/2) UCL	97.04
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.487	Mean in Log Scale	-2.477
SD	1.167	SD in Log Scale	2.759
95% MLE (t) UCL	0.758	Mean in Original Scale	0.606
95% MLE (Tiku) UCL	0.747	SD in Original Scale	1.049
		95% t UCL	0.85
		95% Percentile Bootstrap UCL	0.855
		95% BCA Bootstrap UCL	0.929
		95% H UCL	23.02
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.422	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.659		
nu star	38		
A-D Test Statistic	0.22	Nonparametric Statistics	
5% A-D Critical Value	0.829	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.829	Mean	0.606
5% K-S Critical Value	0.141	SD	1.039
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.146
		95% KM (t) UCL	0.85
Assuming Gamma Distribution		95% KM (z) UCL	0.846
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.85
Minimum	0.000001	95% KM (bootstrap t) UCL	1.014
Maximum	5.7	95% KM (BCA) UCL	0.851
Mean	0.606	95% KM (Percentile Bootstrap) UCL	0.841
Median	0.215	95% KM (Chebyshev) UCL	1.241
SD	1.049	97.5% KM (Chebyshev) UCL	1.516
k star	0.241	99% KM (Chebyshev) UCL	2.056
Theta star	2.519		
Nu star	25.03	Potential UCLs to Use	
AppChi2	14.63	95% KM (Chebyshev) UCL	1.241
95% Gamma Approximate UCL (Use when n >= 40)	1.037		
95% Adjusted Gamma UCL (Use when n < 40)	1.053		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics			
Number of Valid Data	52	Number of Detected Data	43
Number of Distinct Detected Data	36	Number of Non-Detect Data	9
		Percent Non-Detects	17.31%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00062	Minimum Detected	-7.386
Maximum Detected	2.5	Maximum Detected	0.916
Mean of Detected	0.356	Mean of Detected	-2.276
SD of Detected	0.544	SD of Detected	2.059
Minimum Non-Detect	0.00036	Minimum Non-Detect	-7.929
Maximum Non-Detect	0.00041	Maximum Non-Detect	-7.799

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	43
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	17.31%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.645	Shapiro Wilk Test Statistic	0.919
5% Shapiro Wilk Critical Value	0.943	5% Shapiro Wilk Critical Value	0.943
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.295	Mean	-3.367
SD	0.512	SD	3.048
95% DL/2 (t) UCL	0.414	95% H-Stat (DL/2) UCL	31.7
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.228	Mean in Log Scale	-3.018
SD	0.579	SD in Log Scale	2.494
95% MLE (t) UCL	0.362	Mean in Original Scale	0.295
95% MLE (Tiku) UCL	0.358	SD in Original Scale	0.512
		95% t UCL	0.414
		95% Percentile Bootstrap UCL	0.412
		95% BCA Bootstrap UCL	0.447
		95% H UCL	4.905
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.489	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.728		
nu star	42.07		
A-D Test Statistic	0.302	Nonparametric Statistics	
5% A-D Critical Value	0.812	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.812	Mean	0.295
5% K-S Critical Value	0.143	SD	0.507
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0712
		95% KM (t) UCL	0.414
Assuming Gamma Distribution		95% KM (z) UCL	0.412
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.414
Minimum	0.000001	95% KM (bootstrap t) UCL	0.472
Maximum	2.5	95% KM (BCA) UCL	0.425
Mean	0.295	95% KM (Percentile Bootstrap) UCL	0.415
Median	0.11	95% KM (Chebyshev) UCL	0.605
SD	0.512	97.5% KM (Chebyshev) UCL	0.739
k star	0.234	99% KM (Chebyshev) UCL	1.003
Theta star	1.257		
Nu star	24.37	Potential UCLs to Use	
AppChi2	14.13	95% KM (Chebyshev) UCL	0.605
95% Gamma Approximate UCL (Use when n >= 40)	0.508		
95% Adjusted Gamma UCL (Use when n < 40)	0.516		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics			
Number of Valid Data	52	Number of Detected Data	45
Number of Distinct Detected Data	43	Number of Non-Detect Data	7
		Percent Non-Detects	13.46%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0003	Minimum Detected	-8.112
Maximum Detected	4.5	Maximum Detected	1.504
Mean of Detected	0.591	Mean of Detected	-2.079
SD of Detected	0.947	SD of Detected	2.415
Minimum Non-Detect	0.00043	Minimum Non-Detect	-7.752
Maximum Non-Detect	0.0005	Maximum Non-Detect	-7.601
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	44
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	15.38%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.646	Shapiro Wilk Test Statistic	0.911
5% Shapiro Wilk Critical Value	0.945	5% Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.511	Mean	-2.927
SD	0.903	SD	3.122
95% DL/2 (t) UCL	0.721	95% H-Stat (DL/2) UCL	68.27
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.409	Mean in Log Scale	-2.717
SD	1.003	SD in Log Scale	2.778
95% MLE (t) UCL	0.642	Mean in Original Scale	0.512
95% MLE (Tiku) UCL	0.632	SD in Original Scale	0.903
		95% t UCL	0.721
		95% Percentile Bootstrap UCL	0.736
		95% BCA Bootstrap UCL	0.781
		95% H UCL	19.57
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.407	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.451		
nu star	36.65		
A-D Test Statistic	0.25	Nonparametric Statistics	
5% A-D Critical Value	0.833	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.833	Mean	0.511
5% K-S Critical Value	0.141	SD	0.894
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.125
		95% KM (t) UCL	0.721
Assuming Gamma Distribution		95% KM (z) UCL	0.718
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.721
Minimum	0.000001	95% KM (bootstrap t) UCL	0.827
Maximum	4.5	95% KM (BCA) UCL	0.743
Mean	0.511	95% KM (Percentile Bootstrap) UCL	0.728
Median	0.16	95% KM (Chebyshev) UCL	1.058
SD	0.903	97.5% KM (Chebyshev) UCL	1.294
k star	0.238	99% KM (Chebyshev) UCL	1.759
Theta star	2.145		
Nu star	24.79	Potential UCLs to Use	
AppChi2	14.45	95% KM (Chebyshev) UCL	1.058
95% Gamma Approximate UCL (Use when n >= 40)	0.877		
95% Adjusted Gamma UCL (Use when n < 40)	0.891		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics			
Number of Valid Data	52	Number of Detected Data	32
Number of Distinct Detected Data	32	Number of Non-Detect Data	20
		Percent Non-Detects	38.46%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0022	Minimum Detected	-6.119
Maximum Detected	0.21	Maximum Detected	-1.561
Mean of Detected	0.051	Mean of Detected	-3.61
SD of Detected	0.0564	SD of Detected	1.244
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.055	Maximum Non-Detect	-2.9
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	43
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	82.69%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.778	Shapiro Wilk Test Statistic	0.968
5% Shapiro Wilk Critical Value	0.93	5% Shapiro Wilk Critical Value	0.93
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0357	Mean	-3.981
SD	0.0482	SD	1.108
95% DL/2 (t) UCL	0.0469	95% H-Stat (DL/2) UCL	0.0503
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.115
		SD in Log Scale	1.205
		Mean in Original Scale	0.0345
		SD in Original Scale	0.0488
		95% t UCL	0.0458
		95% Percentile Bootstrap UCL	0.0461
		95% BCA Bootstrap UCL	0.0482
		95% H-UCL	0.0519
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.856	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0596		
nu star	54.76		
A-D Test Statistic	0.319	Nonparametric Statistics	
5% A-D Critical Value	0.779	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.779	Mean	0.0347
5% K-S Critical Value	0.161	SD	0.0484
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00685
		95% KM (t) UCL	0.0461
Assuming Gamma Distribution		95% KM (z) UCL	0.0459
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0461
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0509
Maximum	0.21	95% KM (BCA) UCL	0.046
Mean	0.0336	95% KM (Percentile Bootstrap) UCL	0.0467
Median	0.0148	95% KM (Chebyshev) UCL	0.0645
SD	0.0495	97.5% KM (Chebyshev) UCL	0.0774
k star	0.295	99% KM (Chebyshev) UCL	0.103
Theta star	0.114		
Nu star	30.69	Potential UCLs to Use	
AppChi2	19.04	95% KM (BCA) UCL	0.046
95% Gamma Approximate UCL (Use when n >= 40)	0.0542		
95% Adjusted Gamma UCL (Use when n < 40)	0.0549		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics			
Number of Valid Observations	52	Number of Distinct Observations	44
Raw Statistics		Log-transformed Statistics	
Minimum	2.5	Minimum of Log Data	0.916
Maximum	31.9	Maximum of Log Data	3.463
Mean	10.16	Mean of log Data	2.154
Geometric Mean	8.621	SD of log Data	0.582
Median	8.9		
SD	6.161		
Std. Error of Mean	0.854		
Coefficient of Variation	0.606		
Skewness	1.457		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.132	Lilliefors Test Statistic	0.0495
Lilliefors Critical Value	0.123	Lilliefors Critical Value	0.123
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	11.59	95% H-UCL	11.95
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	13.99
95% Adjusted-CLT UCL (Chen-1995)	11.75	97.5% Chebyshev (MVUE) UCL	15.64
95% Modified-t UCL (Johnson-1978)	11.62	99% Chebyshev (MVUE) UCL	18.89
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.027	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.357		
MLE of Mean	10.16		
MLE of Standard Deviation	5.84		
nu star	314.8		
Approximate Chi Square Value (.05)	274.7	Nonparametric Statistics	
Adjusted Level of Significance	0.0454	95% CLT UCL	11.57
Adjusted Chi Square Value	273.7	95% Jackknife UCL	11.59
		95% Standard Bootstrap UCL	11.52
Anderson-Darling Test Statistic	0.308	95% Bootstrap-t UCL	11.82
Anderson-Darling 5% Critical Value	0.756	95% Hall's Bootstrap UCL	11.86
Kolmogorov-Smirnov Test Statistic	0.084	95% Percentile Bootstrap UCL	11.65
Kolmogorov-Smirnov 5% Critical Value	0.124	95% BCA Bootstrap UCL	11.74
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13.89
		97.5% Chebyshev(Mean, Sd) UCL	15.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	18.66
95% Approximate Gamma UCL (Use when n >= 40)	11.65		
95% Adjusted Gamma UCL (Use when n < 40)	11.69		
Potential UCL to Use		Use 95% Approximate Gamma UCL	11.65

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics			
Number of Valid Data	52	Number of Detected Data	43
Number of Distinct Detected Data	38	Number of Non-Detect Data	9
		Percent Non-Detects	17.31%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00031	Minimum Detected	-8.079
Maximum Detected	0.87	Maximum Detected	-0.139
Mean of Detected	0.128	Mean of Detected	-3.347
SD of Detected	0.201	SD of Detected	2.075
Minimum Non-Detect	0.00038	Minimum Non-Detect	-7.875
Maximum Non-Detect	0.00052	Maximum Non-Detect	-7.562
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	40
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	23.08%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.631	Shapiro Wilk Test Statistic	0.924
5% Shapiro Wilk Critical Value	0.943	5% Shapiro Wilk Critical Value	0.943
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.106	Mean	-4.238
SD	0.189	SD	2.722
95% DL/2 (t) UCL	0.15	95% H-Stat (DL/2) UCL	3.426
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0704	Mean in Log Scale	-4.053
SD	0.224	SD in Log Scale	2.452
95% MLE (t) UCL	0.122	Mean in Original Scale	0.106
95% MLE (Tiku) UCL	0.122	SD in Original Scale	0.189
		95% t UCL	0.15
		95% Percentile Bootstrap UCL	0.151
		95% BCA Bootstrap UCL	0.163
		95% H UCL	1.499
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.473	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.272		
nu star	40.67		
A-D Test Statistic	0.268	Nonparametric Statistics	
5% A-D Critical Value	0.815	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.815	Mean	0.106
5% K-S Critical Value	0.143	SD	0.187
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0262
		95% KM (t) UCL	0.15
Assuming Gamma Distribution		95% KM (z) UCL	0.149
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.15
Minimum	0.000001	95% KM (bootstrap t) UCL	0.169
Maximum	0.87	95% KM (BCA) UCL	0.151
Mean	0.106	95% KM (Percentile Bootstrap) UCL	0.152
Median	0.0365	95% KM (Chebyshev) UCL	0.221
SD	0.189	97.5% KM (Chebyshev) UCL	0.27
k star	0.243	99% KM (Chebyshev) UCL	0.367
Theta star	0.437		
Nu star	25.28	Potential UCLs to Use	
AppChi2	14.83	95% KM (Chebyshev) UCL	0.221
95% Gamma Approximate UCL (Use when n >= 40)	0.181		
95% Adjusted Gamma UCL (Use when n < 40)	0.184		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-c,d)pyrene

General Statistics			
Number of Valid Data	52	Number of Detected Data	43
Number of Distinct Detected Data	37	Number of Non-Detect Data	9
		Percent Non-Detects	17.31%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00059	Minimum Detected	-7.435
Maximum Detected	2.2	Maximum Detected	0.788
Mean of Detected	0.334	Mean of Detected	-2.329
SD of Detected	0.512	SD of Detected	2.064
Minimum Non-Detect	0.00037	Minimum Non-Detect	-7.902
Maximum Non-Detect	0.00042	Maximum Non-Detect	-7.775
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	43
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	17.31%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.626	Shapiro Wilk Test Statistic	0.91
5% Shapiro Wilk Critical Value	0.943	5% Shapiro Wilk Critical Value	0.943
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.276	Mean	-3.406
SD	0.482	SD	3.025
95% DL/2 (t) UCL	0.388	95% H-Stat (DL/2) UCL	27.58
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.213	Mean in Log Scale	-3.069
SD	0.545	SD in Log Scale	2.493
95% MLE (t) UCL	0.34	Mean in Original Scale	0.277
95% MLE (Tiku) UCL	0.336	SD in Original Scale	0.482
		95% t UCL	0.389
		95% Percentile Bootstrap UCL	0.39
		95% BCA Bootstrap UCL	0.416
		95% H UCL	4.651
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.493	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.679		
nu star	42.37		
A-D Test Statistic	0.368	Nonparametric Statistics	
5% A-D Critical Value	0.812	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.812	Mean	0.277
5% K-S Critical Value	0.142	SD	0.477
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.067
		95% KM (t) UCL	0.389
Assuming Gamma Distribution		95% KM (z) UCL	0.387
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.388
Minimum	0.000001	95% KM (bootstrap t) UCL	0.474
Maximum	2.2	95% KM (BCA) UCL	0.398
Mean	0.276	95% KM (Percentile Bootstrap) UCL	0.396
Median	0.11	95% KM (Chebyshev) UCL	0.568
SD	0.482	97.5% KM (Chebyshev) UCL	0.695
k star	0.236	99% KM (Chebyshev) UCL	0.943
Theta star	1.173		
Nu star	24.5	Potential UCLs to Use	
AppChi2	14.23	95% KM (Chebyshev) UCL	0.568
95% Gamma Approximate UCL (Use when n >= 40)	0.476		
95% Adjusted Gamma UCL (Use when n < 40)	0.484		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics			
Number of Valid Observations	52	Number of Distinct Observations	50
Raw Statistics		Log-transformed Statistics	
Minimum	6580	Minimum of Log Data	8.792
Maximum	73750	Maximum of Log Data	11.21
Mean	20109	Mean of log Data	9.812
Geometric Mean	18256	SD of log Data	0.43
Median	18050		
SD	10385		
Std. Error of Mean	1440		
Coefficient of Variation	0.516		
Skewness	2.88		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.177	Lilliefors Test Statistic	0.0838
Lilliefors Critical Value	0.123	Lilliefors Critical Value	0.123
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	22522	95% H-UCL	22362
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	25371
95% Adjusted-CLT UCL (Chen-1995)	23092	97.5% Chebyshev (MVUE) UCL	27702
95% Modified-t UCL (Johnson-1978)	22618	99% Chebyshev (MVUE) UCL	32281
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.039	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3991		
MLE of Mean	20109		
MLE of Standard Deviation	8958		
nu star	524.1		
Approximate Chi Square Value (.05)	472	Nonparametric Statistics	
Adjusted Level of Significance	0.0454	95% CLT UCL	22478
Adjusted Chi Square Value	470.6	95% Jackknife UCL	22522
		95% Standard Bootstrap UCL	22412
Anderson-Darling Test Statistic	0.633	95% Bootstrap-t UCL	23537
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	25893
Kolmogorov-Smirnov Test Statistic	0.115	95% Percentile Bootstrap UCL	22785
Kolmogorov-Smirnov 5% Critical Value	0.123	95% BCA Bootstrap UCL	23248
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	26386
		97.5% Chebyshev(Mean, Sd) UCL	29103
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	34438
95% Approximate Gamma UCL (Use when n >= 40)	22328		
95% Adjusted Gamma UCL (Use when n < 40)	22395		
Potential UCL to Use		Use 95% Approximate Gamma UCL	22328

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics			
Number of Valid Observations	52	Number of Distinct Observations	52
Raw Statistics		Log-transformed Statistics	
Minimum	39.9	Minimum of Log Data	3.686
Maximum	1960	Maximum of Log Data	7.581
Mean	448.7	Mean of log Data	5.704
Geometric Mean	299.9	SD of log Data	0.983
Median	403.3		
SD	385.7		
Std. Error of Mean	53.49		
Coefficient of Variation	0.86		
Skewness	1.592		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.145	Lilliefors Test Statistic	0.138
Lilliefors Critical Value	0.123	Lilliefors Critical Value	0.123
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	538.3	95% H-UCL	666.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	814.1
95% Adjusted-CLT UCL (Chen-1995)	549.3	97.5% Chebyshev (MVUE) UCL	958.8
95% Modified-t UCL (Johnson-1978)	540.3	99% Chebyshev (MVUE) UCL	1243
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.317	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	340.7		
MLE of Mean	448.7		
MLE of Standard Deviation	391		
nu star	137		
Approximate Chi Square Value (.05)	110.9	Nonparametric Statistics	
Adjusted Level of Significance	0.0454	95% CLT UCL	536.7
Adjusted Chi Square Value	110.3	95% Jackknife UCL	538.3
		95% Standard Bootstrap UCL	536.1
Anderson-Darling Test Statistic	0.573	95% Bootstrap-t UCL	559.1
Anderson-Darling 5% Critical Value	0.77	95% Hall's Bootstrap UCL	558.3
Kolmogorov-Smirnov Test Statistic	0.103	95% Percentile Bootstrap UCL	538.9
Kolmogorov-Smirnov 5% Critical Value	0.126	95% BCA Bootstrap UCL	549.5
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	681.9
		97.5% Chebyshev(Mean, Sd) UCL	782.8
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	981
95% Approximate Gamma UCL (Use when n >= 40)	554.1		
95% Adjusted Gamma UCL (Use when n < 40)	557.4		
Potential UCL to Use		Use 95% Approximate Gamma UCL	554.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics			
Number of Valid Data	52	Number of Detected Data	46
Number of Distinct Detected Data	43	Number of Non-Detect Data	6
		Percent Non-Detects	11.54%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00022	Minimum Detected	-8.422
Maximum Detected	4	Maximum Detected	1.386
Mean of Detected	0.477	Mean of Detected	-2.44
SD of Detected	0.803	SD of Detected	2.572
Minimum Non-Detect	0.00041	Minimum Non-Detect	-7.799
Maximum Non-Detect	0.00047	Maximum Non-Detect	-7.663
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	44
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	15.38%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.616	Shapiro Wilk Test Statistic	0.908
5% Shapiro Wilk Critical Value	0.945	5% Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.422	Mean	-3.133
SD	0.77	SD	3.096
95% DL/2 (t) UCL	0.601	95% H-Stat (DL/2) UCL	49.45
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.334	Mean in Log Scale	-2.994
SD	0.855	SD in Log Scale	2.871
95% MLE (t) UCL	0.532	Mean in Original Scale	0.422
95% MLE (Tiku) UCL	0.524	SD in Original Scale	0.77
		95% t UCL	0.601
		95% Percentile Bootstrap UCL	0.608
		95% BCA Bootstrap UCL	0.672
		95% H UCL	21.67
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.378	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.262		
nu star	34.77		
A-D Test Statistic	0.232	Nonparametric Statistics	
5% A-D Critical Value	0.841	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.841	Mean	0.422
5% K-S Critical Value	0.14	SD	0.763
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.107
		95% KM (t) UCL	0.601
Assuming Gamma Distribution		95% KM (z) UCL	0.598
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.601
Minimum	0.000001	95% KM (bootstrap t) UCL	0.716
Maximum	4	95% KM (BCA) UCL	0.603
Mean	0.422	95% KM (Percentile Bootstrap) UCL	0.61
Median	0.115	95% KM (Chebyshev) UCL	0.888
SD	0.77	97.5% KM (Chebyshev) UCL	1.09
k star	0.245	99% KM (Chebyshev) UCL	1.486
Theta star	1.723		
Nu star	25.48	Potential UCLs to Use	
AppChi2	14.98	95% KM (Chebyshev) UCL	0.888
95% Gamma Approximate UCL (Use when n >= 40)	0.718		
95% Adjusted Gamma UCL (Use when n < 40)	0.729		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics			
Number of Valid Data	77	Number of Detected Data	51
Number of Distinct Detected Data	47	Number of Non-Detect Data	26
		Percent Non-Detects	33.77%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00785	Minimum Detected	-4.847
Maximum Detected	3.73	Maximum Detected	1.316
Mean of Detected	0.388	Mean of Detected	-1.952
SD of Detected	0.679	SD of Detected	1.396
Minimum Non-Detect	0.0046	Minimum Non-Detect	-5.382
Maximum Non-Detect	0.043	Maximum Non-Detect	-3.147
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	36
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	41
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	46.75%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.295	Lilliefors Test Statistic	0.101
5% Lilliefors Critical Value	0.124	5% Lilliefors Critical Value	0.124
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.26	Mean	-3.02
SD	0.58	SD	1.964
95% DL/2 (t) UCL	0.37	95% H-Stat (DL/2) UCL	0.72
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.995
		SD in Log Scale	1.879
		Mean in Original Scale	0.259
		SD in Original Scale	0.58
		95% t UCL	0.369
		95% Percentile Bootstrap UCL	0.372
		95% BCA Bootstrap UCL	0.42
		95% H-UCL	0.592
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.59	Data appear Lognormal at 5% Significance Level	
Theta Star	0.658		
nu star	60.18		
A-D Test Statistic	2.438	Nonparametric Statistics	
5% A-D Critical Value	0.805	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.805	Mean	0.26
5% K-S Critical Value	0.13	SD	0.576
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0663
		95% KM (t) UCL	0.371
Assuming Gamma Distribution		95% KM (z) UCL	0.369
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.369
Minimum	0.000001	95% KM (bootstrap t) UCL	0.424
Maximum	3.73	95% KM (BCA) UCL	0.395
Mean	0.257	95% KM (Percentile Bootstrap) UCL	0.373
Median	0.051	95% KM (Chebyshev) UCL	0.549
SD	0.581	97.5% KM (Chebyshev) UCL	0.674
k star	0.167	99% KM (Chebyshev) UCL	0.92
Theta star	1.538		
Nu star	25.73	Potential UCLs to Use	
AppChi2	15.17	95% KM (Chebyshev) UCL	0.549
95% Gamma Approximate UCL (Use when n >= 40)	0.436		
95% Adjusted Gamma UCL (Use when n < 40)	0.44		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics			
Number of Valid Observations	52	Number of Distinct Observations	50
Raw Statistics		Log-transformed Statistics	
Minimum	9.7	Minimum of Log Data	2.272
Maximum	151.5	Maximum of Log Data	5.021
Mean	35.65	Mean of log Data	3.41
Geometric Mean	30.27	SD of log Data	0.525
Median	27.7		
SD	26.92		
Std. Error of Mean	3.733		
Coefficient of Variation	0.755		
Skewness	3.069		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.251	Lilliefors Test Statistic	0.12
Lilliefors Critical Value	0.123	Lilliefors Critical Value	0.123
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	41.91	95% H-UCL	39.95
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	46.26
95% Adjusted-CLT UCL (Chen-1995)	43.49	97.5% Chebyshev (MVUE) UCL	51.29
95% Modified-t UCL (Johnson-1978)	42.17	99% Chebyshev (MVUE) UCL	61.16
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.037	Data appear Lognormal at 5% Significance Level	
Theta Star	11.74		
MLE of Mean	35.65		
MLE of Standard Deviation	20.46		
nu star	315.8		
Approximate Chi Square Value (.05)	275.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0454	95% CLT UCL	41.79
Adjusted Chi Square Value	274.6	95% Jackknife UCL	41.91
		95% Standard Bootstrap UCL	41.95
Anderson-Darling Test Statistic	2.176	95% Bootstrap-t UCL	45.72
Anderson-Darling 5% Critical Value	0.756	95% Hall's Bootstrap UCL	53.32
Kolmogorov-Smirnov Test Statistic	0.169	95% Percentile Bootstrap UCL	42.11
Kolmogorov-Smirnov 5% Critical Value	0.124	95% BCA Bootstrap UCL	43.28
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	51.93
		97.5% Chebyshev(Mean, Sd) UCL	58.97
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	72.8
95% Approximate Gamma UCL (Use when n >= 40)	40.85		
95% Adjusted Gamma UCL (Use when n < 40)	41.01		
Potential UCL to Use		Use 95% H-UCL	39.95

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics			
Number of Valid Data	24	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	8
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0032	Minimum Detected	-5.745
Maximum Detected	0.3	Maximum Detected	-1.204
Mean of Detected	0.0405	Mean of Detected	-3.888
SD of Detected	0.0723	SD of Detected	1.06
Minimum Non-Detect	0.00046	Minimum Non-Detect	-7.684
Maximum Non-Detect	1.7	Maximum Non-Detect	0.531
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.479	Shapiro Wilk Test Statistic	0.933
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.212	Mean	-3.345
SD	0.32	SD	2.313
95% DL/2 (t) UCL	0.324	95% H-Stat (DL/2) UCL	4.762
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.151
		SD in Log Scale	1.098
		Mean in Original Scale	0.0314
		SD in Original Scale	0.0601
		95% t UCL	0.0524
		95% Percentile Bootstrap UCL	0.0536
		95% BCA Bootstrap UCL	0.0649
		95% H-UCL	0.0531
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.742	Data appear Lognormal at 5% Significance Level	
Theta Star	0.0546		
nu star	23.76		
A-D Test Statistic	1.346	Nonparametric Statistics	
5% A-D Critical Value	0.769	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.769	Mean	0.0364
5% K-S Critical Value	0.222	SD	0.0671
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0163
		95% KM (t) UCL	0.0643
Assuming Gamma Distribution		95% KM (z) UCL	0.0632
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0643
Minimum	0.000001	95% KM (bootstrap t) UCL	0.177
Maximum	0.3	95% KM (BCA) UCL	0.0711
Mean	0.0339	95% KM (Percentile Bootstrap) UCL	0.0679
Median	0.02	95% KM (Chebyshev) UCL	0.108
SD	0.0602	97.5% KM (Chebyshev) UCL	0.138
k star	0.376	99% KM (Chebyshev) UCL	0.199
Theta star	0.0902		
Nu star	18.03	Potential UCLs to Use	
AppChi2	9.416	97.5% KM (Chebyshev) UCL	0.138
95% Gamma Approximate UCL (Use when n >= 40)	0.0649		
95% Adjusted Gamma UCL (Use when n < 40)	0.0681		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	23
Raw Statistics		Log-transformed Statistics	
Minimum	4100	Minimum of Log Data	8.319
Maximum	21400	Maximum of Log Data	9.971
Mean	9164	Mean of log Data	9.057
Geometric Mean	8580	SD of log Data	0.367
Median	8665		
SD	3606		
Std. Error of Mean	736.1		
Coefficient of Variation	0.394		
Skewness	1.618		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.875	Shapiro Wilk Test Statistic	0.973
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	10426	95% H-UCL	10593
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	12207
95% Adjusted-CLT UCL (Chen-1995)	10635	97.5% Chebyshev (MVUE) UCL	13530
95% Modified-t UCL (Johnson-1978)	10466	99% Chebyshev (MVUE) UCL	16127
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	6.816	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1344		
MLE of Mean	9164		
MLE of Standard Deviation	3510		
nu star	327.2		
Approximate Chi Square Value (.05)	286.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	10375
Adjusted Chi Square Value	283.6	95% Jackknife UCL	10426
		95% Standard Bootstrap UCL	10345
Anderson-Darling Test Statistic	0.319	95% Bootstrap-t UCL	10800
Anderson-Darling 5% Critical Value	0.745	95% Hall's Bootstrap UCL	11424
Kolmogorov-Smirnov Test Statistic	0.1	95% Percentile Bootstrap UCL	10448
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	10741
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	12373
		97.5% Chebyshev(Mean, Sd) UCL	13761
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	16489
95% Approximate Gamma UCL (Use when n >= 40)	10474		
95% Adjusted Gamma UCL (Use when n < 40)	10573		
Potential UCL to Use		Use 95% Approximate Gamma UCL	10474

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Antimony

General Statistics

Number of Valid Data	24	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	15
		Percent Non-Detects	62.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	11	Minimum Detected	2.398
Maximum Detected	42	Maximum Detected	3.738
Mean of Detected	16.39	Mean of Detected	2.701
SD of Detected	9.735	SD of Detected	0.407
Minimum Non-Detect	0.01	Minimum Non-Detect	-4.605
Maximum Non-Detect	0.059	Maximum Non-Detect	-2.83

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	62.50%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.546	Shapiro Wilk Test Statistic	0.674
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	6.157	Mean	-1.707
SD	9.925	SD	3.569
95% DL/2 (t) UCL	9.629	95% H-Stat (DL/2) UCL	17191
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	17.15	Mean in Log Scale	1.955
SD	9.179	SD in Log Scale	0.713
95% MLE (t) UCL	20.36	Mean in Original Scale	9.186
95% MLE (Tiku) UCL	22.32	SD in Original Scale	8.217
		95% t UCL	12.06
		95% Percentile Bootstrap UCL	12.17
		95% BCA Bootstrap UCL	13.42
		95% H UCL	12.63
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	3.686	Data do not follow a Discernable Distribution (0.05)	
Theta Star	4.446		
nu star	66.35		
A-D Test Statistic	1.489	Nonparametric Statistics	
5% A-D Critical Value	0.723	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.723	Mean	13.02
5% K-S Critical Value	0.28	SD	6.197
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.342
		95% KM (t) UCL	15.32
Assuming Gamma Distribution		95% KM (z) UCL	15.23
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	15.05
Minimum	0.000001	95% KM (bootstrap t) UCL	21.79
Maximum	42	95% KM (BCA) UCL	16.41
Mean	6.146	95% KM (Percentile Bootstrap) UCL	15.65
Median	0.000001	95% KM (Chebyshev) UCL	18.87
SD	9.933	97.5% KM (Chebyshev) UCL	21.4
k star	0.104	99% KM (Chebyshev) UCL	26.37
Theta star	58.91		
Nu star	5.007	Potential UCLs to Use	
AppChi2	1.156	95% KM (t) UCL	15.32
95% Gamma Approximate UCL (Use when n >= 40)	26.63	95% KM (% Bootstrap) UCL	15.65
95% Adjusted Gamma UCL (Use when n < 40)	29.79		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics

Number of Valid Observations	24	Number of Distinct Observations	22

Raw Statistics		Log-transformed Statistics	
Minimum	1	Minimum of Log Data	0
Maximum	39.4	Maximum of Log Data	3.674
Mean	10.85	Mean of log Data	1.759
Geometric Mean	5.806	SD of log Data	1.209
Median	4		
SD	11.2		
Std. Error of Mean	2.287		
Coefficient of Variation	1.033		
Skewness	1.078		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.822	Shapiro Wilk Test Statistic	0.902
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	14.77	95% H-UCL	24.63
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	25.99
95% Adjusted-CLT UCL (Chen-1995)	15.15	97.5% Chebyshev (MVUE) UCL	32.27
95% Modified-t UCL (Johnson-1978)	14.85	99% Chebyshev (MVUE) UCL	44.61

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.843	Data do not follow a Discernable Distribution (0.05)	
Theta Star	12.87		
MLE of Mean	10.85		
MLE of Standard Deviation	11.82		
nu star	40.45		
Approximate Chi Square Value (.05)	26.88	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	14.61
Adjusted Chi Square Value	26.1	95% Jackknife UCL	14.77
		95% Standard Bootstrap UCL	14.52
Anderson-Darling Test Statistic	1.058	95% Bootstrap-t UCL	15.53
Anderson-Darling 5% Critical Value	0.775	95% Hall's Bootstrap UCL	15.21
Kolmogorov-Smirnov Test Statistic	0.2	95% Percentile Bootstrap UCL	14.62
Kolmogorov-Smirnov 5% Critical Value	0.184	95% BCA Bootstrap UCL	15.03
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	20.82
		97.5% Chebyshev(Mean, Sd) UCL	25.13
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	33.6
95% Approximate Gamma UCL (Use when n >= 40)	16.33		
95% Adjusted Gamma UCL (Use when n < 40)	16.81		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	20.82

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	22
Raw Statistics		Log-transformed Statistics	
Minimum	0.00097	Minimum of Log Data	-6.938
Maximum	4.9	Maximum of Log Data	1.589
Mean	1.321	Mean of log Data	-0.404
Geometric Mean	0.668	SD of log Data	1.746
Median	0.815		
SD	1.297		
Std. Error of Mean	0.265		
Coefficient of Variation	0.982		
Skewness	1.624		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.816	Shapiro Wilk Test Statistic	0.76
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.775	95% H-UCL	11.65
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7.896
95% Adjusted-CLT UCL (Chen-1995)	1.85	97.5% Chebyshev (MVUE) UCL	10.16
95% Modified-t UCL (Johnson-1978)	1.789	99% Chebyshev (MVUE) UCL	14.6
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.782	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.69		
MLE of Mean	1.321		
MLE of Standard Deviation	1.494		
nu star	37.52		
Approximate Chi Square Value (.05)	24.49	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1.756
Adjusted Chi Square Value	23.75	95% Jackknife UCL	1.775
		95% Standard Bootstrap UCL	1.741
Anderson-Darling Test Statistic	0.423	95% Bootstrap-t UCL	1.933
Anderson-Darling 5% Critical Value	0.778	95% Hall's Bootstrap UCL	2.005
Kolmogorov-Smirnov Test Statistic	0.128	95% Percentile Bootstrap UCL	1.761
Kolmogorov-Smirnov 5% Critical Value	0.184	95% BCA Bootstrap UCL	1.877
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.475
		97.5% Chebyshev(Mean, Sd) UCL	2.975
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.956
95% Approximate Gamma UCL (Use when n >= 40)	2.023		
95% Adjusted Gamma UCL (Use when n < 40)	2.086		
Potential UCL to Use		Use 95% Approximate Gamma UCL	2.023

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	0.0051	Minimum of Log Data	-5.279
Maximum	4.5	Maximum of Log Data	1.504
Mean	1.391	Mean of log Data	-0.241
Geometric Mean	0.786	SD of log Data	1.461
Median	0.88		
SD	1.275		
Std. Error of Mean	0.26		
Coefficient of Variation	0.917		
Skewness	1.379		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.836	Shapiro Wilk Test Statistic	0.815
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.837	95% H-UCL	6.086
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	5.445
95% Adjusted-CLT UCL (Chen-1995)	1.898	97.5% Chebyshev (MVUE) UCL	6.89
95% Modified-t UCL (Johnson-1978)	1.85	99% Chebyshev (MVUE) UCL	9.729
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.911	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.527		
MLE of Mean	1.391		
MLE of Standard Deviation	1.458		
nu star	43.73		
Approximate Chi Square Value (.05)	29.56	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1.819
Adjusted Chi Square Value	28.74	95% Jackknife UCL	1.837
		95% Standard Bootstrap UCL	1.809
Anderson-Darling Test Statistic	0.395	95% Bootstrap-t UCL	1.969
Anderson-Darling 5% Critical Value	0.772	95% Hall's Bootstrap UCL	1.924
Kolmogorov-Smirnov Test Statistic	0.126	95% Percentile Bootstrap UCL	1.837
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	1.859
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.526
		97.5% Chebyshev(Mean, Sd) UCL	3.017
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.981
95% Approximate Gamma UCL (Use when n >= 40)	2.058		
95% Adjusted Gamma UCL (Use when n < 40)	2.117		
Potential UCL to Use		Use 95% Approximate Gamma UCL	2.058

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	22
Raw Statistics		Log-transformed Statistics	
Minimum	0.0028	Minimum of Log Data	-5.878
Maximum	6.6	Maximum of Log Data	1.887
Mean	1.774	Mean of log Data	-0.046
Geometric Mean	0.955	SD of log Data	1.577
Median	1.2		
SD	1.761		
Std. Error of Mean	0.36		
Coefficient of Variation	0.993		
Skewness	1.707		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.789	Shapiro Wilk Test Statistic	0.783
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.39	95% H-UCL	10.12
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8.187
95% Adjusted-CLT UCL (Chen-1995)	2.499	97.5% Chebyshev (MVUE) UCL	10.44
95% Modified-t UCL (Johnson-1978)	2.411	99% Chebyshev (MVUE) UCL	14.85
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.85	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.088		
MLE of Mean	1.774		
MLE of Standard Deviation	1.924		
nu star	40.78		
Approximate Chi Square Value (.05)	27.15	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	2.365
Adjusted Chi Square Value	26.37	95% Jackknife UCL	2.39
		95% Standard Bootstrap UCL	2.35
Anderson-Darling Test Statistic	0.484	95% Bootstrap-t UCL	2.575
Anderson-Darling 5% Critical Value	0.774	95% Hall's Bootstrap UCL	2.534
Kolmogorov-Smirnov Test Statistic	0.127	95% Percentile Bootstrap UCL	2.358
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	2.483
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.341
		97.5% Chebyshev(Mean, Sd) UCL	4.019
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.351
95% Approximate Gamma UCL (Use when n >= 40)	2.665		
95% Adjusted Gamma UCL (Use when n < 40)	2.744		
Potential UCL to Use		Use 95% Approximate Gamma UCL	2.665

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	24	Number of Detected Data	23
Number of Distinct Detected Data	22	Number of Non-Detect Data	1
		Percent Non-Detects	4.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0012	Minimum Detected	-6.725
Maximum Detected	2.8	Maximum Detected	1.03
Mean of Detected	0.937	Mean of Detected	-0.542
SD of Detected	0.745	SD of Detected	1.512
Minimum Non-Detect	0.064	Minimum Non-Detect	-2.749
Maximum Non-Detect	0.064	Maximum Non-Detect	-2.749

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.863	Shapiro Wilk Test Statistic	0.657
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.899	Mean	-0.663
SD	0.752	SD	1.593
95% DL/2 (t) UCL	1.162	95% H-Stat (DL/2) UCL	5.71

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.869	Mean in Log Scale	-0.647
SD	0.784	SD in Log Scale	1.566
95% MLE (t) UCL	1.143	Mean in Original Scale	0.9
95% MLE (Tiku) UCL	1.138	SD in Original Scale	0.751
		95% t UCL	1.163
		95% Percentile Bootstrap UCL	1.165
		95% BCA Bootstrap UCL	1.197
		95% H UCL	5.376

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.061	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.883	
nu star	48.82	

		Nonparametric Statistics	
A-D Test Statistic	0.667		
5% A-D Critical Value	0.766	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.766	Mean	0.898
5% K-S Critical Value	0.186	SD	0.737
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.154
		95% KM (t) UCL	1.162
Assuming Gamma Distribution		95% KM (z) UCL	1.151
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.156
Minimum	0.000001	95% KM (bootstrap t) UCL	1.224
Maximum	2.8	95% KM (BCA) UCL	1.161
Mean	0.898	95% KM (Percentile Bootstrap) UCL	1.162
Median	0.685	95% KM (Chebyshev) UCL	1.569
SD	0.753	97.5% KM (Chebyshev) UCL	1.859
k star	0.572	99% KM (Chebyshev) UCL	2.429
Theta star	1.569		
Nu star	27.47	Potential UCLs to Use	
AppChi2	16.52	95% KM (Chebyshev) UCL	1.569
95% Gamma Approximate UCL (Use when n >= 40)	1.494		
95% Adjusted Gamma UCL (Use when n < 40)	1.55		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics

Number of Valid Data	24	Number of Detected Data	23
Number of Distinct Detected Data	20	Number of Non-Detect Data	1
		Percent Non-Detects	4.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0018	Minimum Detected	-6.32
Maximum Detected	5.3	Maximum Detected	1.668
Mean of Detected	1.053	Mean of Detected	-0.535
SD of Detected	1.144	SD of Detected	1.506
Minimum Non-Detect	0.061	Minimum Non-Detect	-2.797
Maximum Non-Detect	0.061	Maximum Non-Detect	-2.797

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.724	Shapiro Wilk Test Statistic	0.756
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.011	Mean	-0.658
SD	1.138	SD	1.592
95% DL/2 (t) UCL	1.409	95% H-Stat (DL/2) UCL	5.723

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.957	Mean in Log Scale	-0.647
SD	1.186	SD in Log Scale	1.572
95% MLE (t) UCL	1.372	Mean in Original Scale	1.011
95% MLE (Tiku) UCL	1.353	SD in Original Scale	1.138
		95% t UCL	1.409
		95% Percentile Bootstrap UCL	1.408
		95% BCA Bootstrap UCL	1.532
		95% H UCL	5.475

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.886	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.188	
nu star	40.77	

		Nonparametric Statistics	
A-D Test Statistic	0.539		
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	1.009
5% K-S Critical Value	0.187	SD	1.115
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.233
		95% KM (t) UCL	1.408
Assuming Gamma Distribution		95% KM (z) UCL	1.392
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.403
Minimum	0.000001	95% KM (bootstrap t) UCL	1.656
Maximum	5.3	95% KM (BCA) UCL	1.419
Mean	1.009	95% KM (Percentile Bootstrap) UCL	1.404
Median	0.6	95% KM (Chebyshev) UCL	2.024
SD	1.139	97.5% KM (Chebyshev) UCL	2.463
k star	0.525	99% KM (Chebyshev) UCL	3.325
Theta star	1.924		
Nu star	25.18	Potential UCLs to Use	
AppChi2	14.75	95% KM (Chebyshev) UCL	2.024
95% Gamma Approximate UCL (Use when n >= 40)	1.723		
95% Adjusted Gamma UCL (Use when n < 40)	1.791		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics			
Number of Valid Data	24	Number of Detected Data	16
Number of Distinct Detected Data	15	Number of Non-Detect Data	8
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	1	Minimum Detected	0
Maximum Detected	14	Maximum Detected	2.639
Mean of Detected	5.875	Mean of Detected	1.514
SD of Detected	3.688	SD of Detected	0.825
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.019	Maximum Non-Detect	-3.963
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	16
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.939	Shapiro Wilk Test Statistic	0.892
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.919	Mean	-0.731
SD	4.106	SD	3.36
95% DL/2 (t) UCL	5.355	95% H-Stat (DL/2) UCL	12605
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.721	Mean in Log Scale	0.883
SD	5.588	SD in Log Scale	1.156
95% MLE (t) UCL	4.675	Mean in Original Scale	4.164
95% MLE (Tiku) UCL	4.85	SD in Original Scale	3.874
		95% t UCL	5.52
		95% Percentile Bootstrap UCL	5.423
		95% BCA Bootstrap UCL	5.529
		95% H UCL	9.162
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.745	Data appear Normal at 5% Significance Level	
Theta Star	3.368		
nu star	55.83		
A-D Test Statistic	0.511	Nonparametric Statistics	
5% A-D Critical Value	0.75	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.75	Mean	4.25
5% K-S Critical Value	0.218	SD	3.713
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.783
		95% KM (t) UCL	5.591
Assuming Gamma Distribution		95% KM (z) UCL	5.537
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.536
Minimum	0.000001	95% KM (bootstrap t) UCL	5.739
Maximum	14	95% KM (BCA) UCL	5.625
Mean	3.917	95% KM (Percentile Bootstrap) UCL	5.613
Median	2.7	95% KM (Chebyshev) UCL	7.662
SD	4.108	97.5% KM (Chebyshev) UCL	9.138
k star	0.163	99% KM (Chebyshev) UCL	12.04
Theta star	24.06		
Nu star	7.813	Potential UCLs to Use	
AppChi2	2.627	95% KM (t) UCL	5.591
95% Gamma Approximate UCL (Use when n >= 40)	11.65	95% KM (Percentile Bootstrap) UCL	5.613
95% Adjusted Gamma UCL (Use when n < 40)	12.64		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics			
Number of Valid Data	18	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	4
		Percent Non-Detects	22.22%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.016	Minimum Detected	-4.135
Maximum Detected	0.76	Maximum Detected	-0.274
Mean of Detected	0.128	Mean of Detected	-2.647
SD of Detected	0.191	SD of Detected	1.05
Minimum Non-Detect	0.024	Minimum Non-Detect	-3.73
Maximum Non-Detect	0.065	Maximum Non-Detect	-2.733
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	7
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	61.11%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.561	Shapiro Wilk Test Statistic	0.949
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.105	Mean	-2.896
SD	0.173	SD	1.053
95% DL/2 (t) UCL	0.176	95% H-Stat (DL/2) UCL	0.192
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.9
		SD in Log Scale	1.044
		Mean in Original Scale	0.104
		SD in Original Scale	0.173
		95% t UCL	0.175
		95% Percentile Bootstrap UCL	0.182
		95% BCA Bootstrap UCL	0.22
		95% H-UCL	0.188
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.819	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.156		
nu star	22.94		
A-D Test Statistic	0.713	Nonparametric Statistics	
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	0.105
5% K-S Critical Value	0.235	SD	0.168
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0412
		95% KM (t) UCL	0.177
Assuming Gamma Distribution		95% KM (z) UCL	0.173
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.176
Minimum	0.000001	95% KM (bootstrap t) UCL	0.318
Maximum	0.76	95% KM (BCA) UCL	0.179
Mean	0.0995	95% KM (Percentile Bootstrap) UCL	0.178
Median	0.0573	95% KM (Chebyshev) UCL	0.284
SD	0.176	97.5% KM (Chebyshev) UCL	0.362
k star	0.281	99% KM (Chebyshev) UCL	0.515
Theta star	0.354		
Nu star	10.12	Potential UCLs to Use	
AppChi2	4.015	95% KM (Chebyshev) UCL	0.284
95% Gamma Approximate UCL (Use when n >= 40)	0.251		
95% Adjusted Gamma UCL (Use when n < 40)	0.276		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	23
Raw Statistics		Log-transformed Statistics	
Minimum	3	Minimum of Log Data	1.099
Maximum	34.3	Maximum of Log Data	3.535
Mean	9.41	Mean of log Data	2.052
Geometric Mean	7.786	SD of log Data	0.595
Median	7.725		
SD	7.033		
Std. Error of Mean	1.436		
Coefficient of Variation	0.747		
Skewness	2.344		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.745	Shapiro Wilk Test Statistic	0.962
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	11.87	95% H-UCL	12.02
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	14.37
95% Adjusted-CLT UCL (Chen-1995)	12.51	97.5% Chebyshev (MVUE) UCL	16.6
95% Modified-t UCL (Johnson-1978)	11.99	99% Chebyshev (MVUE) UCL	20.98
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.473	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.805		
MLE of Mean	9.41		
MLE of Standard Deviation	5.984		
nu star	118.7		
Approximate Chi Square Value (.05)	94.56	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	11.77
Adjusted Chi Square Value	93.04	95% Jackknife UCL	11.87
		95% Standard Bootstrap UCL	11.74
Anderson-Darling Test Statistic	0.673	95% Bootstrap-t UCL	13.51
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL	16.56
Kolmogorov-Smirnov Test Statistic	0.158	95% Percentile Bootstrap UCL	12.01
Kolmogorov-Smirnov 5% Critical Value	0.179	95% BCA Bootstrap UCL	12.59
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	15.67
		97.5% Chebyshev(Mean, Sd) UCL	18.38
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23.69
95% Approximate Gamma UCL (Use when n >= 40)	11.81		
95% Adjusted Gamma UCL (Use when n < 40)	12.01		
Potential UCL to Use		Use 95% Approximate Gamma UCL	11.81

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	3.9	Minimum of Log Data	1.361
Maximum	12000	Maximum of Log Data	9.393
Mean	658.6	Mean of log Data	4.426
Geometric Mean	83.63	SD of log Data	1.811
Median	46.4		
SD	2424		
Std. Error of Mean	494.7		
Coefficient of Variation	3.68		
Skewness	4.847		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.269	Shapiro Wilk Test Statistic	0.944
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1507	95% H-UCL	1796
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1126
95% Adjusted-CLT UCL (Chen-1995)	1995	97.5% Chebyshev (MVUE) UCL	1453
95% Modified-t UCL (Johnson-1978)	1588	99% Chebyshev (MVUE) UCL	2095
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.316	Data appear Lognormal at 5% Significance Level	
Theta Star	2086		
MLE of Mean	658.6		
MLE of Standard Deviation	1172		
nu star	15.16		
Approximate Chi Square Value (.05)	7.371	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1472
Adjusted Chi Square Value	6.99	95% Jackknife UCL	1507
		95% Standard Bootstrap UCL	1424
Anderson-Darling Test Statistic	2.521	95% Bootstrap-t UCL	8625
Anderson-Darling 5% Critical Value	0.845	95% Hall's Bootstrap UCL	4942
Kolmogorov-Smirnov Test Statistic	0.263	95% Percentile Bootstrap UCL	1623
Kolmogorov-Smirnov 5% Critical Value	0.192	95% BCA Bootstrap UCL	2117
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2815
		97.5% Chebyshev(Mean, Sd) UCL	3748
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5581
95% Approximate Gamma UCL (Use when n >= 40)	1354		
95% Adjusted Gamma UCL (Use when n < 40)	1428		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	2815

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics			
Number of Valid Data	24	Number of Detected Data	16
Number of Distinct Detected Data	14	Number of Non-Detect Data	8
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.073	Minimum Detected	-2.617
Maximum Detected	1.1	Maximum Detected	0.0953
Mean of Detected	0.375	Mean of Detected	-1.281
SD of Detected	0.301	SD of Detected	0.812
Minimum Non-Detect	0.00043	Minimum Non-Detect	-7.752
Maximum Non-Detect	1.7	Maximum Non-Detect	0.531
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.855	Shapiro Wilk Test Statistic	0.961
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.404	Mean	-1.599
SD	0.322	SD	1.835
95% DL/2 (t) UCL	0.517	95% H-Stat (DL/2) UCL	4.678
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.576
		SD in Log Scale	0.915
		Mean in Original Scale	0.301
		SD in Original Scale	0.273
		95% t UCL	0.396
		95% Percentile Bootstrap UCL	0.398
		95% BCA Bootstrap UCL	0.412
		95% H-UCL	0.5
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.513	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.248		
nu star	48.42		
A-D Test Statistic	0.439	Nonparametric Statistics	
5% A-D Critical Value	0.752	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.752	Mean	0.327
5% K-S Critical Value	0.218	SD	0.29
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0686
		95% KM (t) UCL	0.445
Assuming Gamma Distribution		95% KM (z) UCL	0.44
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.443
Minimum	0.000001	95% KM (bootstrap t) UCL	0.479
Maximum	1.1	95% KM (BCA) UCL	0.453
Mean	0.312	95% KM (Percentile Bootstrap) UCL	0.447
Median	0.24	95% KM (Chebyshev) UCL	0.627
SD	0.28	97.5% KM (Chebyshev) UCL	0.756
k star	0.369	99% KM (Chebyshev) UCL	1.01
Theta star	0.845		
Nu star	17.71	Potential UCLs to Use	
AppChi2	9.179	95% KM (Percentile Bootstrap) UCL	0.447
95% Gamma Approximate UCL (Use when n >= 40)	0.602		
95% Adjusted Gamma UCL (Use when n < 40)	0.631		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-c,d)pyrene

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	23
Raw Statistics		Log-transformed Statistics	
Minimum	0.00077	Minimum of Log Data	-7.169
Maximum	3.3	Maximum of Log Data	1.194
Mean	0.945	Mean of log Data	-0.69
Geometric Mean	0.501	SD of log Data	1.683
Median	0.635		
SD	0.903		
Std. Error of Mean	0.184		
Coefficient of Variation	0.956		
Skewness	1.557		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.813	Shapiro Wilk Test Statistic	0.74
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.261	95% H-UCL	7.217
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	5.248
95% Adjusted-CLT UCL (Chen-1995)	1.311	97.5% Chebyshev (MVUE) UCL	6.73
95% Modified-t UCL (Johnson-1978)	1.271	99% Chebyshev (MVUE) UCL	9.64
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.833	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.134		
MLE of Mean	0.945		
MLE of Standard Deviation	1.035		
nu star	39.99		
Approximate Chi Square Value (.05)	26.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1.248
Adjusted Chi Square Value	25.73	95% Jackknife UCL	1.261
		95% Standard Bootstrap UCL	1.248
Anderson-Darling Test Statistic	0.501	95% Bootstrap-t UCL	1.367
Anderson-Darling 5% Critical Value	0.775	95% Hall's Bootstrap UCL	1.353
Kolmogorov-Smirnov Test Statistic	0.143	95% Percentile Bootstrap UCL	1.26
Kolmogorov-Smirnov 5% Critical Value	0.184	95% BCA Bootstrap UCL	1.321
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.749
		97.5% Chebyshev(Mean, Sd) UCL	2.096
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.779
95% Approximate Gamma UCL (Use when n >= 40)	1.426		
95% Adjusted Gamma UCL (Use when n < 40)	1.469		
Potential UCL to Use		Use 95% Approximate Gamma UCL	1.426

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Iron

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	22
Raw Statistics		Log-transformed Statistics	
Minimum	8600	Minimum of Log Data	9.06
Maximum	282000	Maximum of Log Data	12.55
Mean	53860	Mean of log Data	10.35
Geometric Mean	31237	SD of log Data	0.952
Median	22350		
SD	73220		
Std. Error of Mean	14946		
Coefficient of Variation	1.359		
Skewness	2.386		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.606	Shapiro Wilk Test Statistic	0.878
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	79476	95% H-UCL	80358
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	93415
95% Adjusted-CLT UCL (Chen-1995)	86224	97.5% Chebyshev (MVUE) UCL	113123
95% Modified-t UCL (Johnson-1978)	80689	99% Chebyshev (MVUE) UCL	151837
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.949	Data do not follow a Discernable Distribution (0.05)	
Theta Star	56737		
MLE of Mean	53860		
MLE of Standard Deviation	55280		
nu star	45.57		
Approximate Chi Square Value (.05)	31.08	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	78444
Adjusted Chi Square Value	30.24	95% Jackknife UCL	79476
		95% Standard Bootstrap UCL	77502
Anderson-Darling Test Statistic	2.059	95% Bootstrap-t UCL	111927
Anderson-Darling 5% Critical Value	0.771	95% Hall's Bootstrap UCL	93848
Kolmogorov-Smirnov Test Statistic	0.252	95% Percentile Bootstrap UCL	78975
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	86135
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	119008
		97.5% Chebyshev(Mean, Sd) UCL	147197
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	202570
95% Approximate Gamma UCL (Use when n >= 40)	78964		
95% Adjusted Gamma UCL (Use when n < 40)	81162		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	119008

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	55.8	Minimum of Log Data	4.022
Maximum	1390	Maximum of Log Data	7.237
Mean	528.8	Mean of log Data	5.982
Geometric Mean	396.2	SD of log Data	0.836
Median	437		
SD	393.3		
Std. Error of Mean	80.27		
Coefficient of Variation	0.744		
Skewness	1.127		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.865	Shapiro Wilk Test Statistic	0.953
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	666.4	95% H-UCL	844
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1003
95% Adjusted-CLT UCL (Chen-1995)	680.5	97.5% Chebyshev (MVUE) UCL	1198
95% Modified-t UCL (Johnson-1978)	669.4	99% Chebyshev (MVUE) UCL	1581
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.674	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	315.9		
MLE of Mean	528.8		
MLE of Standard Deviation	408.7		
nu star	80.34		
Approximate Chi Square Value (.05)	60.68	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	660.8
Adjusted Chi Square Value	59.48	95% Jackknife UCL	666.4
		95% Standard Bootstrap UCL	658.6
Anderson-Darling Test Statistic	0.271	95% Bootstrap-t UCL	695.7
Anderson-Darling 5% Critical Value	0.757	95% Hall's Bootstrap UCL	678.9
Kolmogorov-Smirnov Test Statistic	0.1	95% Percentile Bootstrap UCL	660
Kolmogorov-Smirnov 5% Critical Value	0.18	95% BCA Bootstrap UCL	673.5
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	878.7
		97.5% Chebyshev(Mean, Sd) UCL	1030
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1327
95% Approximate Gamma UCL (Use when n >= 40)	700		
95% Adjusted Gamma UCL (Use when n < 40)	714.1		
Potential UCL to Use		Use 95% Approximate Gamma UCL	700

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	23
Raw Statistics		Log-transformed Statistics	
Minimum	0.02	Minimum of Log Data	-3.912
Maximum	5.7	Maximum of Log Data	1.74
Mean	1.282	Mean of log Data	-0.761
Geometric Mean	0.467	SD of log Data	1.629
Median	0.365		
SD	1.624		
Std. Error of Mean	0.331		
Coefficient of Variation	1.267		
Skewness	1.517		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.772	Shapiro Wilk Test Statistic	0.952
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.85	95% H-UCL	5.743
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.415
95% Adjusted-CLT UCL (Chen-1995)	1.937	97.5% Chebyshev (MVUE) UCL	5.644
95% Modified-t UCL (Johnson-1978)	1.867	99% Chebyshev (MVUE) UCL	8.06
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.562	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.281		
MLE of Mean	1.282		
MLE of Standard Deviation	1.71		
nu star	26.97		
Approximate Chi Square Value (.05)	16.13	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1.827
Adjusted Chi Square Value	15.54	95% Jackknife UCL	1.85
		95% Standard Bootstrap UCL	1.804
Anderson-Darling Test Statistic	0.645	95% Bootstrap-t UCL	2.012
Anderson-Darling 5% Critical Value	0.796	95% Hall's Bootstrap UCL	1.958
Kolmogorov-Smirnov Test Statistic	0.183	95% Percentile Bootstrap UCL	1.841
Kolmogorov-Smirnov 5% Critical Value	0.187	95% BCA Bootstrap UCL	1.919
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.727
		97.5% Chebyshev(Mean, Sd) UCL	3.352
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4.58
95% Approximate Gamma UCL (Use when n >= 40)	2.143		
95% Adjusted Gamma UCL (Use when n < 40)	2.225		
Potential UCL to Use		Use 95% Approximate Gamma UCL	2.143

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Nickel

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	6.7	Minimum of Log Data	1.902
Maximum	235	Maximum of Log Data	5.46
Mean	43.42	Mean of log Data	3.256
Geometric Mean	25.94	SD of log Data	0.962
Median	22.1		
SD	54.96		
Std. Error of Mean	11.22		
Coefficient of Variation	1.266		
Skewness	2.401		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.659	Shapiro Wilk Test Statistic	0.93
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	62.64	95% H-UCL	67.96
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	78.8
95% Adjusted-CLT UCL (Chen-1995)	67.74	97.5% Chebyshev (MVUE) UCL	95.53
95% Modified-t UCL (Johnson-1978)	63.56	99% Chebyshev (MVUE) UCL	128.4
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.997	Data appear Lognormal at 5% Significance Level	
Theta Star	43.55		
MLE of Mean	43.42		
MLE of Standard Deviation	43.48		
nu star	47.86		
Approximate Chi Square Value (.05)	32.98	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	61.87
Adjusted Chi Square Value	32.11	95% Jackknife UCL	62.64
		95% Standard Bootstrap UCL	61.72
Anderson-Darling Test Statistic	1.415	95% Bootstrap-t UCL	76.65
Anderson-Darling 5% Critical Value	0.77	95% Hall's Bootstrap UCL	73.66
Kolmogorov-Smirnov Test Statistic	0.238	95% Percentile Bootstrap UCL	63.86
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	69.81
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	92.32
		97.5% Chebyshev(Mean, Sd) UCL	113.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	155
95% Approximate Gamma UCL (Use when n >= 40)	63		
95% Adjusted Gamma UCL (Use when n < 40)	64.71		
Potential UCL to Use		Use 95% H-UCL	67.96

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	22
Raw Statistics		Log-transformed Statistics	
Minimum	0.00048	Minimum of Log Data	-7.642
Maximum	7.6	Maximum of Log Data	2.028
Mean	1.293	Mean of log Data	-0.627
Geometric Mean	0.534	SD of log Data	1.889
Median	0.67		
SD	1.726		
Std. Error of Mean	0.352		
Coefficient of Variation	1.335		
Skewness	2.634		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.674	Shapiro Wilk Test Statistic	0.806
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.897	95% H-UCL	14.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8.395
95% Adjusted-CLT UCL (Chen-1995)	2.075	97.5% Chebyshev (MVUE) UCL	10.87
95% Modified-t UCL (Johnson-1978)	1.928	99% Chebyshev (MVUE) UCL	15.74
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.628	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.058		
MLE of Mean	1.293		
MLE of Standard Deviation	1.631		
nu star	30.15		
Approximate Chi Square Value (.05)	18.61	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1.872
Adjusted Chi Square Value	17.97	95% Jackknife UCL	1.897
		95% Standard Bootstrap UCL	1.876
Anderson-Darling Test Statistic	0.432	95% Bootstrap-t UCL	2.347
Anderson-Darling 5% Critical Value	0.789	95% Hall's Bootstrap UCL	4.668
Kolmogorov-Smirnov Test Statistic	0.128	95% Percentile Bootstrap UCL	1.904
Kolmogorov-Smirnov 5% Critical Value	0.186	95% BCA Bootstrap UCL	2.121
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.829
		97.5% Chebyshev(Mean, Sd) UCL	3.493
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4.799
95% Approximate Gamma UCL (Use when n >= 40)	2.094		
95% Adjusted Gamma UCL (Use when n < 40)	2.168		
Potential UCL to Use		Use 95% Approximate Gamma UCL	2.094

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics			
Number of Valid Data	132	Number of Detected Data	115
Number of Distinct Detected Data	89	Number of Non-Detect Data	17
		Percent Non-Detects	12.88%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0062	Minimum Detected	-5.083
Maximum Detected	14	Maximum Detected	2.639
Mean of Detected	2.958	Mean of Detected	0.449
SD of Detected	2.703	SD of Detected	1.42
Minimum Non-Detect	0.0054	Minimum Non-Detect	-5.221
Maximum Non-Detect	0.17	Maximum Non-Detect	-1.772
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	27
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	105
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	20.45%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.15	Lilliefors Test Statistic	0.155
5% Lilliefors Critical Value	0.0826	5% Lilliefors Critical Value	0.0826
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.582	Mean	-0.0969
SD	2.706	SD	1.984
95% DL/2 (t) UCL	2.972	95% H-Stat (DL/2) UCL	11.41
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.209	Mean in Log Scale	0.0921
SD	3.195	SD in Log Scale	1.623
95% MLE (t) UCL	2.669	Mean in Original Scale	2.59
95% MLE (Tiku) UCL	2.675	SD in Original Scale	2.698
		95% t UCL	2.979
		95% Percentile Bootstrap UCL	3.004
		95% BCA Bootstrap UCL	3.02
		95% H UCL	6.116
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.9	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	3.288		
nu star	206.9		
A-D Test Statistic	0.852	Nonparametric Statistics	
5% A-D Critical Value	0.787	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.787	Mean	2.579
5% K-S Critical Value	0.0884	SD	2.698
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.236
		95% KM (t) UCL	2.97
Assuming Gamma Distribution		95% KM (z) UCL	2.967
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.968
Minimum	0.000001	95% KM (bootstrap t) UCL	2.998
Maximum	14	95% KM (BCA) UCL	3.009
Mean	2.577	95% KM (Percentile Bootstrap) UCL	2.972
Median	1.708	95% KM (Chebyshev) UCL	3.608
SD	2.711	97.5% KM (Chebyshev) UCL	4.052
k star	0.294	99% KM (Chebyshev) UCL	4.926
Theta star	8.755		
Nu star	77.7	Potential UCLs to Use	
AppChi2	58.4	95% KM (Chebyshev) UCL	3.608
95% Gamma Approximate UCL (Use when n >= 40)	3.429		
95% Adjusted Gamma UCL (Use when n < 40)	3.44		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Data	24	Number of Detected Data	23
Number of Distinct Detected Data	22	Number of Non-Detect Data	1
		Percent Non-Detects	4.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	13.3	Minimum Detected	2.588
Maximum Detected	40	Maximum Detected	3.689
Mean of Detected	25.83	Mean of Detected	3.213
SD of Detected	7.188	SD of Detected	0.29
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.005	Maximum Non-Detect	-5.298

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.978	Shapiro Wilk Test Statistic	0.977
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	24.75	Mean	2.829
SD	8.787	SD	1.9
95% DL/2 (t) UCL	27.82	95% H-Stat (DL/2) UCL	486.8

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	24.64	Mean in Log Scale	3.183
SD	8.95	SD in Log Scale	0.319
95% MLE (t) UCL	27.77	Mean in Original Scale	25.25
95% MLE (Tiku) UCL	27.83	SD in Original Scale	7.569
		95% t UCL	27.9
		95% Percentile Bootstrap UCL	27.75
		95% BCA Bootstrap UCL	27.95
		95% H UCL	28.67

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	11.38	Data appear Normal at 5% Significance Level
Theta Star	2.27	
nu star	523.4	

		Nonparametric Statistics	
A-D Test Statistic	0.184		
5% A-D Critical Value	0.743	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.743	Mean	25.3
5% K-S Critical Value	0.181	SD	7.323
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.528
		95% KM (t) UCL	27.92
Assuming Gamma Distribution		95% KM (z) UCL	27.82
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	27.88
Minimum	1.719	95% KM (bootstrap t) UCL	28.09
Maximum	40	95% KM (BCA) UCL	27.96
Mean	24.82	95% KM (Percentile Bootstrap) UCL	27.88
Median	25.65	95% KM (Chebyshev) UCL	31.97
SD	8.581	97.5% KM (Chebyshev) UCL	34.85
k star	4.13	99% KM (Chebyshev) UCL	40.51
Theta star	6.01		
Nu star	198.2	Potential UCLs to Use	
AppChi2	166.7	95% KM (t) UCL	27.92
95% Gamma Approximate UCL (Use when n >= 40)	29.52	95% KM (Percentile Bootstrap) UCL	27.88
95% Adjusted Gamma UCL (Use when n < 40)	29.89		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc

General Statistics			
Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	20.1	Minimum of Log Data	3.001
Maximum	3680	Maximum of Log Data	8.211
Mean	670.2	Mean of log Data	5.522
Geometric Mean	250.1	SD of log Data	1.549
Median	158		
SD	888.2		
Std. Error of Mean	181.3		
Coefficient of Variation	1.325		
Skewness	1.949		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.738	Shapiro Wilk Test Statistic	0.924
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	980.9	95% H-UCL	2449
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2033
95% Adjusted-CLT UCL (Chen-1995)	1045	97.5% Chebyshev (MVUE) UCL	2587
95% Modified-t UCL (Johnson-1978)	992.9	99% Chebyshev (MVUE) UCL	3675
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.573	Data appear Lognormal at 5% Significance Level	
Theta Star	1169		
MLE of Mean	670.2		
MLE of Standard Deviation	885.2		
nu star	27.51		
Approximate Chi Square Value (.05)	16.55	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	968.4
Adjusted Chi Square Value	15.95	95% Jackknife UCL	980.9
		95% Standard Bootstrap UCL	966.5
Anderson-Darling Test Statistic	1.087	95% Bootstrap-t UCL	1115
Anderson-Darling 5% Critical Value	0.795	95% Hall's Bootstrap UCL	1188
Kolmogorov-Smirnov Test Statistic	0.214	95% Percentile Bootstrap UCL	973.3
Kolmogorov-Smirnov 5% Critical Value	0.187	95% BCA Bootstrap UCL	1039
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1460
		97.5% Chebyshev(Mean, Sd) UCL	1802
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2474
95% Approximate Gamma UCL (Use when n >= 40)	1114		
95% Adjusted Gamma UCL (Use when n < 40)	1156		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	1460

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics			
Number of Valid Data	41	Number of Detected Data	31
Number of Distinct Detected Data	31	Number of Non-Detect Data	10
		Percent Non-Detects	24.39%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0014	Minimum Detected	-6.571
Maximum Detected	0.43	Maximum Detected	-0.844
Mean of Detected	0.0538	Mean of Detected	-3.939
SD of Detected	0.0967	SD of Detected	1.439
Minimum Non-Detect	0.00046	Minimum Non-Detect	-7.684
Maximum Non-Detect	1.7	Maximum Non-Detect	0.531
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	41
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.552	Shapiro Wilk Test Statistic	0.975
5% Shapiro Wilk Critical Value	0.929	5% Shapiro Wilk Critical Value	0.929
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.149	Mean	-3.802
SD	0.264	SD	2.273
95% DL/2 (t) UCL	0.219	95% H-Stat (DL/2) UCL	1.26
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.31
		SD in Log Scale	1.588
		Mean in Original Scale	0.0429
		SD in Original Scale	0.0861
		95% t UCL	0.0656
		95% Percentile Bootstrap UCL	0.0665
		95% BCA Bootstrap UCL	0.0739
		95% H-UCL	0.103
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.57	Data appear Lognormal at 5% Significance Level	
Theta Star	0.0944		
nu star	35.33		
A-D Test Statistic	1.278	Nonparametric Statistics	
5% A-D Critical Value	0.8	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.8	Mean	0.0478
5% K-S Critical Value	0.166	SD	0.0911
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0157
		95% KM (t) UCL	0.0742
Assuming Gamma Distribution		95% KM (z) UCL	0.0735
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0741
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0981
Maximum	0.43	95% KM (BCA) UCL	0.08
Mean	0.0451	95% KM (Percentile Bootstrap) UCL	0.0759
Median	0.019	95% KM (Chebyshev) UCL	0.116
SD	0.086	97.5% KM (Chebyshev) UCL	0.146
k star	0.332	99% KM (Chebyshev) UCL	0.204
Theta star	0.136		
Nu star	27.23	Potential UCLs to Use	
AppChi2	16.33	95% KM (Chebyshev) UCL	0.116
95% Gamma Approximate UCL (Use when n >= 40)	0.0751		
95% Adjusted Gamma UCL (Use when n < 40)	0.0766		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics			
Number of Valid Observations	41	Number of Distinct Observations	38
Raw Statistics		Log-transformed Statistics	
Minimum	4100	Minimum of Log Data	8.319
Maximum	28400	Maximum of Log Data	10.25
Mean	10181	Mean of log Data	9.142
Geometric Mean	9337	SD of log Data	0.409
Median	10000		
SD	4767		
Std. Error of Mean	744.4		
Coefficient of Variation	0.468		
Skewness	1.925		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.835	Shapiro Wilk Test Statistic	0.972
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	11435	95% H-UCL	11430
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	13040
95% Adjusted-CLT UCL (Chen-1995)	11645	97.5% Chebyshev (MVUE) UCL	14299
95% Modified-t UCL (Johnson-1978)	11472	99% Chebyshev (MVUE) UCL	16774
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.521	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1844		
MLE of Mean	10181		
MLE of Standard Deviation	4333		
nu star	452.7		
Approximate Chi Square Value (.05)	404.4	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	11406
Adjusted Chi Square Value	402.7	95% Jackknife UCL	11435
		95% Standard Bootstrap UCL	11399
Anderson-Darling Test Statistic	0.663	95% Bootstrap-t UCL	11727
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	12044
Kolmogorov-Smirnov Test Statistic	0.103	95% Percentile Bootstrap UCL	11477
Kolmogorov-Smirnov 5% Critical Value	0.138	95% BCA Bootstrap UCL	11606
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13426
		97.5% Chebyshev(Mean, Sd) UCL	14830
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	17588
95% Approximate Gamma UCL (Use when n >= 40)	11398		
95% Adjusted Gamma UCL (Use when n < 40)	11445		
Potential UCL to Use		Use 95% Approximate Gamma UCL	11398

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Antimony

General Statistics

Number of Valid Data	41	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	27
		Percent Non-Detects	65.85%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.19	Minimum Detected	-1.661
Maximum Detected	792	Maximum Detected	6.675
Mean of Detected	68.99	Mean of Detected	2.467
SD of Detected	208.3	SD of Detected	1.776
Minimum Non-Detect	0.01	Minimum Non-Detect	-4.605
Maximum Non-Detect	0.059	Maximum Non-Detect	-2.83

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	27
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	14
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	65.85%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.333	Shapiro Wilk Test Statistic	0.831
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	23.57	Mean	-1.997
SD	123.3	SD	3.485
95% DL/2 (t) UCL	55.99	95% H-Stat (DL/2) UCL	1483

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.888
		SD in Log Scale	3.06
		Mean in Original Scale	23.71
		SD in Original Scale	123.3
		95% t UCL	56.13
		95% Percentile Bootstrap UCL	62.19
		95% BCA Bootstrap UCL	82.95
		95% H-UCL	552.5

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.343	Data do not follow a Discernable Distribution (0.05)	
Theta Star	201		
nu star	9.609		

A-D Test Statistic	2.307	Nonparametric Statistics	
5% A-D Critical Value	0.817	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.817	Mean	23.68
5% K-S Critical Value	0.245	SD	121.8
Data not Gamma Distributed at 5% Significance Level		SE of Mean	19.73
		95% KM (t) UCL	56.91
Assuming Gamma Distribution		95% KM (z) UCL	56.14
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	55.2
Minimum	0.000001	95% KM (bootstrap t) UCL	480.9
Maximum	792	95% KM (BCA) UCL	69.17
Mean	23.56	95% KM (Percentile Bootstrap) UCL	62.5
Median	0.000001	95% KM (Chebyshev) UCL	109.7
SD	123.3	97.5% KM (Chebyshev) UCL	146.9
k star	0.0846	99% KM (Chebyshev) UCL	220
Theta star	278.4		
Nu star	6.938	Potential UCLs to Use	
AppChi2	2.137	95% KM (Chebyshev) UCL	109.7
95% Gamma Approximate UCL (Use when n >= 40)	76.49		
95% Adjusted Gamma UCL (Use when n < 40)	80.08		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics

Number of Valid Data	41	Number of Detected Data	38
Number of Distinct Detected Data	33	Number of Non-Detect Data	3
		Percent Non-Detects	7.32%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1	Minimum Detected	0
Maximum Detected	39.4	Maximum Detected	3.674
Mean of Detected	10.4	Mean of Detected	1.716
SD of Detected	11.07	SD of Detected	1.183
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.8	Shapiro Wilk Test Statistic	0.907
5% Shapiro Wilk Critical Value	0.938	5% Shapiro Wilk Critical Value	0.938
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	9.636	Mean	1.135
SD	10.99	SD	2.38
95% DL/2 (t) UCL	12.53	95% H-Stat (DL/2) UCL	255.8

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	9.158	Mean in Log Scale	1.514
SD	11.49	SD in Log Scale	1.351
95% MLE (t) UCL	12.18	Mean in Original Scale	9.662
95% MLE (Tiku) UCL	12.04	SD in Original Scale	10.97
		95% t UCL	12.55
		95% Percentile Bootstrap UCL	12.56
		95% BCA Bootstrap UCL	12.7
		95% H UCL	20.45

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.874	Data do not follow a Discernable Distribution (0.05)
Theta Star	11.89	
nu star	66.46	

A-D Test Statistic	1.39	Nonparametric Statistics	
5% A-D Critical Value	0.781	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.781	Mean	9.709
5% K-S Critical Value	0.148	SD	10.79
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.708
		95% KM (t) UCL	12.59
Assuming Gamma Distribution		95% KM (z) UCL	12.52
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	12.58
Minimum	0.000001	95% KM (bootstrap t) UCL	13.05
Maximum	39.4	95% KM (BCA) UCL	12.46
Mean	9.635	95% KM (Percentile Bootstrap) UCL	12.56
Median	3.7	95% KM (Chebyshev) UCL	17.16
SD	10.99	97.5% KM (Chebyshev) UCL	20.38
k star	0.379	99% KM (Chebyshev) UCL	26.71
Theta star	25.41		
Nu star	31.09	Potential UCLs to Use	
AppChi2	19.35	95% KM (Chebyshev) UCL	17.16
95% Gamma Approximate UCL (Use when n >= 40)	15.48		
95% Adjusted Gamma UCL (Use when n < 40)	15.76		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics			
Number of Valid Observations	41	Number of Distinct Observations	35
Raw Statistics		Log-transformed Statistics	
Minimum	0.00097	Minimum of Log Data	-6.938
Maximum	8.4	Maximum of Log Data	2.128
Mean	1.738	Mean of log Data	-0.626
Geometric Mean	0.535	SD of log Data	2.04
Median	0.66		
SD	2.384		
Std. Error of Mean	0.372		
Coefficient of Variation	1.372		
Skewness	1.735		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.704	Shapiro Wilk Test Statistic	0.899
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.365	95% H-UCL	14.1
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	11.1
95% Adjusted-CLT UCL (Chen-1995)	2.458	97.5% Chebyshev (MVUE) UCL	14.29
95% Modified-t UCL (Johnson-1978)	2.382	99% Chebyshev (MVUE) UCL	20.56
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.511	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.403		
MLE of Mean	1.738		
MLE of Standard Deviation	2.432		
nu star	41.88		
Approximate Chi Square Value (.05)	28.05	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	2.351
Adjusted Chi Square Value	27.63	95% Jackknife UCL	2.365
		95% Standard Bootstrap UCL	2.338
Anderson-Darling Test Statistic	0.438	95% Bootstrap-t UCL	2.608
Anderson-Darling 5% Critical Value	0.81	95% Hall's Bootstrap UCL	2.432
Kolmogorov-Smirnov Test Statistic	0.0979	95% Percentile Bootstrap UCL	2.392
Kolmogorov-Smirnov 5% Critical Value	0.146	95% BCA Bootstrap UCL	2.498
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.361
		97.5% Chebyshev(Mean, Sd) UCL	4.064
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.443
95% Approximate Gamma UCL (Use when n >= 40)	2.596		
95% Adjusted Gamma UCL (Use when n < 40)	2.635		
Potential UCL to Use		Use 95% Approximate Gamma UCL	2.596

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics			
Number of Valid Data	41	Number of Detected Data	38
Number of Distinct Detected Data	35	Number of Non-Detect Data	3
		Percent Non-Detects	7.32%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0051	Minimum Detected	-5.279
Maximum Detected	8.4	Maximum Detected	2.128
Mean of Detected	1.879	Mean of Detected	-0.2
SD of Detected	2.315	SD of Detected	1.537
Minimum Non-Detect	0.00057	Minimum Non-Detect	-7.47
Maximum Non-Detect	0.048	Maximum Non-Detect	-3.037

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	5
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	36
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	12.20%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.743	Shapiro Wilk Test Statistic	0.943
5% Shapiro Wilk Critical Value	0.938	5% Shapiro Wilk Critical Value	0.938
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.742	Mean	-0.572
SD	2.28	SD	2.072
95% DL/2 (t) UCL	2.342	95% H-Stat (DL/2) UCL	16.46
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.561	Mean in Log Scale	-0.441
SD	2.474	SD in Log Scale	1.716
95% MLE (t) UCL	2.212	Mean in Original Scale	1.744
95% MLE (Tiku) UCL	2.186	SD in Original Scale	2.279
		95% t UCL	2.343
		95% Percentile Bootstrap UCL	2.324
		95% BCA Bootstrap UCL	2.439
		95% H UCL	6.771
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.684	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.746		
nu star	52		
A-D Test Statistic	0.565	Nonparametric Statistics	
5% A-D Critical Value	0.791	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.791	Mean	1.742
5% K-S Critical Value	0.149	SD	2.252
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.356
		95% KM (t) UCL	2.342
Assuming Gamma Distribution		95% KM (z) UCL	2.328
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.339
Minimum	0.000001	95% KM (bootstrap t) UCL	2.516
Maximum	8.4	95% KM (BCA) UCL	2.357
Mean	1.741	95% KM (Percentile Bootstrap) UCL	2.357
Median	0.69	95% KM (Chebyshev) UCL	3.296
SD	2.281	97.5% KM (Chebyshev) UCL	3.968
k star	0.368	99% KM (Chebyshev) UCL	5.289
Theta star	4.737		
Nu star	30.14	Potential UCLs to Use	
AppChi2	18.6	95% KM (Chebyshev) UCL	3.296
95% Gamma Approximate UCL (Use when n >= 40)	2.821		
95% Adjusted Gamma UCL (Use when n < 40)	2.872		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics			
Number of Valid Data	41	Number of Detected Data	39
Number of Distinct Detected Data	33	Number of Non-Detect Data	2
		Percent Non-Detects	4.88%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0028	Minimum Detected	-5.878
Maximum Detected	8.3	Maximum Detected	2.116
Mean of Detected	2.058	Mean of Detected	-0.084
SD of Detected	2.345	SD of Detected	1.597
Minimum Non-Detect	0.046	Minimum Non-Detect	-3.079
Maximum Non-Detect	0.057	Maximum Non-Detect	-2.865
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	37
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	9.76%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.773	Shapiro Wilk Test Statistic	0.915
5% Shapiro Wilk Critical Value	0.939	5% Shapiro Wilk Critical Value	0.939
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.959	Mean	-0.259
SD	2.328	SD	1.741
95% DL/2 (t) UCL	2.571	95% H-Stat (DL/2) UCL	8.676
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.82	Mean in Log Scale	-0.239
SD	2.48	SD in Log Scale	1.703
95% MLE (t) UCL	2.472	Mean in Original Scale	1.96
95% MLE (Tiku) UCL	2.444	SD in Original Scale	2.328
		95% t UCL	2.572
		95% Percentile Bootstrap UCL	2.572
		95% BCA Bootstrap UCL	2.647
		95% H UCL	8.01
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.704	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.925		
nu star	54.88		
A-D Test Statistic	0.426	Nonparametric Statistics	
5% A-D Critical Value	0.789	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.789	Mean	1.958
5% K-S Critical Value	0.147	SD	2.3
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.364
		95% KM (t) UCL	2.571
Assuming Gamma Distribution		95% KM (z) UCL	2.557
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.569
Minimum	0.000001	95% KM (bootstrap t) UCL	2.69
Maximum	8.3	95% KM (BCA) UCL	2.6
Mean	1.958	95% KM (Percentile Bootstrap) UCL	2.597
Median	0.92	95% KM (Chebyshev) UCL	3.545
SD	2.329	97.5% KM (Chebyshev) UCL	4.231
k star	0.436	99% KM (Chebyshev) UCL	5.579
Theta star	4.493		
Nu star	35.73	Potential UCLs to Use	
AppChi2	23.05	95% KM (Chebyshev) UCL	3.545
95% Gamma Approximate UCL (Use when n >= 40)	3.034		
95% Adjusted Gamma UCL (Use when n < 40)	3.084		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics			
Number of Valid Data	41	Number of Detected Data	36
Number of Distinct Detected Data	35	Number of Non-Detect Data	5
		Percent Non-Detects	12.20%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0012	Minimum Detected	-6.725
Maximum Detected	5.7	Maximum Detected	1.74
Mean of Detected	1.185	Mean of Detected	-0.479
SD of Detected	1.334	SD of Detected	1.469
Minimum Non-Detect	0.00081	Minimum Non-Detect	-7.118
Maximum Non-Detect	0.074	Maximum Non-Detect	-2.604
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	35
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	14.63%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.753	Shapiro Wilk Test Statistic	0.842
5% Shapiro Wilk Critical Value	0.935	5% Shapiro Wilk Critical Value	0.935
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.044	Mean	-0.944
SD	1.305	SD	1.968
95% DL/2 (t) UCL	1.387	95% H-Stat (DL/2) UCL	8.262
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.921	Mean in Log Scale	-0.824
SD	1.442	SD in Log Scale	1.665
95% MLE (t) UCL	1.3	Mean in Original Scale	1.045
95% MLE (Tiku) UCL	1.289	SD in Original Scale	1.304
		95% t UCL	1.388
		95% Percentile Bootstrap UCL	1.386
		95% BCA Bootstrap UCL	1.429
		95% H UCL	4.05
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.845	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.403		
nu star	60.81		
A-D Test Statistic	0.545	Nonparametric Statistics	
5% A-D Critical Value	0.781	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.781	Mean	1.04
5% K-S Critical Value	0.152	SD	1.292
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.205
		95% KM (t) UCL	1.385
Assuming Gamma Distribution		95% KM (z) UCL	1.377
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.377
Minimum	0.000001	95% KM (bootstrap t) UCL	1.483
Maximum	5.7	95% KM (BCA) UCL	1.423
Mean	1.04	95% KM (Percentile Bootstrap) UCL	1.397
Median	0.49	95% KM (Chebyshev) UCL	1.932
SD	1.308	97.5% KM (Chebyshev) UCL	2.318
k star	0.311	99% KM (Chebyshev) UCL	3.076
Theta star	3.341		
Nu star	25.53	Potential UCLs to Use	
AppChi2	15.02	95% KM (Chebyshev) UCL	1.932
95% Gamma Approximate UCL (Use when n >= 40)	1.768		
95% Adjusted Gamma UCL (Use when n < 40)	1.804		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics			
Number of Valid Data	41	Number of Detected Data	36
Number of Distinct Detected Data	32	Number of Non-Detect Data	5
		Percent Non-Detects	12.20%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0018	Minimum Detected	-6.32
Maximum Detected	9.9	Maximum Detected	2.293
Mean of Detected	1.732	Mean of Detected	-0.34
SD of Detected	2.39	SD of Detected	1.592
Minimum Non-Detect	0.00098	Minimum Non-Detect	-6.928
Maximum Non-Detect	0.071	Maximum Non-Detect	-2.645
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	34
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	17.07%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.683	Shapiro Wilk Test Statistic	0.902
5% Shapiro Wilk Critical Value	0.935	5% Shapiro Wilk Critical Value	0.935
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.523	Mean	-0.822
SD	2.306	SD	2.069
95% DL/2 (t) UCL	2.13	95% H-Stat (DL/2) UCL	12.7
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.241	Mean in Log Scale	-0.729
SD	2.596	SD in Log Scale	1.829
95% MLE (t) UCL	1.923	Mean in Original Scale	1.524
95% MLE (Tiku) UCL	1.905	SD in Original Scale	2.305
		95% t UCL	2.13
		95% Percentile Bootstrap UCL	2.148
		95% BCA Bootstrap UCL	2.265
		95% H UCL	6.877
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.644	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	2.688		
nu star	46.37		
A-D Test Statistic	1.136	Nonparametric Statistics	
5% A-D Critical Value	0.795	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.795	Mean	1.521
5% K-S Critical Value	0.153	SD	2.279
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.361
		95% KM (t) UCL	2.129
Assuming Gamma Distribution		95% KM (z) UCL	2.115
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.122
Minimum	0.000001	95% KM (bootstrap t) UCL	2.345
Maximum	9.9	95% KM (BCA) UCL	2.167
Mean	1.52	95% KM (Percentile Bootstrap) UCL	2.131
Median	0.45	95% KM (Chebyshev) UCL	3.094
SD	2.308	97.5% KM (Chebyshev) UCL	3.775
k star	0.284	99% KM (Chebyshev) UCL	5.113
Theta star	5.354		
Nu star	23.29	Potential UCLs to Use	
AppChi2	13.31	95% KM (Chebyshev) UCL	3.094
95% Gamma Approximate UCL (Use when n >= 40)	2.66		
95% Adjusted Gamma UCL (Use when n < 40)	2.717		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics			
Number of Valid Data	41	Number of Detected Data	24
Number of Distinct Detected Data	22	Number of Non-Detect Data	17
		Percent Non-Detects	41.46%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1	Minimum Detected	0
Maximum Detected	17.9	Maximum Detected	2.885
Mean of Detected	6.05	Mean of Detected	1.517
SD of Detected	4.263	SD of Detected	0.832
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.019	Maximum Non-Detect	-3.963

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	24
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	41.46%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.911	Shapiro Wilk Test Statistic	0.931
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.544	Mean	-1.372
SD	4.42	SD	3.601
95% DL/2 (t) UCL	4.707	95% H-Stat (DL/2) UCL	5163
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.559	Mean in Log Scale	0.675
SD	6.671	SD in Log Scale	1.251
95% MLE (t) UCL	3.313	Mean in Original Scale	3.829
95% MLE (Tiku) UCL	3.56	SD in Original Scale	4.2
		95% t UCL	4.933
		95% Percentile Bootstrap UCL	4.897
		95% BCA Bootstrap UCL	5.056
		95% H UCL	7.241
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.703	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.552		
nu star	81.76		
A-D Test Statistic	0.411	Nonparametric Statistics	
5% A-D Critical Value	0.756	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.756	Mean	3.956
5% K-S Critical Value	0.18	SD	4.048
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.646
		95% KM (t) UCL	5.044
Assuming Gamma Distribution		95% KM (z) UCL	5.018
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.976
Minimum	0.000001	95% KM (bootstrap t) UCL	5.273
Maximum	17.9	95% KM (BCA) UCL	5.171
Mean	3.541	95% KM (Percentile Bootstrap) UCL	5.08
Median	1.3	95% KM (Chebyshev) UCL	6.771
SD	4.422	97.5% KM (Chebyshev) UCL	7.989
k star	0.136	99% KM (Chebyshev) UCL	10.38
Theta star	26.13		
Nu star	11.11	Potential UCLs to Use	
AppChi2	4.648	95% KM (t) UCL	5.044
95% Gamma Approximate UCL (Use when n >= 40)	8.466		
95% Adjusted Gamma UCL (Use when n < 40)	8.754		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics			
Number of Valid Data	35	Number of Detected Data	25
Number of Distinct Detected Data	22	Number of Non-Detect Data	10
		Percent Non-Detects	28.57%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.013	Minimum Detected	-4.343
Maximum Detected	1.1	Maximum Detected	0.0953
Mean of Detected	0.17	Mean of Detected	-2.557
SD of Detected	0.261	SD of Detected	1.225
Minimum Non-Detect	0.024	Minimum Non-Detect	-3.73
Maximum Non-Detect	0.065	Maximum Non-Detect	-2.733
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	65.71%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.625	Shapiro Wilk Test Statistic	0.951
5% Shapiro Wilk Critical Value	0.918	5% Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.129	Mean	-2.869
SD	0.229	SD	1.154
95% DL/2 (t) UCL	0.195	95% H-Stat (DL/2) UCL	0.187
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.888
		SD in Log Scale	1.174
		Mean in Original Scale	0.129
		SD in Original Scale	0.229
		95% t UCL	0.194
		95% Percentile Bootstrap UCL	0.194
		95% BCA Bootstrap UCL	0.218
		95% H-UCL	0.19
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.695	Data appear Lognormal at 5% Significance Level	
Theta Star	0.245		
nu star	34.76		
A-D Test Statistic	1.175	Nonparametric Statistics	
5% A-D Critical Value	0.783	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.783	Mean	0.129
5% K-S Critical Value	0.181	SD	0.226
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.039
		95% KM (t) UCL	0.195
Assuming Gamma Distribution		95% KM (z) UCL	0.193
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.195
Minimum	0.000001	95% KM (bootstrap t) UCL	0.251
Maximum	1.1	95% KM (BCA) UCL	0.198
Mean	0.124	95% KM (Percentile Bootstrap) UCL	0.193
Median	0.037	95% KM (Chebyshev) UCL	0.299
SD	0.232	97.5% KM (Chebyshev) UCL	0.372
k star	0.232	99% KM (Chebyshev) UCL	0.517
Theta star	0.534		
Nu star	16.23	Potential UCLs to Use	
AppChi2	8.126	97.5% KM (Chebyshev) UCL	0.372
95% Gamma Approximate UCL (Use when n >= 40)	0.247		
95% Adjusted Gamma UCL (Use when n < 40)	0.256		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics

Number of Valid Observations	41	Number of Distinct Observations	38

Raw Statistics		Log-transformed Statistics	
Minimum	2.5	Minimum of Log Data	0.916
Maximum	34.3	Maximum of Log Data	3.535
Mean	10.3	Mean of log Data	2.111
Geometric Mean	8.258	SD of log Data	0.665
Median	8.6		
SD	7.541		
Std. Error of Mean	1.178		
Coefficient of Variation	0.732		
Skewness	1.735		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.818	Shapiro Wilk Test Statistic	0.973
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	12.28	95% H-UCL	12.75
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	15.25
95% Adjusted-CLT UCL (Chen-1995)	12.57	97.5% Chebyshev (MVUE) UCL	17.42
95% Modified-t UCL (Johnson-1978)	12.33	99% Chebyshev (MVUE) UCL	21.68

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.26	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	4.557		
MLE of Mean	10.3		
MLE of Standard Deviation	6.85		
nu star	185.3		
Approximate Chi Square Value (.05)	154.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	12.23
Adjusted Chi Square Value	153.8	95% Jackknife UCL	12.28
		95% Standard Bootstrap UCL	12.21
Anderson-Darling Test Statistic	0.534	95% Bootstrap-t UCL	12.83
Anderson-Darling 5% Critical Value	0.757	95% Hall's Bootstrap UCL	12.7
Kolmogorov-Smirnov Test Statistic	0.139	95% Percentile Bootstrap UCL	12.25
Kolmogorov-Smirnov 5% Critical Value	0.139	95% BCA Bootstrap UCL	12.5
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	15.43
		97.5% Chebyshev(Mean, Sd) UCL	17.65
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	22.01
95% Approximate Gamma UCL (Use when n >= 40)	12.32		
95% Adjusted Gamma UCL (Use when n < 40)	12.41		

Potential UCL to Use	Use 95% Approximate Gamma UCL	12.32

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper

General Statistics			
Number of Valid Observations	41	Number of Distinct Observations	41
Raw Statistics		Log-transformed Statistics	
Minimum	1.9	Minimum of Log Data	0.642
Maximum	12000	Maximum of Log Data	9.393
Mean	479.3	Mean of log Data	4.189
Geometric Mean	65.92	SD of log Data	1.917
Median	43.3		
SD	1864		
Std. Error of Mean	291.1		
Coefficient of Variation	3.889		
Skewness	6.197		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.252	Shapiro Wilk Test Statistic	0.971
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	969.4	95% H-UCL	1203
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1044
95% Adjusted-CLT UCL (Chen-1995)	1259	97.5% Chebyshev (MVUE) UCL	1336
95% Modified-t UCL (Johnson-1978)	1016	99% Chebyshev (MVUE) UCL	1910
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.332	Data appear Lognormal at 5% Significance Level	
Theta Star	1444		
MLE of Mean	479.3		
MLE of Standard Deviation	832		
nu star	27.21		
Approximate Chi Square Value (.05)	16.32	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	958.1
Adjusted Chi Square Value	16.01	95% Jackknife UCL	969.4
		95% Standard Bootstrap UCL	963.8
Anderson-Darling Test Statistic	2.7	95% Bootstrap-t UCL	3297
Anderson-Darling 5% Critical Value	0.849	95% Hall's Bootstrap UCL	2694
Kolmogorov-Smirnov Test Statistic	0.211	95% Percentile Bootstrap UCL	1053
Kolmogorov-Smirnov 5% Critical Value	0.149	95% BCA Bootstrap UCL	1368
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1748
		97.5% Chebyshev(Mean, Sd) UCL	2297
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3376
95% Approximate Gamma UCL (Use when n >= 40)	799.3		
95% Adjusted Gamma UCL (Use when n < 40)	814.8		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	1748

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics			
Number of Valid Data	41	Number of Detected Data	29
Number of Distinct Detected Data	27	Number of Non-Detect Data	12
		Percent Non-Detects	29.27%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.028	Minimum Detected	-3.576
Maximum Detected	1.9	Maximum Detected	0.642
Mean of Detected	0.422	Mean of Detected	-1.491
SD of Detected	0.484	SD of Detected	1.181
Minimum Non-Detect	0.00043	Minimum Non-Detect	-7.752
Maximum Non-Detect	1.7	Maximum Non-Detect	0.531
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	40
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	97.56%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.776	Shapiro Wilk Test Statistic	0.965
5% Shapiro Wilk Critical Value	0.926	5% Shapiro Wilk Critical Value	0.926
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.391	Mean	-1.941
SD	0.451	SD	1.944
95% DL/2 (t) UCL	0.51	95% H-Stat (DL/2) UCL	2.837
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.955
		SD in Log Scale	1.33
		Mean in Original Scale	0.319
		SD in Original Scale	0.437
		95% t UCL	0.434
		95% Percentile Bootstrap UCL	0.439
		95% BCA Bootstrap UCL	0.462
		95% H-UCL	0.609
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.853	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.495		
nu star	49.46		
A-D Test Statistic	0.69	Nonparametric Statistics	
5% A-D Critical Value	0.777	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.777	Mean	0.338
5% K-S Critical Value	0.168	SD	0.441
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0728
		95% KM (t) UCL	0.46
Assuming Gamma Distribution		95% KM (z) UCL	0.457
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.459
Minimum	0.000001	95% KM (bootstrap t) UCL	0.503
Maximum	1.9	95% KM (BCA) UCL	0.476
Mean	0.325	95% KM (Percentile Bootstrap) UCL	0.46
Median	0.15	95% KM (Chebyshev) UCL	0.655
SD	0.44	97.5% KM (Chebyshev) UCL	0.792
k star	0.254	99% KM (Chebyshev) UCL	1.062
Theta star	1.282		
Nu star	20.8	Potential UCLs to Use	
AppChi2	11.45	95% KM (Chebyshev) UCL	0.655
95% Gamma Approximate UCL (Use when n >= 40)	0.591		
95% Adjusted Gamma UCL (Use when n < 40)	0.605		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-c,d)pyrene

General Statistics			
Number of Valid Data	41	Number of Detected Data	38
Number of Distinct Detected Data	36	Number of Non-Detect Data	3
		Percent Non-Detects	7.32%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00077	Minimum Detected	-7.169
Maximum Detected	4.4	Maximum Detected	1.482
Mean of Detected	1.067	Mean of Detected	-0.647
SD of Detected	1.142	SD of Detected	1.566
Minimum Non-Detect	0.032	Minimum Non-Detect	-3.442
Maximum Non-Detect	0.04	Maximum Non-Detect	-3.219
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	37
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	9.76%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.797	Shapiro Wilk Test Statistic	0.856
5% Shapiro Wilk Critical Value	0.938	5% Shapiro Wilk Critical Value	0.938
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.99	Mean	-0.897
SD	1.132	SD	1.755
95% DL/2 (t) UCL	1.288	95% H-Stat (DL/2) UCL	4.748
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.924	Mean in Log Scale	-0.868
SD	1.205	SD in Log Scale	1.705
95% MLE (t) UCL	1.241	Mean in Original Scale	0.991
95% MLE (Tiku) UCL	1.229	SD in Original Scale	1.132
		95% t UCL	1.289
		95% Percentile Bootstrap UCL	1.288
		95% BCA Bootstrap UCL	1.337
		95% H UCL	4.289
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.782	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.365		
nu star	59.43		
A-D Test Statistic	0.521	Nonparametric Statistics	
5% A-D Critical Value	0.785	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.785	Mean	0.989
5% K-S Critical Value	0.148	SD	1.12
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.177
		95% KM (t) UCL	1.287
Assuming Gamma Distribution		95% KM (z) UCL	1.28
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.285
Minimum	0.000001	95% KM (bootstrap t) UCL	1.353
Maximum	4.4	95% KM (BCA) UCL	1.294
Mean	0.989	95% KM (Percentile Bootstrap) UCL	1.298
Median	0.52	95% KM (Chebyshev) UCL	1.761
SD	1.133	97.5% KM (Chebyshev) UCL	2.096
k star	0.396	99% KM (Chebyshev) UCL	2.752
Theta star	2.497		
Nu star	32.48	Potential UCLs to Use	
AppChi2	20.45	95% KM (Chebyshev) UCL	1.761
95% Gamma Approximate UCL (Use when n >= 40)	1.571		
95% Adjusted Gamma UCL (Use when n < 40)	1.598		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics

Number of Valid Observations	41	Number of Distinct Observations	38

Raw Statistics		Log-transformed Statistics	
Minimum	7310	Minimum of Log Data	8.897
Maximum	282000	Maximum of Log Data	12.55
Mean	51722	Mean of log Data	10.31
Geometric Mean	30083	SD of log Data	0.974
Median	21400		
SD	65602		
Std. Error of Mean	10245		
Coefficient of Variation	1.268		
Skewness	2.204		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.662	Shapiro Wilk Test Statistic	0.895
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	68973	95% H-UCL	69141
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	84111
95% Adjusted-CLT UCL (Chen-1995)	72342	97.5% Chebyshev (MVUE) UCL	99932
95% Modified-t UCL (Johnson-1978)	69561	99% Chebyshev (MVUE) UCL	131009

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.997	Data do not follow a Discernable Distribution (0.05)	
Theta Star	51875		
MLE of Mean	51722		
MLE of Standard Deviation	51799		
nu star	81.76		
Approximate Chi Square Value (.05)	61.92	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	68574
Adjusted Chi Square Value	61.29	95% Jackknife UCL	68973
		95% Standard Bootstrap UCL	68427
Anderson-Darling Test Statistic	2.815	95% Bootstrap-t UCL	75072
Anderson-Darling 5% Critical Value	0.777	95% Hall's Bootstrap UCL	73588
Kolmogorov-Smirnov Test Statistic	0.233	95% Percentile Bootstrap UCL	69233
Kolmogorov-Smirnov 5% Critical Value	0.142	95% BCA Bootstrap UCL	71693
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	96380
		97.5% Chebyshev(Mean, Sd) UCL	115704
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	153662
95% Approximate Gamma UCL (Use when n >= 40)	68291		
95% Adjusted Gamma UCL (Use when n < 40)	68993		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	96380

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics			
Number of Valid Observations	41	Number of Distinct Observations	41
Raw Statistics		Log-transformed Statistics	
Minimum	50.5	Minimum of Log Data	3.922
Maximum	3300	Maximum of Log Data	8.102
Mean	555.5	Mean of log Data	5.917
Geometric Mean	371.4	SD of log Data	0.952
Median	423		
SD	567.6		
Std. Error of Mean	88.65		
Coefficient of Variation	1.022		
Skewness	3.077		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.721	Shapiro Wilk Test Statistic	0.97
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	704.8	95% H-UCL	825.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1005
95% Adjusted-CLT UCL (Chen-1995)	746.9	97.5% Chebyshev (MVUE) UCL	1191
95% Modified-t UCL (Johnson-1978)	711.9	99% Chebyshev (MVUE) UCL	1557
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.3	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	427.5		
MLE of Mean	555.5		
MLE of Standard Deviation	487.3		
nu star	106.6		
Approximate Chi Square Value (.05)	83.74	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	701.3
Adjusted Chi Square Value	83.01	95% Jackknife UCL	704.8
		95% Standard Bootstrap UCL	700
Anderson-Darling Test Statistic	0.278	95% Bootstrap-t UCL	793
Anderson-Darling 5% Critical Value	0.769	95% Hall's Bootstrap UCL	1316
Kolmogorov-Smirnov Test Statistic	0.0738	95% Percentile Bootstrap UCL	708.3
Kolmogorov-Smirnov 5% Critical Value	0.141	95% BCA Bootstrap UCL	757.3
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	941.9
		97.5% Chebyshev(Mean, Sd) UCL	1109
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1438
95% Approximate Gamma UCL (Use when n >= 40)	706.9		
95% Adjusted Gamma UCL (Use when n < 40)	713.2		
Potential UCL to Use		Use 95% Approximate Gamma UCL	706.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics

Number of Valid Data	41	Number of Detected Data	40
Number of Distinct Detected Data	36	Number of Non-Detect Data	1
		Percent Non-Detects	2.44%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.005	Minimum Detected	-5.298
Maximum Detected	5.7	Maximum Detected	1.74
Mean of Detected	1.054	Mean of Detected	-1.252
SD of Detected	1.451	SD of Detected	1.925
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.001	Maximum Non-Detect	-6.908

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.741	Shapiro Wilk Test Statistic	0.949
5% Shapiro Wilk Critical Value	0.94	5% Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.028	Mean	-1.407
SD	1.442	SD	2.143
95% DL/2 (t) UCL	1.408	95% H-Stat (DL/2) UCL	8.961

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.007	Mean in Log Scale	-1.372
SD	1.45	SD in Log Scale	2.049
95% MLE (t) UCL	1.389	Mean in Original Scale	1.028
95% MLE (Tiku) UCL	1.358	SD in Original Scale	1.442
		95% t UCL	1.408
		95% Percentile Bootstrap UCL	1.401
		95% BCA Bootstrap UCL	1.476
		95% H UCL	6.878

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.469	Data appear Lognormal at 5% Significance Level
Theta Star	2.25	
nu star	37.48	

		Nonparametric Statistics	
A-D Test Statistic	0.902		
5% A-D Critical Value	0.816	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.816	Mean	1.028
5% K-S Critical Value	0.148	SD	1.424
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.225
		95% KM (t) UCL	1.408
Assuming Gamma Distribution		95% KM (z) UCL	1.399
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.408
Minimum	0.000001	95% KM (bootstrap t) UCL	1.49
Maximum	5.7	95% KM (BCA) UCL	1.407
Mean	1.028	95% KM (Percentile Bootstrap) UCL	1.402
Median	0.24	95% KM (Chebyshev) UCL	2.01
SD	1.442	97.5% KM (Chebyshev) UCL	2.435
k star	0.399	99% KM (Chebyshev) UCL	3.27
Theta star	2.579		
Nu star	32.7	Potential UCLs to Use	
AppChi2	20.62	97.5% KM (Chebyshev) UCL	2.435
95% Gamma Approximate UCL (Use when n >= 40)	1.63		
95% Adjusted Gamma UCL (Use when n < 40)	1.658		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Nickel

General Statistics

Number of Valid Observations	41	Number of Distinct Observations	41

Raw Statistics		Log-transformed Statistics	
Minimum	4.3	Minimum of Log Data	1.459
Maximum	496	Maximum of Log Data	6.207
Mean	50.22	Mean of log Data	3.243
Geometric Mean	25.62	SD of log Data	1.078
Median	22		
SD	84.91		
Std. Error of Mean	13.26		
Coefficient of Variation	1.691		
Skewness	4.088		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.524	Shapiro Wilk Test Statistic	0.961
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	72.55	95% H-UCL	69.39
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	83.9
95% Adjusted-CLT UCL (Chen-1995)	81.08	97.5% Chebyshev (MVUE) UCL	100.8
95% Modified-t UCL (Johnson-1978)	73.96	99% Chebyshev (MVUE) UCL	134

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.824	Data appear Lognormal at 5% Significance Level	
Theta Star	60.91		
MLE of Mean	50.22		
MLE of Standard Deviation	55.31		
nu star	67.61		
Approximate Chi Square Value (.05)	49.68	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	72.03
Adjusted Chi Square Value	49.12	95% Jackknife UCL	72.55
		95% Standard Bootstrap UCL	71.11
Anderson-Darling Test Statistic	1.909	95% Bootstrap-t UCL	99.44
Anderson-Darling 5% Critical Value	0.784	95% Hall's Bootstrap UCL	163.7
Kolmogorov-Smirnov Test Statistic	0.222	95% Percentile Bootstrap UCL	74.47
Kolmogorov-Smirnov 5% Critical Value	0.143	95% BCA Bootstrap UCL	86.7
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	108
		97.5% Chebyshev(Mean, Sd) UCL	133
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	182.2
95% Approximate Gamma UCL (Use when n >= 40)	68.34		
95% Adjusted Gamma UCL (Use when n < 40)	69.12		

Potential UCL to Use	Use 95% H-UCL	69.39

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics

Number of Valid Observations	41	Number of Distinct Observations	39

Raw Statistics		Log-transformed Statistics	
Minimum	0.00048	Minimum of Log Data	-7.642
Maximum	11	Maximum of Log Data	2.398
Mean	1.697	Mean of log Data	-0.852
Geometric Mean	0.427	SD of log Data	2.09
Median	0.59		
SD	2.812		
Std. Error of Mean	0.439		
Coefficient of Variation	1.657		
Skewness	2.219		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.621	Shapiro Wilk Test Statistic	0.933
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.436	95% H-UCL	13.15
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9.916
95% Adjusted-CLT UCL (Chen-1995)	2.582	97.5% Chebyshev (MVUE) UCL	12.79
95% Modified-t UCL (Johnson-1978)	2.462	99% Chebyshev (MVUE) UCL	18.45

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.447	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	3.792		
MLE of Mean	1.697		
MLE of Standard Deviation	2.536		
nu star	36.69		
Approximate Chi Square Value (.05)	23.83	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	2.419
Adjusted Chi Square Value	23.45	95% Jackknife UCL	2.436
		95% Standard Bootstrap UCL	2.401
Anderson-Darling Test Statistic	0.837	95% Bootstrap-t UCL	2.647
Anderson-Darling 5% Critical Value	0.821	95% Hall's Bootstrap UCL	2.489
Kolmogorov-Smirnov Test Statistic	0.141	95% Percentile Bootstrap UCL	2.434
Kolmogorov-Smirnov 5% Critical Value	0.147	95% BCA Bootstrap UCL	2.593
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.611
		97.5% Chebyshev(Mean, Sd) UCL	4.439
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	6.066
95% Approximate Gamma UCL (Use when n >= 40)	2.613		
95% Adjusted Gamma UCL (Use when n < 40)	2.655		

Potential UCL to Use	Use 95% Adjusted Gamma UCL	2.655

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics			
Number of Valid Data	232	Number of Detected Data	204
Number of Distinct Detected Data	138	Number of Non-Detect Data	28
		Percent Non-Detects	12.07%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0062	Minimum Detected	-5.083
Maximum Detected	31	Maximum Detected	3.434
Mean of Detected	4.062	Mean of Detected	0.54
SD of Detected	5.21	SD of Detected	1.569
Minimum Non-Detect	0.0054	Minimum Non-Detect	-5.221
Maximum Non-Detect	0.17	Maximum Non-Detect	-1.772
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	49
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	183
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	21.12%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.218	Lilliefors Test Statistic	0.115
5% Lilliefors Critical Value	0.062	5% Lilliefors Critical Value	0.062
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.575	Mean	-0.0146
SD	5.058	SD	2.131
95% DL/2 (t) UCL	4.123	95% H-Stat (DL/2) UCL	15.19
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.767	Mean in Log Scale	0.153
SD	5.975	SD in Log Scale	1.81
95% MLE (t) UCL	3.415	Mean in Original Scale	3.58
95% MLE (Tiku) UCL	3.413	SD in Original Scale	5.054
		95% t UCL	4.128
		95% Percentile Bootstrap UCL	4.149
		95% BCA Bootstrap UCL	4.178
		95% H UCL	8.531
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.694	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	5.852		
nu star	283.2		
A-D Test Statistic	0.588	Nonparametric Statistics	
5% A-D Critical Value	0.801	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.801	Mean	3.573
5% K-S Critical Value	0.0659	SD	5.048
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.332
		95% KM (t) UCL	4.122
Assuming Gamma Distribution		95% KM (z) UCL	4.12
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.12
Minimum	0.000001	95% KM (bootstrap t) UCL	4.241
Maximum	31	95% KM (BCA) UCL	4.118
Mean	3.571	95% KM (Percentile Bootstrap) UCL	4.138
Median	1.7	95% KM (Chebyshev) UCL	5.022
SD	5.061	97.5% KM (Chebyshev) UCL	5.648
k star	0.282	99% KM (Chebyshev) UCL	6.879
Theta star	12.68		
Nu star	130.7	Potential UCLs to Use	
AppChi2	105.3	95% KM (Chebyshev) UCL	5.022
95% Gamma Approximate UCL (Use when n >= 40)	4.433		
95% Adjusted Gamma UCL (Use when n < 40)	4.439		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Data	41	Number of Detected Data	40
Number of Distinct Detected Data	38	Number of Non-Detect Data	1
		Percent Non-Detects	2.44%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	7.8	Minimum Detected	2.054
Maximum Detected	53.2	Maximum Detected	3.974
Mean of Detected	26.19	Mean of Detected	3.202
SD of Detected	9.196	SD of Detected	0.371
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.005	Maximum Non-Detect	-5.298

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.968	Shapiro Wilk Test Statistic	0.974
5% Shapiro Wilk Critical Value	0.94	5% Shapiro Wilk Critical Value	0.94
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	25.55	Mean	2.978
SD	9.959	SD	1.482
95% DL/2 (t) UCL	28.17	95% H-Stat (DL/2) UCL	117.1

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	25.47	Mean in Log Scale	3.18
SD	10.06	SD in Log Scale	0.394
95% MLE (t) UCL	28.12	Mean in Original Scale	25.79
95% MLE (Tiku) UCL	28.14	SD in Original Scale	9.439
		95% t UCL	28.27
		95% Percentile Bootstrap UCL	28.22
		95% BCA Bootstrap UCL	28.46
		95% H UCL	29.11

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	7.532	Data appear Normal at 5% Significance Level
Theta Star	3.477	
nu star	602.6	

		Nonparametric Statistics	
A-D Test Statistic	0.229		
5% A-D Critical Value	0.749	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.749	Mean	25.74
5% K-S Critical Value	0.14	SD	9.407
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.488
		95% KM (t) UCL	28.24
Assuming Gamma Distribution		95% KM (z) UCL	28.19
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	28.19
Minimum	0.000001	95% KM (bootstrap t) UCL	28.5
Maximum	53.2	95% KM (BCA) UCL	28.36
Mean	25.55	95% KM (Percentile Bootstrap) UCL	28.06
Median	25	95% KM (Chebyshev) UCL	32.22
SD	9.959	97.5% KM (Chebyshev) UCL	35.03
k star	1.169	99% KM (Chebyshev) UCL	40.54
Theta star	21.86		
Nu star	95.84	Potential UCLs to Use	
AppChi2	74.26	95% KM (t) UCL	28.24
95% Gamma Approximate UCL (Use when n >= 40)	32.97	95% KM (Percentile Bootstrap) UCL	28.06
95% Adjusted Gamma UCL (Use when n < 40)	33.28		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc

General Statistics			
Number of Valid Observations	41	Number of Distinct Observations	41
Raw Statistics		Log-transformed Statistics	
Minimum	10	Minimum of Log Data	2.303
Maximum	3680	Maximum of Log Data	8.211
Mean	668.9	Mean of log Data	5.32
Geometric Mean	204.3	SD of log Data	1.702
Median	130		
SD	948.9		
Std. Error of Mean	148.2		
Coefficient of Variation	1.419		
Skewness	1.669		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.717	Shapiro Wilk Test Statistic	0.937
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	918.4	95% H-UCL	2069
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2062
95% Adjusted-CLT UCL (Chen-1995)	953.9	97.5% Chebyshev (MVUE) UCL	2608
95% Modified-t UCL (Johnson-1978)	924.9	99% Chebyshev (MVUE) UCL	3678
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.508	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1317		
MLE of Mean	668.9		
MLE of Standard Deviation	938.4		
nu star	41.66		
Approximate Chi Square Value (.05)	27.87	Nonparametric Statistics	
Adjusted Level of Significance	0.0441	95% CLT UCL	912.7
Adjusted Chi Square Value	27.45	95% Jackknife UCL	918.4
		95% Standard Bootstrap UCL	910.8
Anderson-Darling Test Statistic	1.57	95% Bootstrap-t UCL	981.9
Anderson-Darling 5% Critical Value	0.81	95% Hall's Bootstrap UCL	950.3
Kolmogorov-Smirnov Test Statistic	0.187	95% Percentile Bootstrap UCL	932.1
Kolmogorov-Smirnov 5% Critical Value	0.146	95% BCA Bootstrap UCL	957.4
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1315
		97.5% Chebyshev(Mean, Sd) UCL	1594
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2143
95% Approximate Gamma UCL (Use when n >= 40)	1000		
95% Adjusted Gamma UCL (Use when n < 40)	1015		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	1315

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics			
Number of Valid Observations	59	Number of Distinct Observations	57
Raw Statistics		Log-transformed Statistics	
Minimum	1430	Minimum of Log Data	7.265
Maximum	30000	Maximum of Log Data	10.31
Mean	9760	Mean of log Data	9.017
Geometric Mean	8238	SD of log Data	0.62
Median	8580		
SD	5582		
Std. Error of Mean	726.8		
Coefficient of Variation	0.572		
Skewness	1.147		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.106	Lilliefors Test Statistic	0.0878
Lilliefors Critical Value	0.115	Lilliefors Critical Value	0.115
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	10974	95% H-UCL	11730
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	13723
95% Adjusted-CLT UCL (Chen-1995)	11071	97.5% Chebyshev (MVUE) UCL	15356
95% Modified-t UCL (Johnson-1978)	10992	99% Chebyshev (MVUE) UCL	18565
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.96	Data appear Normal at 5% Significance Level	
Theta Star	3297		
MLE of Mean	9760		
MLE of Standard Deviation	5673		
nu star	349.3		
Approximate Chi Square Value (.05)	307	Nonparametric Statistics	
Adjusted Level of Significance	0.0459	95% CLT UCL	10955
Adjusted Chi Square Value	306	95% Jackknife UCL	10974
		95% Standard Bootstrap UCL	10927
Anderson-Darling Test Statistic	0.156	95% Bootstrap-t UCL	11186
Anderson-Darling 5% Critical Value	0.757	95% Hall's Bootstrap UCL	11194
Kolmogorov-Smirnov Test Statistic	0.0522	95% Percentile Bootstrap UCL	10924
Kolmogorov-Smirnov 5% Critical Value	0.117	95% BCA Bootstrap UCL	11083
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	12927
		97.5% Chebyshev(Mean, Sd) UCL	14298
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	16991
95% Approximate Gamma UCL (Use when n >= 40)	11105		
95% Adjusted Gamma UCL (Use when n < 40)	11141		
Potential UCL to Use		Use 95% Student's-t UCL	10974

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics

Number of Valid Data	59	Number of Detected Data	54
Number of Distinct Detected Data	42	Number of Non-Detect Data	5
		Percent Non-Detects	8.47%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.4	Minimum Detected	0.336
Maximum Detected	33	Maximum Detected	3.497
Mean of Detected	9.573	Mean of Detected	1.976
SD of Detected	6.672	SD of Detected	0.829
Minimum Non-Detect	0.2	Minimum Non-Detect	-1.609
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.11	Lilliefors Test Statistic	0.148
5% Lilliefors Critical Value	0.121	5% Lilliefors Critical Value	0.121
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	8.77	Mean	1.613
SD	6.91	SD	1.44
95% DL/2 (t) UCL	10.27	95% H-Stat (DL/2) UCL	25.36

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	8.466	Mean in Log Scale	1.818
SD	7.353	SD in Log Scale	0.952
95% MLE (t) UCL	10.07	Mean in Original Scale	8.86
95% MLE (Tiku) UCL	10.05	SD in Original Scale	6.802
		95% t UCL	10.34
		95% Percentile Bootstrap UCL	10.28
		95% BCA Bootstrap UCL	10.47
		95% H UCL	12.9

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.822	Data appear Normal at 5% Significance Level
Theta Star	5.255	
nu star	196.8	

		Nonparametric Statistics	
A-D Test Statistic	0.838		
5% A-D Critical Value	0.764	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.764	Mean	8.881
5% K-S Critical Value	0.123	SD	6.721
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.883
		95% KM (t) UCL	10.36
Assuming Gamma Distribution		95% KM (z) UCL	10.33
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	10.36
Minimum	0.000001	95% KM (bootstrap t) UCL	10.6
Maximum	33	95% KM (BCA) UCL	10.31
Mean	8.762	95% KM (Percentile Bootstrap) UCL	10.32
Median	8.3	95% KM (Chebyshev) UCL	12.73
SD	6.921	97.5% KM (Chebyshev) UCL	14.4
k star	0.415	99% KM (Chebyshev) UCL	17.67
Theta star	21.12		
Nu star	48.95	Potential UCLs to Use	
AppChi2	33.89	95% KM (t) UCL	10.36
95% Gamma Approximate UCL (Use when n >= 40)	12.66	95% KM (Percentile Bootstrap) UCL	10.32
95% Adjusted Gamma UCL (Use when n < 40)	12.77		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics			
Number of Valid Data	59	Number of Detected Data	49
Number of Distinct Detected Data	42	Number of Non-Detect Data	10
		Percent Non-Detects	16.95%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.04	Minimum Detected	-3.219
Maximum Detected	6.4	Maximum Detected	1.856
Mean of Detected	0.814	Mean of Detected	-0.773
SD of Detected	1.06	SD of Detected	1.125
Minimum Non-Detect	0.042	Minimum Non-Detect	-3.17
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	52
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	7
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	88.14%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.634	Shapiro Wilk Test Statistic	0.974
5% Shapiro Wilk Critical Value	0.947	5% Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.704	Mean	-1.049
SD	0.998	SD	1.282
95% DL/2 (t) UCL	0.921	95% H-Stat (DL/2) UCL	1.292
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.051
		SD in Log Scale	1.226
		Mean in Original Scale	0.694
		SD in Original Scale	1.001
		95% t UCL	0.912
		95% Percentile Bootstrap UCL	0.916
		95% BCA Bootstrap UCL	0.995
		95% H-UCL	1.156
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.967	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.841		
nu star	94.81		
A-D Test Statistic	0.466	Nonparametric Statistics	
5% A-D Critical Value	0.779	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.779	Mean	0.698
5% K-S Critical Value	0.13	SD	0.993
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.131
		95% KM (t) UCL	0.916
Assuming Gamma Distribution		95% KM (z) UCL	0.913
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.915
Minimum	0.000001	95% KM (bootstrap t) UCL	1.047
Maximum	6.4	95% KM (BCA) UCL	0.937
Mean	0.684	95% KM (Percentile Bootstrap) UCL	0.912
Median	0.43	95% KM (Chebyshev) UCL	1.268
SD	1.009	97.5% KM (Chebyshev) UCL	1.514
k star	0.287	99% KM (Chebyshev) UCL	1.999
Theta star	2.379		
Nu star	33.91	Potential UCLs to Use	
AppChi2	21.59	95% KM (Chebyshev) UCL	1.268
95% Gamma Approximate UCL (Use when n >= 40)	1.074		
95% Adjusted Gamma UCL (Use when n < 40)	1.086		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics			
Number of Valid Data	59	Number of Detected Data	50
Number of Distinct Detected Data	41	Number of Non-Detect Data	9
		Percent Non-Detects	15.25%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.023	Minimum Detected	-3.772
Maximum Detected	6.2	Maximum Detected	1.825
Mean of Detected	0.913	Mean of Detected	-0.658
SD of Detected	1.118	SD of Detected	1.156
Minimum Non-Detect	0.047	Minimum Non-Detect	-3.058
Maximum Non-Detect	1.5	Maximum Non-Detect	0.405
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	51
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	86.44%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.674	Shapiro Wilk Test Statistic	0.976
5% Shapiro Wilk Critical Value	0.947	5% Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.803	Mean	-0.892
SD	1.064	SD	1.269
95% DL/2 (t) UCL	1.034	95% H-Stat (DL/2) UCL	1.473
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.901
		SD in Log Scale	1.237
		Mean in Original Scale	0.794
		SD in Original Scale	1.066
		95% t UCL	1.026
		95% Percentile Bootstrap UCL	1.038
		95% BCA Bootstrap UCL	1.093
		95% H-UCL	1.373
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.967	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.945		
nu star	96.71		
A-D Test Statistic	0.428	Nonparametric Statistics	
5% A-D Critical Value	0.78	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.78	Mean	0.796
5% K-S Critical Value	0.129	SD	1.058
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.139
		95% KM (t) UCL	1.029
Assuming Gamma Distribution		95% KM (z) UCL	1.026
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.028
Minimum	0.000001	95% KM (bootstrap t) UCL	1.171
Maximum	6.2	95% KM (BCA) UCL	1.077
Mean	0.783	95% KM (Percentile Bootstrap) UCL	1.026
Median	0.47	95% KM (Chebyshev) UCL	1.404
SD	1.075	97.5% KM (Chebyshev) UCL	1.667
k star	0.347	99% KM (Chebyshev) UCL	2.184
Theta star	2.258		
Nu star	40.93	Potential UCLs to Use	
AppChi2	27.27	95% KM (Chebyshev) UCL	1.404
95% Gamma Approximate UCL (Use when n >= 40)	1.176		
95% Adjusted Gamma UCL (Use when n < 40)	1.188		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics			
Number of Valid Data	59	Number of Detected Data	52
Number of Distinct Detected Data	41	Number of Non-Detect Data	7
		Percent Non-Detects	11.86%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.022	Minimum Detected	-3.817
Maximum Detected	9.9	Maximum Detected	2.293
Mean of Detected	1.409	Mean of Detected	-0.323
SD of Detected	1.833	SD of Detected	1.298
Minimum Non-Detect	0.05	Minimum Non-Detect	-2.996
Maximum Non-Detect	1.6	Maximum Non-Detect	0.47
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	43
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	16
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	72.88%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.242	Lilliefors Test Statistic	0.101
5% Lilliefors Critical Value	0.123	5% Lilliefors Critical Value	0.123
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.269	Mean	-0.519
SD	1.764	SD	1.379
95% DL/2 (t) UCL	1.653	95% H-Stat (DL/2) UCL	2.658
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.533
		SD in Log Scale	1.364
		Mean in Original Scale	1.259
		SD in Original Scale	1.768
		95% t UCL	1.644
		95% Percentile Bootstrap UCL	1.64
		95% BCA Bootstrap UCL	1.791
		95% H-UCL	2.544
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.843	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.672		
nu star	87.62		
A-D Test Statistic	0.481	Nonparametric Statistics	
5% A-D Critical Value	0.786	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.786	Mean	1.262
5% K-S Critical Value	0.127	SD	1.753
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.231
		95% KM (t) UCL	1.647
Assuming Gamma Distribution		95% KM (z) UCL	1.641
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.647
Minimum	0.000001	95% KM (bootstrap t) UCL	1.851
Maximum	9.9	95% KM (BCA) UCL	1.681
Mean	1.249	95% KM (Percentile Bootstrap) UCL	1.669
Median	0.71	95% KM (Chebyshev) UCL	2.267
SD	1.775	97.5% KM (Chebyshev) UCL	2.702
k star	0.343	99% KM (Chebyshev) UCL	3.557
Theta star	3.644		
Nu star	40.45	Potential UCLs to Use	
AppChi2	26.88	95% KM (Chebyshev) UCL	2.267
95% Gamma Approximate UCL (Use when n >= 40)	1.88		
95% Adjusted Gamma UCL (Use when n < 40)	1.9		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics			
Number of Valid Data	59	Number of Detected Data	48
Number of Distinct Detected Data	39	Number of Non-Detect Data	11
		Percent Non-Detects	18.64%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.019	Minimum Detected	-3.963
Maximum Detected	3.6	Maximum Detected	1.281
Mean of Detected	0.746	Mean of Detected	-0.868
SD of Detected	0.797	SD of Detected	1.206
Minimum Non-Detect	0.044	Minimum Non-Detect	-3.124
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	51
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	86.44%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.773	Shapiro Wilk Test Statistic	0.964
5% Shapiro Wilk Critical Value	0.947	5% Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.641	Mean	-1.103
SD	0.754	SD	1.269
95% DL/2 (t) UCL	0.805	95% H-Stat (DL/2) UCL	1.194
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.139
		SD in Log Scale	1.254
		Mean in Original Scale	0.628
		SD in Original Scale	0.759
		95% t UCL	0.793
		95% Percentile Bootstrap UCL	0.801
		95% BCA Bootstrap UCL	0.84
		95% H-UCL	1.119
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.955	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.78		
nu star	91.7		
A-D Test Statistic	0.27	Nonparametric Statistics	
5% A-D Critical Value	0.779	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.779	Mean	0.632
5% K-S Critical Value	0.132	SD	0.753
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0994
		95% KM (t) UCL	0.798
Assuming Gamma Distribution		95% KM (z) UCL	0.795
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.798
Minimum	0.000001	95% KM (bootstrap t) UCL	0.837
Maximum	3.6	95% KM (BCA) UCL	0.815
Mean	0.619	95% KM (Percentile Bootstrap) UCL	0.797
Median	0.34	95% KM (Chebyshev) UCL	1.065
SD	0.767	97.5% KM (Chebyshev) UCL	1.253
k star	0.347	99% KM (Chebyshev) UCL	1.621
Theta star	1.784		
Nu star	40.93	Potential UCLs to Use	
AppChi2	27.27	95% KM (Chebyshev) UCL	1.065
95% Gamma Approximate UCL (Use when n >= 40)	0.929		
95% Adjusted Gamma UCL (Use when n < 40)	0.939		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics			
Number of Valid Data	59	Number of Detected Data	46
Number of Distinct Detected Data	42	Number of Non-Detect Data	13
		Percent Non-Detects	22.03%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.032	Minimum Detected	-3.442
Maximum Detected	2.2	Maximum Detected	0.788
Mean of Detected	0.493	Mean of Detected	-1.11
SD of Detected	0.448	SD of Detected	0.991
Minimum Non-Detect	0.048	Minimum Non-Detect	-3.037
Maximum Non-Detect	1.8	Maximum Non-Detect	0.588
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	58
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	98.31%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.813	Shapiro Wilk Test Statistic	0.959
5% Shapiro Wilk Critical Value	0.945	5% Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.446	Mean	-1.307
SD	0.431	SD	1.123
95% DL/2 (t) UCL	0.54	95% H-Stat (DL/2) UCL	0.741
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.347
		SD in Log Scale	1.021
		Mean in Original Scale	0.414
		SD in Original Scale	0.425
		95% t UCL	0.507
		95% Percentile Bootstrap UCL	0.504
		95% BCA Bootstrap UCL	0.534
		95% H-UCL	0.602
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.306	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.378		
nu star	120.2		
A-D Test Statistic	0.24	Nonparametric Statistics	
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	0.42
5% K-S Critical Value	0.133	SD	0.427
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0573
		95% KM (t) UCL	0.516
Assuming Gamma Distribution		95% KM (z) UCL	0.514
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.516
Minimum	0.000001	95% KM (bootstrap t) UCL	0.533
Maximum	2.2	95% KM (BCA) UCL	0.518
Mean	0.414	95% KM (Percentile Bootstrap) UCL	0.521
Median	0.28	95% KM (Chebyshev) UCL	0.67
SD	0.431	97.5% KM (Chebyshev) UCL	0.778
k star	0.446	99% KM (Chebyshev) UCL	0.991
Theta star	0.928		
Nu star	52.67	Potential UCLs to Use	
AppChi2	37	95% KM (BCA) UCL	0.518
95% Gamma Approximate UCL (Use when n >= 40)	0.59		
95% Adjusted Gamma UCL (Use when n < 40)	0.595		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics

Number of Valid Data	59	Number of Detected Data	45
Number of Distinct Detected Data	39	Number of Non-Detect Data	14
		Percent Non-Detects	23.73%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.1	Minimum Detected	0.0953
Maximum Detected	38	Maximum Detected	3.638
Mean of Detected	9.089	Mean of Detected	1.805
SD of Detected	8.302	SD of Detected	0.939
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.19	Maximum Non-Detect	-1.661

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	45
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	23.73%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.834	Shapiro Wilk Test Statistic	0.963
5% Shapiro Wilk Critical Value	0.945	5% Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	6.952	Mean	0.664
SD	8.199	SD	2.354
95% DL/2 (t) UCL	8.736	95% H-Stat (DL/2) UCL	125.2

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	5.479	Mean in Log Scale	1.291
SD	9.976	SD in Log Scale	1.261
95% MLE (t) UCL	7.65	Mean in Original Scale	7.115
95% MLE (Tiku) UCL	7.699	SD in Original Scale	8.065
		95% t UCL	8.87
		95% Percentile Bootstrap UCL	8.879
		95% BCA Bootstrap UCL	9.235
		95% H UCL	12.9

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.31	Data appear Gamma Distributed at 5% Significance Level
Theta Star	6.937	
nu star	117.9	

		Nonparametric Statistics	
A-D Test Statistic	0.477		
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	7.193
5% K-S Critical Value	0.134	SD	7.934
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.045
		95% KM (t) UCL	8.939
Assuming Gamma Distribution		95% KM (z) UCL	8.911
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	8.879
Minimum	0.000001	95% KM (bootstrap t) UCL	9.351
Maximum	38	95% KM (BCA) UCL	9.141
Mean	6.932	95% KM (Percentile Bootstrap) UCL	8.97
Median	3.7	95% KM (Chebyshev) UCL	11.75
SD	8.215	97.5% KM (Chebyshev) UCL	13.72
k star	0.194	99% KM (Chebyshev) UCL	17.59
Theta star	35.67		
Nu star	22.93	Potential UCLs to Use	
AppChi2	13.04	95% KM (BCA) UCL	9.141
95% Gamma Approximate UCL (Use when n >= 40)	12.19		
95% Adjusted Gamma UCL (Use when n < 40)	12.37		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics

Number of Valid Data	59	Number of Detected Data	54
Number of Distinct Detected Data	49	Number of Non-Detect Data	5
		Percent Non-Detects	8.47%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.2	Minimum Detected	0.182
Maximum Detected	24	Maximum Detected	3.178
Mean of Detected	7.892	Mean of Detected	1.83
SD of Detected	5.636	SD of Detected	0.706
Minimum Non-Detect	0.17	Minimum Non-Detect	-1.772
Maximum Non-Detect	0.17	Maximum Non-Detect	-1.772

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.195	Lilliefors Test Statistic	0.0706
5% Lilliefors Critical Value	0.121	5% Lilliefors Critical Value	0.121
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	7.23	Mean	1.466
SD	5.817	SD	1.382
95% DL/2 (t) UCL	8.496	95% H-Stat (DL/2) UCL	19.48

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	6.972	Mean in Log Scale	1.692
SD	6.187	SD in Log Scale	0.819
95% MLE (t) UCL	8.318	Mean in Original Scale	7.328
95% MLE (Tiku) UCL	8.301	SD in Original Scale	5.703
		95% t UCL	8.569
		95% Percentile Bootstrap UCL	8.615
		95% BCA Bootstrap UCL	8.669
		95% H UCL	9.564

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.161	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.651	
nu star	233.4	

		Nonparametric Statistics	
A-D Test Statistic	0.553		
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	7.325
5% K-S Critical Value	0.122	SD	5.658
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.744
		95% KM (t) UCL	8.567
Assuming Gamma Distribution		95% KM (z) UCL	8.548
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	8.536
Minimum	0.000001	95% KM (bootstrap t) UCL	8.736
Maximum	24	95% KM (BCA) UCL	8.571
Mean	7.223	95% KM (Percentile Bootstrap) UCL	8.605
Median	5.7	95% KM (Chebyshev) UCL	10.57
SD	5.826	97.5% KM (Chebyshev) UCL	11.97
k star	0.429	99% KM (Chebyshev) UCL	14.72
Theta star	16.84		
Nu star	50.61	Potential UCLs to Use	
AppChi2	35.28	95% KM (BCA) UCL	8.571
95% Gamma Approximate UCL (Use when n >= 40)	10.36		
95% Adjusted Gamma UCL (Use when n < 40)	10.46		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Copper

General Statistics

Number of Valid Data	59	Number of Detected Data	58
Number of Distinct Detected Data	56	Number of Non-Detect Data	1
		Percent Non-Detects	1.69%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3.2	Minimum Detected	1.163
Maximum Detected	520	Maximum Detected	6.254
Mean of Detected	86.38	Mean of Detected	3.945
SD of Detected	86.53	SD of Detected	1.156
Minimum Non-Detect	0.36	Minimum Non-Detect	-1.022
Maximum Non-Detect	0.36	Maximum Non-Detect	-1.022

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.168	Lilliefors Test Statistic	0.126
5% Lilliefors Critical Value	0.116	5% Lilliefors Critical Value	0.116
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	84.91	Mean	3.849
SD	86.51	SD	1.362
95% DL/2 (t) UCL	103.7	95% H-Stat (DL/2) UCL	202.7

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	84.13	Mean in Log Scale	3.894
SD	86.89	SD in Log Scale	1.21
95% MLE (t) UCL	103	Mean in Original Scale	84.96
95% MLE (Tiku) UCL	101.9	SD in Original Scale	86.47
		95% t UCL	103.8
		95% Percentile Bootstrap UCL	102.9
		95% BCA Bootstrap UCL	107.3
		95% H UCL	157.6

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.064	Data appear Gamma Distributed at 5% Significance Level
Theta Star	81.2	
nu star	123.4	

A-D Test Statistic	0.247	Nonparametric Statistics	
5% A-D Critical Value	0.777	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.777	Mean	84.97
5% K-S Critical Value	0.12	SD	85.72
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	11.26
		95% KM (t) UCL	103.8
Assuming Gamma Distribution		95% KM (z) UCL	103.5
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	103.8
Minimum	0.000001	95% KM (bootstrap t) UCL	108.7
Maximum	520	95% KM (BCA) UCL	107
Mean	84.91	95% KM (Percentile Bootstrap) UCL	105.9
Median	65.2	95% KM (Chebyshev) UCL	134
SD	86.51	97.5% KM (Chebyshev) UCL	155.3
k star	0.723	99% KM (Chebyshev) UCL	197
Theta star	117.4		
Nu star	85.35	Potential UCLs to Use	
AppChi2	65.06	95% KM (Chebyshev) UCL	134
95% Gamma Approximate UCL (Use when n >= 40)	111.4		
95% Adjusted Gamma UCL (Use when n < 40)	112.2		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics			
Number of Valid Data	55	Number of Detected Data	34
Number of Distinct Detected Data	31	Number of Non-Detect Data	21
		Percent Non-Detects	38.18%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.002	Minimum Detected	-6.215
Maximum Detected	2.4	Maximum Detected	0.875
Mean of Detected	0.379	Mean of Detected	-2.332
SD of Detected	0.559	SD of Detected	2.037
Minimum Non-Detect	0.0036	Minimum Non-Detect	-5.627
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	29
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	26
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	52.73%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.699	Shapiro Wilk Test Statistic	0.941
5% Shapiro Wilk Critical Value	0.933	5% Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.236	Mean	-3.5
SD	0.474	SD	2.22
95% DL/2 (t) UCL	0.343	95% H-Stat (DL/2) UCL	1.203
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.594
		SD in Log Scale	2.318
		Mean in Original Scale	0.236
		SD in Original Scale	0.474
		95% t UCL	0.343
		95% Percentile Bootstrap UCL	0.352
		95% BCA Bootstrap UCL	0.366
		95% H-UCL	1.518
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.449	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.845		
nu star	30.51		
A-D Test Statistic	0.457	Nonparametric Statistics	
5% A-D Critical Value	0.818	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.818	Mean	0.236
5% K-S Critical Value	0.16	SD	0.47
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0643
		95% KM (t) UCL	0.343
Assuming Gamma Distribution		95% KM (z) UCL	0.342
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.343
Minimum	0.000001	95% KM (bootstrap t) UCL	0.402
Maximum	2.4	95% KM (BCA) UCL	0.353
Mean	0.234	95% KM (Percentile Bootstrap) UCL	0.346
Median	0.0098	95% KM (Chebyshev) UCL	0.516
SD	0.475	97.5% KM (Chebyshev) UCL	0.637
k star	0.151	99% KM (Chebyshev) UCL	0.876
Theta star	1.557		
Nu star	16.56	Potential UCLs to Use	
AppChi2	8.362	95% KM (BCA) UCL	0.353
95% Gamma Approximate UCL (Use when n >= 40)	0.464		
95% Adjusted Gamma UCL (Use when n < 40)	0.473		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin Aldehyde

General Statistics			
Number of Valid Data	54	Number of Detected Data	18
Number of Distinct Detected Data	17	Number of Non-Detect Data	36
		Percent Non-Detects	66.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00027	Minimum Detected	-8.217
Maximum Detected	0.13	Maximum Detected	-2.04
Mean of Detected	0.0241	Mean of Detected	-4.744
SD of Detected	0.0369	SD of Detected	1.618
Minimum Non-Detect	0.0033	Minimum Non-Detect	-5.714
Maximum Non-Detect	0.026	Maximum Non-Detect	-3.65
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	49
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	90.74%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.638	Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0111	Mean	-5.311
SD	0.023	SD	1.135
95% DL/2 (t) UCL	0.0163	95% H-Stat (DL/2) UCL	0.0139
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.045
		SD in Log Scale	1.423
		Mean in Original Scale	0.00907
		SD in Original Scale	0.0235
		95% t UCL	0.0144
		95% Percentile Bootstrap UCL	0.0146
		95% BCA Bootstrap UCL	0.0172
		95% H-UCL	0.0115
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.543	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0443		
nu star	19.53		
A-D Test Statistic	0.479	Nonparametric Statistics	
5% A-D Critical Value	0.791	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.791	Mean	0.00956
5% K-S Critical Value	0.214	SD	0.0232
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00328
		95% KM (t) UCL	0.015
Assuming Gamma Distribution		95% KM (z) UCL	0.0149
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.015
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0218
Maximum	0.13	95% KM (BCA) UCL	0.0155
Mean	0.00913	95% KM (Percentile Bootstrap) UCL	0.0153
Median	0.000001	95% KM (Chebyshev) UCL	0.0238
SD	0.0237	97.5% KM (Chebyshev) UCL	0.03
k star	0.161	99% KM (Chebyshev) UCL	0.0422
Theta star	0.0566		
Nu star	17.44	Potential UCLs to Use	
AppChi2	8.984	95% KM (t) UCL	0.015
95% Gamma Approximate UCL (Use when n >= 40)	0.0177		
95% Adjusted Gamma UCL (Use when n < 40)	0.0181		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-c,d)pyrene

General Statistics			
Number of Valid Data	59	Number of Detected Data	46
Number of Distinct Detected Data	39	Number of Non-Detect Data	13
		Percent Non-Detects	22.03%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.036	Minimum Detected	-3.324
Maximum Detected	3.7	Maximum Detected	1.308
Mean of Detected	0.75	Mean of Detected	-0.789
SD of Detected	0.795	SD of Detected	1.105
Minimum Non-Detect	0.043	Minimum Non-Detect	-3.147
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	55
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.22%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.73	Shapiro Wilk Test Statistic	0.955
5% Shapiro Wilk Critical Value	0.945	5% Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.626	Mean	-1.093
SD	0.744	SD	1.238
95% DL/2 (t) UCL	0.787	95% H-Stat (DL/2) UCL	1.138
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.119
		SD in Log Scale	1.191
		Mean in Original Scale	0.611
		SD in Original Scale	0.749
		95% t UCL	0.774
		95% Percentile Bootstrap UCL	0.785
		95% BCA Bootstrap UCL	0.809
		95% H-UCL	1.011
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.075	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.698		
nu star	98.91		
A-D Test Statistic	0.397	Nonparametric Statistics	
5% A-D Critical Value	0.775	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.775	Mean	0.616
5% K-S Critical Value	0.134	SD	0.744
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0983
		95% KM (t) UCL	0.78
Assuming Gamma Distribution		95% KM (z) UCL	0.777
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.779
Minimum	0.000001	95% KM (bootstrap t) UCL	0.832
Maximum	3.7	95% KM (BCA) UCL	0.787
Mean	0.599	95% KM (Percentile Bootstrap) UCL	0.785
Median	0.36	95% KM (Chebyshev) UCL	1.044
SD	0.759	97.5% KM (Chebyshev) UCL	1.23
k star	0.311	99% KM (Chebyshev) UCL	1.594
Theta star	1.923		
Nu star	36.76	Potential UCLs to Use	
AppChi2	23.88	95% KM (BCA) UCL	0.787
95% Gamma Approximate UCL (Use when n >= 40)	0.922		
95% Adjusted Gamma UCL (Use when n < 40)	0.932		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics			
Number of Valid Observations	59	Number of Distinct Observations	54
Raw Statistics		Log-transformed Statistics	
Minimum	1970	Minimum of Log Data	7.586
Maximum	75900	Maximum of Log Data	11.24
Mean	15143	Mean of log Data	9.368
Geometric Mean	11709	SD of log Data	0.738
Median	12100		
SD	12174		
Std. Error of Mean	1585		
Coefficient of Variation	0.804		
Skewness	2.58		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.184	Lilliefors Test Statistic	0.0955
Lilliefors Critical Value	0.115	Lilliefors Critical Value	0.115
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	17793	95% H-UCL	18796
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	22372
95% Adjusted-CLT UCL (Chen-1995)	18319	97.5% Chebyshev (MVUE) UCL	25438
95% Modified-t UCL (Johnson-1978)	17881	99% Chebyshev (MVUE) UCL	31462
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	7570		
MLE of Mean	15143		
MLE of Standard Deviation	10707		
nu star	236		
Approximate Chi Square Value (.05)	201.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0459	95% CLT UCL	17750
Adjusted Chi Square Value	200.7	95% Jackknife UCL	17793
		95% Standard Bootstrap UCL	17767
Anderson-Darling Test Statistic	0.478	95% Bootstrap-t UCL	18685
Anderson-Darling 5% Critical Value	0.762	95% Hall's Bootstrap UCL	19273
Kolmogorov-Smirnov Test Statistic	0.0895	95% Percentile Bootstrap UCL	17915
Kolmogorov-Smirnov 5% Critical Value	0.117	95% BCA Bootstrap UCL	18359
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	22052
		97.5% Chebyshev(Mean, Sd) UCL	25041
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	30913
95% Approximate Gamma UCL (Use when n >= 40)	17742		
95% Adjusted Gamma UCL (Use when n < 40)	17812		
Potential UCL to Use		Use 95% Approximate Gamma UCL	17742

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics

Number of Valid Observations	59	Number of Distinct Observations	56

Raw Statistics		Log-transformed Statistics	
Minimum	12	Minimum of Log Data	2.485
Maximum	1800	Maximum of Log Data	7.496
Mean	480.8	Mean of log Data	5.666
Geometric Mean	288.9	SD of log Data	1.084
Median	301		
SD	492.4		
Std. Error of Mean	64.11		
Coefficient of Variation	1.024		
Skewness	1.518		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.222	Lilliefors Test Statistic	0.0643
Lilliefors Critical Value	0.115	Lilliefors Critical Value	0.115
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	588	95% H-UCL	739.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	892.4
95% Adjusted-CLT UCL (Chen-1995)	599.8	97.5% Chebyshev (MVUE) UCL	1057
95% Modified-t UCL (Johnson-1978)	590.1	99% Chebyshev (MVUE) UCL	1381

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.073	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	447.9		
MLE of Mean	480.8		
MLE of Standard Deviation	464.1		
nu star	126.7		
Approximate Chi Square Value (.05)	101.7	Nonparametric Statistics	
Adjusted Level of Significance	0.0459	95% CLT UCL	586.3
Adjusted Chi Square Value	101.1	95% Jackknife UCL	588
		95% Standard Bootstrap UCL	587.8
Anderson-Darling Test Statistic	0.859	95% Bootstrap-t UCL	610
Anderson-Darling 5% Critical Value	0.777	95% Hall's Bootstrap UCL	602.3
Kolmogorov-Smirnov Test Statistic	0.103	95% Percentile Bootstrap UCL	590
Kolmogorov-Smirnov 5% Critical Value	0.119	95% BCA Bootstrap UCL	597.6
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	760.3
		97.5% Chebyshev(Mean, Sd) UCL	881.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1119
95% Approximate Gamma UCL (Use when n >= 40)	599		
95% Adjusted Gamma UCL (Use when n < 40)	602.3		

Potential UCL to Use	Use 95% Approximate Gamma UCL	599

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

P,P'-DDT

General Statistics			
Number of Valid Data	55	Number of Detected Data	40
Number of Distinct Detected Data	37	Number of Non-Detect Data	15
		Percent Non-Detects	27.27%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0037	Minimum Detected	-5.599
Maximum Detected	2	Maximum Detected	0.693
Mean of Detected	0.34	Mean of Detected	-2.408
SD of Detected	0.509	SD of Detected	1.903
Minimum Non-Detect	0.0036	Minimum Non-Detect	-5.627
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	30
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	45.45%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.688	Shapiro Wilk Test Statistic	0.936
5% Shapiro Wilk Critical Value	0.94	5% Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.249	Mean	-3.147
SD	0.458	SD	2.042
95% DL/2 (t) UCL	0.352	95% H-Stat (DL/2) UCL	0.981
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.279
		SD in Log Scale	2.222
		Mean in Original Scale	0.249
		SD in Original Scale	0.458
		95% t UCL	0.352
		95% Percentile Bootstrap UCL	0.354
		95% BCA Bootstrap UCL	0.376
		95% H-UCL	1.511
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.462	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.736		
nu star	36.92		
A-D Test Statistic	0.782	Nonparametric Statistics	
5% A-D Critical Value	0.817	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.817	Mean	0.249
5% K-S Critical Value	0.148	SD	0.453
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0619
		95% KM (t) UCL	0.352
Assuming Gamma Distribution		95% KM (z) UCL	0.351
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.352
Minimum	0.000001	95% KM (bootstrap t) UCL	0.384
Maximum	2	95% KM (BCA) UCL	0.35
Mean	0.247	95% KM (Percentile Bootstrap) UCL	0.352
Median	0.019	95% KM (Chebyshev) UCL	0.519
SD	0.459	97.5% KM (Chebyshev) UCL	0.636
k star	0.184	99% KM (Chebyshev) UCL	0.865
Theta star	1.346		
Nu star	20.19	Potential UCLs to Use	
AppChi2	10.99	95% KM (Chebyshev) UCL	0.519
95% Gamma Approximate UCL (Use when n >= 40)	0.454		
95% Adjusted Gamma UCL (Use when n < 40)	0.462		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics			
Number of Valid Data	59	Number of Detected Data	44
Number of Distinct Detected Data	35	Number of Non-Detect Data	15
		Percent Non-Detects	25.42%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.04	Minimum Detected	-3.219
Maximum Detected	5.7	Maximum Detected	1.74
Mean of Detected	0.766	Mean of Detected	-0.847
SD of Detected	1.018	SD of Detected	1.11
Minimum Non-Detect	0.041	Minimum Non-Detect	-3.194
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	55
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.22%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.636	Shapiro Wilk Test Statistic	0.982
5% Shapiro Wilk Critical Value	0.944	5% Shapiro Wilk Critical Value	0.944
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.62	Mean	-1.202
SD	0.918	SD	1.278
95% DL/2 (t) UCL	0.82	95% H-Stat (DL/2) UCL	1.1
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.886	Mean in Log Scale	-1.231
SD	1.517	SD in Log Scale	1.205
95% MLE (t) UCL	4.216	Mean in Original Scale	0.6
95% MLE (Tiku) UCL	5.126	SD in Original Scale	0.923
		95% t UCL	0.801
		95% Percentile Bootstrap UCL	0.82
		95% BCA Bootstrap UCL	0.884
		95% H UCL	0.928
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.942	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.813		
nu star	82.93		
A-D Test Statistic	0.633	Nonparametric Statistics	
5% A-D Critical Value	0.777	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.777	Mean	0.606
5% K-S Critical Value	0.137	SD	0.916
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.121
		95% KM (t) UCL	0.809
Assuming Gamma Distribution		95% KM (z) UCL	0.806
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.808
Minimum	0.000001	95% KM (bootstrap t) UCL	0.911
Maximum	5.7	95% KM (BCA) UCL	0.852
Mean	0.586	95% KM (Percentile Bootstrap) UCL	0.813
Median	0.3	95% KM (Chebyshev) UCL	1.134
SD	0.933	97.5% KM (Chebyshev) UCL	1.363
k star	0.251	99% KM (Chebyshev) UCL	1.811
Theta star	2.337		
Nu star	29.57	Potential UCLs to Use	
AppChi2	18.15	95% KM (Chebyshev) UCL	1.134
95% Gamma Approximate UCL (Use when n >= 40)	0.954		
95% Adjusted Gamma UCL (Use when n < 40)	0.966		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Silver

General Statistics

Number of Valid Data	59	Number of Detected Data	42
Number of Distinct Detected Data	37	Number of Non-Detect Data	17
		Percent Non-Detects	28.81%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.2	Minimum Detected	0.182
Maximum Detected	62.7	Maximum Detected	4.138
Mean of Detected	7.814	Mean of Detected	1.65
SD of Detected	10.19	SD of Detected	0.84
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.17	Maximum Non-Detect	-1.772

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	42
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	28.81%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.535	Shapiro Wilk Test Statistic	0.909
5% Shapiro Wilk Critical Value	0.942	5% Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.586	Mean	0.377
SD	9.268	SD	2.236
95% DL/2 (t) UCL	7.603	95% H-Stat (DL/2) UCL	62.23

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.221	Mean in Log Scale	1.076
SD	11.68	SD in Log Scale	1.185
95% MLE (t) UCL	5.764	Mean in Original Scale	5.792
95% MLE (Tiku) UCL	5.856	SD in Original Scale	9.151
		95% t UCL	7.783
		95% Percentile Bootstrap UCL	7.882
		95% BCA Bootstrap UCL	8.45
		95% H UCL	8.981

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.293	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	6.044	
nu star	108.6	

		Nonparametric Statistics	
A-D Test Statistic	1.237		
5% A-D Critical Value	0.769	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.769	Mean	5.908
5% K-S Critical Value	0.139	SD	9.008
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	1.187
		95% KM (t) UCL	7.893
Assuming Gamma Distribution		95% KM (z) UCL	7.861
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	7.793
Minimum	0.000001	95% KM (bootstrap t) UCL	9.646
Maximum	62.7	95% KM (BCA) UCL	8.4
Mean	5.563	95% KM (Percentile Bootstrap) UCL	8.136
Median	2.8	95% KM (Chebyshev) UCL	11.08
SD	9.282	97.5% KM (Chebyshev) UCL	13.32
k star	0.17	99% KM (Chebyshev) UCL	17.72
Theta star	32.71		
Nu star	20.07	Potential UCLs to Use	
AppChi2	10.9	95% KM (Percentile Bootstrap) UCL	8.136
95% Gamma Approximate UCL (Use when n >= 40)	10.24		
95% Adjusted Gamma UCL (Use when n < 40)	10.4		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics			
Number of Valid Data	305	Number of Detected Data	285
Number of Distinct Detected Data	188	Number of Non-Detect Data	20
		Percent Non-Detects	6.56%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.027	Minimum Detected	-3.612
Maximum Detected	79.5	Maximum Detected	4.376
Mean of Detected	8.934	Mean of Detected	0.864
SD of Detected	13.83	SD of Detected	1.951
Minimum Non-Detect	0.034	Minimum Non-Detect	-3.381
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	82
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	223
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	26.89%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.26	Lilliefors Test Statistic	0.0989
5% Lilliefors Critical Value	0.0525	5% Lilliefors Critical Value	0.0525
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	8.351	Mean	0.575
SD	13.55	SD	2.188
95% DL/2 (t) UCL	9.631	95% H-Stat (DL/2) UCL	29.48
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	5.252	Mean in Log Scale	0.598
SD	16.83	SD in Log Scale	2.143
95% MLE (t) UCL	6.842	Mean in Original Scale	8.351
95% MLE (Tiku) UCL	6.88	SD in Original Scale	13.55
		95% t UCL	9.631
		95% Percentile Bootstrap UCL	9.704
		95% BCA Bootstrap UCL	9.817
		95% H UCL	26.94
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.479	Data do not follow a Discernable Distribution (0.05)	
Theta Star	18.65		
nu star	273.1		
A-D Test Statistic	2.289	Nonparametric Statistics	
5% A-D Critical Value	0.826	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.826	Mean	8.351
5% K-S Critical Value	0.0571	SD	13.52
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.776
		95% KM (t) UCL	9.631
Assuming Gamma Distribution		95% KM (z) UCL	9.627
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	9.63
Minimum	1.00E-06	95% KM (bootstrap t) UCL	9.727
Maximum	79.5	95% KM (BCA) UCL	9.517
Mean	8.348	95% KM (Percentile Bootstrap) UCL	9.64
Median	3.1	95% KM (Chebyshev) UCL	11.73
SD	13.55	97.5% KM (Chebyshev) UCL	13.2
k star	0.308	99% KM (Chebyshev) UCL	16.07
Theta star	27.09		
Nu star	188	Potential UCLs to Use	
AppChi2	157.3	97.5% KM (Chebyshev) UCL	13.2
95% Gamma Approximate UCL (Use when n >= 40)	9.978		
95% Adjusted Gamma UCL (Use when n < 40)	9.987		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Data	59	Number of Detected Data	55
Number of Distinct Detected Data	54	Number of Non-Detect Data	4
		Percent Non-Detects	6.78%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	5	Minimum Detected	1.609
Maximum Detected	95	Maximum Detected	4.554
Mean of Detected	37.11	Mean of Detected	3.429
SD of Detected	21.63	SD of Detected	0.647
Minimum Non-Detect	0.72	Minimum Non-Detect	-0.329
Maximum Non-Detect	0.72	Maximum Non-Detect	-0.329

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.104	Lilliefors Test Statistic	0.0926
5% Lilliefors Critical Value	0.119	5% Lilliefors Critical Value	0.119
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	34.62	Mean	3.127
SD	22.86	SD	1.29
95% DL/2 (t) UCL	39.59	95% H-Stat (DL/2) UCL	85.44

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	33.9	Mean in Log Scale	3.328
SD	24.01	SD in Log Scale	0.732
95% MLE (t) UCL	39.13	Mean in Original Scale	35.07
95% MLE (Tiku) UCL	39.12	SD in Original Scale	22.23
		95% t UCL	39.91
		95% Percentile Bootstrap UCL	39.8
		95% BCA Bootstrap UCL	40.19
		95% H UCL	44.45

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.718	Data appear Normal at 5% Significance Level
Theta Star	13.65	
nu star	299	

A-D Test Statistic	0.331	Nonparametric Statistics	
5% A-D Critical Value	0.758	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.758	Mean	34.93
5% K-S Critical Value	0.121	SD	22.21
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.919
		95% KM (t) UCL	39.81
Assuming Gamma Distribution		95% KM (z) UCL	39.74
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	39.63
Minimum	0.000001	95% KM (bootstrap t) UCL	39.88
Maximum	95	95% KM (BCA) UCL	40.7
Mean	34.6	95% KM (Percentile Bootstrap) UCL	39.98
Median	32.4	95% KM (Chebyshev) UCL	47.66
SD	22.9	97.5% KM (Chebyshev) UCL	53.16
k star	0.482	99% KM (Chebyshev) UCL	63.98
Theta star	71.83		
Nu star	56.83	Potential UCLs to Use	
AppChi2	40.5	95% KM (t) UCL	39.81
95% Gamma Approximate UCL (Use when n >= 40)	48.54	95% KM (Percentile Bootstrap) UCL	39.98
95% Adjusted Gamma UCL (Use when n < 40)	48.96		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics

Number of Valid Observations	107	Number of Distinct Observations	101

Raw Statistics		Log-transformed Statistics	
Minimum	1340	Minimum of Log Data	7.2
Maximum	30000	Maximum of Log Data	10.31
Mean	8426	Mean of log Data	8.824
Geometric Mean	6796	SD of log Data	0.695
Median	7570		
SD	5369		
Std. Error of Mean	519		
Coefficient of Variation	0.637		
Skewness	1.16		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.0945	Lilliefors Test Statistic	0.102
Lilliefors Critical Value	0.0857	Lilliefors Critical Value	0.0857
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	9287	95% H-UCL	9880
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	11423
95% Adjusted-CLT UCL (Chen-1995)	9342	97.5% Chebyshev (MVUE) UCL	12631
95% Modified-t UCL (Johnson-1978)	9297	99% Chebyshev (MVUE) UCL	15004

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.417	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3486		
MLE of Mean	8426		
MLE of Standard Deviation	5419		
nu star	517.3		
Approximate Chi Square Value (.05)	465.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0478	95% CLT UCL	9279
Adjusted Chi Square Value	464.9	95% Jackknife UCL	9287
		95% Standard Bootstrap UCL	9269
Anderson-Darling Test Statistic	0.356	95% Bootstrap-t UCL	9361
Anderson-Darling 5% Critical Value	0.762	95% Hall's Bootstrap UCL	9360
Kolmogorov-Smirnov Test Statistic	0.0588	95% Percentile Bootstrap UCL	9354
Kolmogorov-Smirnov 5% Critical Value	0.0885	95% BCA Bootstrap UCL	9343
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	10688
		97.5% Chebyshev(Mean, Sd) UCL	11667
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	13590
95% Approximate Gamma UCL (Use when n >= 40)	9362		
95% Adjusted Gamma UCL (Use when n < 40)	9376		

Potential UCL to Use	Use 95% Approximate Gamma UCL	9362

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics

Number of Valid Data	117	Number of Detected Data	91
Number of Distinct Detected Data	70	Number of Non-Detect Data	26
		Percent Non-Detects	22.22%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.64	Minimum Detected	-0.446
Maximum Detected	148	Maximum Detected	4.997
Mean of Detected	10.88	Mean of Detected	1.856
SD of Detected	17.01	SD of Detected	1.008
Minimum Non-Detect	0.11	Minimum Non-Detect	-2.207
Maximum Non-Detect	0.33	Maximum Non-Detect	-1.109

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	26
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	91
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	22.22%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.276	Lilliefors Test Statistic	0.0781
5% Lilliefors Critical Value	0.0929	5% Lilliefors Critical Value	0.0929
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	8.483	Mean	0.895
SD	15.64	SD	2.017
95% DL/2 (t) UCL	10.88	95% H-Stat (DL/2) UCL	35.05
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	5.656	Mean in Log Scale	1.351
SD	18.47	SD in Log Scale	1.322
95% MLE (t) UCL	8.488	Mean in Original Scale	8.627
95% MLE (Tiku) UCL	8.467	SD in Original Scale	15.57
		95% t UCL	11.01
		95% Percentile Bootstrap UCL	11.2
		95% BCA Bootstrap UCL	12.3
		95% H UCL	12.65
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.05	Data appear Lognormal at 5% Significance Level	
Theta Star	10.36		
nu star	191.1		
A-D Test Statistic	1.556	Nonparametric Statistics	
5% A-D Critical Value	0.781	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.781	Mean	8.605
5% K-S Critical Value	0.0963	SD	15.51
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.442
		95% KM (t) UCL	11
Assuming Gamma Distribution		95% KM (z) UCL	10.98
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	10.87
Minimum	1.00E-06	95% KM (bootstrap t) UCL	12.9
Maximum	148	95% KM (BCA) UCL	11.48
Mean	8.463	95% KM (Percentile Bootstrap) UCL	11.27
Median	4.1	95% KM (Chebyshev) UCL	14.89
SD	15.66	97.5% KM (Chebyshev) UCL	17.61
k star	0.197	99% KM (Chebyshev) UCL	22.95
Theta star	42.99		
Nu star	46.07	Potential UCLs to Use	
AppChi2	31.49	95% KM (Chebyshev) UCL	14.89
95% Gamma Approximate UCL (Use when n >= 40)	12.38		
95% Adjusted Gamma UCL (Use when n < 40)	12.44		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics			
Number of Valid Data	117	Number of Detected Data	75
Number of Distinct Detected Data	61	Number of Non-Detect Data	42
		Percent Non-Detects	35.90%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.10E-04	Minimum Detected	-9.115
Maximum Detected	6.4	Maximum Detected	1.856
Mean of Detected	0.604	Mean of Detected	-1.761
SD of Detected	0.92	SD of Detected	2.404
Minimum Non-Detect	4.50E-04	Minimum Non-Detect	-7.706
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	109
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.16%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.256	Lilliefors Test Statistic	0.188
5% Lilliefors Critical Value	0.102	5% Lilliefors Critical Value	0.102
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.422	Mean	-2.287
SD	0.778	SD	2.278
95% DL/2 (t) UCL	0.541	95% H-Stat (DL/2) UCL	2.962
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.89
		SD in Log Scale	2.5
		Mean in Original Scale	0.391
		SD in Original Scale	0.788
		95% t UCL	0.512
		95% Percentile Bootstrap UCL	0.52
		95% BCA Bootstrap UCL	0.559
		95% H-UCL	3.182
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.493	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	1.224		
nu star	74.01		
A-D Test Statistic	1.086	Nonparametric Statistics	
5% A-D Critical Value	0.817	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.817	Mean	0.4
5% K-S Critical Value	0.109	SD	0.783
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.073
		95% KM (t) UCL	0.521
Assuming Gamma Distribution		95% KM (z) UCL	0.52
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.521
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.585
Maximum	6.4	95% KM (BCA) UCL	0.535
Mean	0.387	95% KM (Percentile Bootstrap) UCL	0.525
Median	0.083	95% KM (Chebyshev) UCL	0.718
SD	0.79	97.5% KM (Chebyshev) UCL	0.856
k star	0.154	99% KM (Chebyshev) UCL	1.126
Theta star	2.521		
Nu star	35.94	Potential UCLs to Use	
AppChi2	23.22	95% KM (BCA) UCL	0.535
95% Gamma Approximate UCL (Use when n >= 40)	0.599		
95% Adjusted Gamma UCL (Use when n < 40)	0.603		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics			
Number of Valid Data	117	Number of Detected Data	68
Number of Distinct Detected Data	52	Number of Non-Detect Data	49
		Percent Non-Detects	41.88%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0044	Minimum Detected	-5.426
Maximum Detected	6.2	Maximum Detected	1.825
Mean of Detected	0.761	Mean of Detected	-0.98
SD of Detected	1.005	SD of Detected	1.392
Minimum Non-Detect	3.20E-04	Minimum Non-Detect	-8.047
Maximum Non-Detect	1.5	Maximum Non-Detect	0.405
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	109
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.16%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.226	Lilliefors Test Statistic	0.0991
5% Lilliefors Critical Value	0.107	5% Lilliefors Critical Value	0.107
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.481	Mean	-2.162
SD	0.837	SD	2.37
95% DL/2 (t) UCL	0.61	95% H-Stat (DL/2) UCL	4.405
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.07
		SD in Log Scale	1.718
		Mean in Original Scale	0.457
		SD in Original Scale	0.845
		95% t UCL	0.586
		95% Percentile Bootstrap UCL	0.597
		95% BCA Bootstrap UCL	0.633
		95% H-UCL	0.89
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.808	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.942		
nu star	109.9		
A-D Test Statistic	0.376	Nonparametric Statistics	
5% A-D Critical Value	0.788	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.788	Mean	0.458
5% K-S Critical Value	0.112	SD	0.843
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0787
		95% KM (t) UCL	0.589
Assuming Gamma Distribution		95% KM (z) UCL	0.588
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.588
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.637
Maximum	6.2	95% KM (BCA) UCL	0.597
Mean	0.442	95% KM (Percentile Bootstrap) UCL	0.594
Median	0.074	95% KM (Chebyshev) UCL	0.801
SD	0.852	97.5% KM (Chebyshev) UCL	0.949
k star	0.142	99% KM (Chebyshev) UCL	1.241
Theta star	3.111		
Nu star	33.28	Potential UCLs to Use	
AppChi2	21.09	95% KM (BCA) UCL	0.597
95% Gamma Approximate UCL (Use when n >= 40)	0.698		
95% Adjusted Gamma UCL (Use when n < 40)	0.702		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics			
Number of Valid Data	117	Number of Detected Data	81
Number of Distinct Detected Data	63	Number of Non-Detect Data	36
		Percent Non-Detects	30.77%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.90E-04	Minimum Detected	-8.568
Maximum Detected	9.9	Maximum Detected	2.293
Mean of Detected	1.001	Mean of Detected	-1.384
SD of Detected	1.586	SD of Detected	2.42
Minimum Non-Detect	4.80E-04	Minimum Non-Detect	-7.642
Maximum Non-Detect	1.6	Maximum Non-Detect	0.47
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	100
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	17
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	85.47%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.264	Lilliefors Test Statistic	0.165
5% Lilliefors Critical Value	0.0984	5% Lilliefors Critical Value	0.0984
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.73	Mean	-1.837
SD	1.382	SD	2.259
95% DL/2 (t) UCL	0.941	95% H-Stat (DL/2) UCL	4.399
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.299
		SD in Log Scale	2.478
		Mean in Original Scale	0.698
		SD in Original Scale	1.394
		95% t UCL	0.912
		95% Percentile Bootstrap UCL	0.929
		95% BCA Bootstrap UCL	0.998
		95% H-UCL	5.346
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.455	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.202		
nu star	73.68		
A-D Test Statistic	0.583	Nonparametric Statistics	
5% A-D Critical Value	0.827	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.827	Mean	0.707
5% K-S Critical Value	0.105	SD	1.385
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.129
		95% KM (t) UCL	0.921
Assuming Gamma Distribution		95% KM (z) UCL	0.92
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.921
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.009
Maximum	9.9	95% KM (BCA) UCL	0.93
Mean	0.693	95% KM (Percentile Bootstrap) UCL	0.936
Median	0.13	95% KM (Chebyshev) UCL	1.269
SD	1.396	97.5% KM (Chebyshev) UCL	1.513
k star	0.159	99% KM (Chebyshev) UCL	1.99
Theta star	4.355		
Nu star	37.26	Potential UCLs to Use	
AppChi2	24.28	95% KM (BCA) UCL	0.93
95% Gamma Approximate UCL (Use when n >= 40)	1.064		
95% Adjusted Gamma UCL (Use when n < 40)	1.07		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics			
Number of Valid Data	117	Number of Detected Data	72
Number of Distinct Detected Data	57	Number of Non-Detect Data	45
		Percent Non-Detects	38.46%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.20E-04	Minimum Detected	-8.422
Maximum Detected	3.6	Maximum Detected	1.281
Mean of Detected	0.545	Mean of Detected	-1.802
SD of Detected	0.717	SD of Detected	2.264
Minimum Non-Detect	3.60E-04	Minimum Non-Detect	-7.929
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	109
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.16%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.224	Lilliefors Test Statistic	0.18
5% Lilliefors Critical Value	0.104	5% Lilliefors Critical Value	0.104
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.378	Mean	-2.276
SD	0.605	SD	2.158
95% DL/2 (t) UCL	0.47	95% H-Stat (DL/2) UCL	2.138
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.897
		SD in Log Scale	2.331
		Mean in Original Scale	0.341
		SD in Original Scale	0.618
		95% t UCL	0.436
		95% Percentile Bootstrap UCL	0.435
		95% BCA Bootstrap UCL	0.458
		95% H-UCL	1.88
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.515	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.059		
nu star	74.11		
A-D Test Statistic	0.627	Nonparametric Statistics	
5% A-D Critical Value	0.814	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.814	Mean	0.353
5% K-S Critical Value	0.111	SD	0.612
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0572
		95% KM (t) UCL	0.448
Assuming Gamma Distribution		95% KM (z) UCL	0.447
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.447
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.472
Maximum	3.6	95% KM (BCA) UCL	0.46
Mean	0.338	95% KM (Percentile Bootstrap) UCL	0.451
Median	0.072	95% KM (Chebyshev) UCL	0.602
SD	0.62	97.5% KM (Chebyshev) UCL	0.71
k star	0.154	99% KM (Chebyshev) UCL	0.922
Theta star	2.196		
Nu star	35.99	Potential UCLs to Use	
AppChi2	23.26	95% KM (BCA) UCL	0.46
95% Gamma Approximate UCL (Use when n >= 40)	0.523		
95% Adjusted Gamma UCL (Use when n < 40)	0.526		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics			
Number of Valid Data	116	Number of Detected Data	70
Number of Distinct Detected Data	64	Number of Non-Detect Data	46
		Percent Non-Detects	39.66%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.40E-04	Minimum Detected	-8.874
Maximum Detected	2.2	Maximum Detected	0.788
Mean of Detected	0.396	Mean of Detected	-2.02
SD of Detected	0.422	SD of Detected	2.307
Minimum Non-Detect	4.50E-04	Minimum Non-Detect	-7.706
Maximum Non-Detect	1.8	Maximum Non-Detect	0.588
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	115
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	99.14%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.175	Lilliefors Test Statistic	0.211
5% Lilliefors Critical Value	0.106	5% Lilliefors Critical Value	0.106
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.296	Mean	-2.336
SD	0.373	SD	2.076
95% DL/2 (t) UCL	0.353	95% H-Stat (DL/2) UCL	1.62
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.033
		SD in Log Scale	2.26
		Mean in Original Scale	0.245
		SD in Original Scale	0.377
		95% t UCL	0.303
		95% Percentile Bootstrap UCL	0.303
		95% BCA Bootstrap UCL	0.312
		95% H-UCL	1.337
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.555	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.713		
nu star	77.67		
A-D Test Statistic	1.662	Nonparametric Statistics	
5% A-D Critical Value	0.81	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.81	Mean	0.26
5% K-S Critical Value	0.112	SD	0.375
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0357
		95% KM (t) UCL	0.319
Assuming Gamma Distribution		95% KM (z) UCL	0.319
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.319
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.33
Maximum	2.2	95% KM (BCA) UCL	0.329
Mean	0.247	95% KM (Percentile Bootstrap) UCL	0.322
Median	0.0815	95% KM (Chebyshev) UCL	0.415
SD	0.378	97.5% KM (Chebyshev) UCL	0.483
k star	0.166	99% KM (Chebyshev) UCL	0.615
Theta star	1.489		
Nu star	38.48	Potential UCLs to Use	
AppChi2	25.27	97.5% KM (Chebyshev) UCL	0.483
95% Gamma Approximate UCL (Use when n >= 40)	0.376		
95% Adjusted Gamma UCL (Use when n < 40)	0.378		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics			
Number of Valid Data	117	Number of Detected Data	63
Number of Distinct Detected Data	51	Number of Non-Detect Data	54
		Percent Non-Detects	46.15%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.2	Minimum Detected	-1.609
Maximum Detected	38	Maximum Detected	3.638
Mean of Detected	7.878	Mean of Detected	1.544
SD of Detected	7.935	SD of Detected	1.115
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.19	Maximum Non-Detect	-1.661
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	54
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	63
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	46.15%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.196	Lilliefors Test Statistic	0.0638
5% Lilliefors Critical Value	0.112	5% Lilliefors Critical Value	0.112
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.273	Mean	-0.684
SD	6.996	SD	2.737
95% DL/2 (t) UCL	5.345	95% H-Stat (DL/2) UCL	63.42
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.315	Mean in Log Scale	0.27
SD	10.96	SD in Log Scale	1.711
95% MLE (t) UCL	1.995	Mean in Original Scale	4.427
95% MLE (Tiku) UCL	2.308	SD in Original Scale	6.907
		95% t UCL	5.486
		95% Percentile Bootstrap UCL	5.511
		95% BCA Bootstrap UCL	5.73
		95% H UCL	9.096
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.055	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	7.464		
nu star	133		
A-D Test Statistic	0.469	Nonparametric Statistics	
5% A-D Critical Value	0.777	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.777	Mean	4.334
5% K-S Critical Value	0.115	SD	6.929
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.646
		95% KM (t) UCL	5.405
Assuming Gamma Distribution		95% KM (z) UCL	5.397
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.305
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.509
Maximum	38	95% KM (BCA) UCL	5.664
Mean	4.242	95% KM (Percentile Bootstrap) UCL	5.501
Median	0.95	95% KM (Chebyshev) UCL	7.149
SD	7.015	97.5% KM (Chebyshev) UCL	8.367
k star	0.117	99% KM (Chebyshev) UCL	10.76
Theta star	36.27		
Nu star	27.37	Potential UCLs to Use	
AppChi2	16.44	95% KM (t) UCL	5.405
95% Gamma Approximate UCL (Use when n >= 40)	7.063		
95% Adjusted Gamma UCL (Use when n < 40)	7.109		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics

Number of Valid Data	107	Number of Detected Data	86
Number of Distinct Detected Data	67	Number of Non-Detect Data	21
		Percent Non-Detects	19.63%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.1	Minimum Detected	0.0953
Maximum Detected	24.6	Maximum Detected	3.203
Mean of Detected	7.268	Mean of Detected	1.74
SD of Detected	5.308	SD of Detected	0.72
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	0.17	Maximum Non-Detect	-1.772

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	86
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	19.63%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.162	Lilliefors Test Statistic	0.0808
5% Lilliefors Critical Value	0.0955	5% Lilliefors Critical Value	0.0955
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.852	Mean	0.716
SD	5.557	SD	2.253
95% DL/2 (t) UCL	6.744	95% H-Stat (DL/2) UCL	57.16

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	5.132	Mean in Log Scale	1.423
SD	6.559	SD in Log Scale	0.924
95% MLE (t) UCL	6.184	Mean in Original Scale	6.077
95% MLE (Tiku) UCL	6.204	SD in Original Scale	5.337
		95% t UCL	6.933
		95% Percentile Bootstrap UCL	6.917
		95% BCA Bootstrap UCL	6.943
		95% H UCL	7.707

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.135	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.404	
nu star	367.2	

A-D Test Statistic	0.55	Nonparametric Statistics	
5% A-D Critical Value	0.763	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.763	Mean	6.057
5% K-S Critical Value	0.0976	SD	5.328
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.518
		95% KM (t) UCL	6.917
Assuming Gamma Distribution		95% KM (z) UCL	6.91
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.9
Minimum	0.000001	95% KM (bootstrap t) UCL	6.976
Maximum	24.6	95% KM (BCA) UCL	7.001
Mean	5.842	95% KM (Percentile Bootstrap) UCL	6.942
Median	5	95% KM (Chebyshev) UCL	8.316
SD	5.568	97.5% KM (Chebyshev) UCL	9.293
k star	0.233	99% KM (Chebyshev) UCL	11.21
Theta star	25.07		
Nu star	49.87	Potential UCLs to Use	
AppChi2	34.65	95% KM (BCA) UCL	7.001
95% Gamma Approximate UCL (Use when n >= 40)	8.406		
95% Adjusted Gamma UCL (Use when n < 40)	8.448		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Copper

General Statistics			
Number of Valid Data	117	Number of Detected Data	110
Number of Distinct Detected Data	101	Number of Non-Detect Data	7
		Percent Non-Detects	5.98%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.4	Minimum Detected	0.336
Maximum Detected	677	Maximum Detected	6.518
Mean of Detected	61.59	Mean of Detected	3.272
SD of Detected	93.65	SD of Detected	1.393
Minimum Non-Detect	0.19	Minimum Non-Detect	-1.661
Maximum Non-Detect	0.36	Maximum Non-Detect	-1.022
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	110
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	5.98%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.26	Lilliefors Test Statistic	0.0892
5% Lilliefors Critical Value	0.0845	5% Lilliefors Critical Value	0.0845
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	57.91	Mean	2.963
SD	91.95	SD	1.828
95% DL/2 (t) UCL	72.01	95% H-Stat (DL/2) UCL	174.8
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	54.36	Mean in Log Scale	3.078
SD	95.57	SD in Log Scale	1.558
95% MLE (t) UCL	69.01	Mean in Original Scale	57.97
95% MLE (Tiku) UCL	67.9	SD in Original Scale	91.92
		95% t UCL	72.06
		95% Percentile Bootstrap UCL	73.69
		95% BCA Bootstrap UCL	75.9
		95% H UCL	109.7
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.698	Data do not follow a Discernable Distribution (0.05)	
Theta Star	88.27		
nu star	153.5		
A-D Test Statistic	1.445	Nonparametric Statistics	
5% A-D Critical Value	0.799	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.799	Mean	57.99
5% K-S Critical Value	0.0905	SD	91.51
Data not Gamma Distributed at 5% Significance Level		SE of Mean	8.499
		95% KM (t) UCL	72.08
Assuming Gamma Distribution		95% KM (z) UCL	71.97
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	72.06
Minimum	1.00E-06	95% KM (bootstrap t) UCL	77.88
Maximum	677	95% KM (BCA) UCL	73.64
Mean	57.9	95% KM (Percentile Bootstrap) UCL	72.34
Median	23.3	95% KM (Chebyshev) UCL	95.03
SD	91.96	97.5% KM (Chebyshev) UCL	111.1
k star	0.365	99% KM (Chebyshev) UCL	142.6
Theta star	158.7		
Nu star	85.38	Potential UCLs to Use	
AppChi2	65.09	95% KM (Chebyshev) UCL	95.03
95% Gamma Approximate UCL (Use when n >= 40)	75.96		
95% Adjusted Gamma UCL (Use when n < 40)	76.22		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics

Number of Valid Data	94	Number of Detected Data	44
Number of Distinct Detected Data	39	Number of Non-Detect Data	50
		Percent Non-Detects	53.19%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	7.20E-05	Minimum Detected	-9.539
Maximum Detected	2.4	Maximum Detected	0.875
Mean of Detected	0.334	Mean of Detected	-2.655
SD of Detected	0.511	SD of Detected	2.278
Minimum Non-Detect	0.0017	Minimum Non-Detect	-6.377
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	63
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	31
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	67.02%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.681	Shapiro Wilk Test Statistic	0.942
5% Shapiro Wilk Critical Value	0.944	5% Shapiro Wilk Critical Value	0.944
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.158	Mean	-4.393
SD	0.385	SD	2.305
95% DL/2 (t) UCL	0.224	95% H-Stat (DL/2) UCL	0.437

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-5.108
		SD in Log Scale	2.909
		Mean in Original Scale	0.157
		SD in Original Scale	0.386
		95% t UCL	0.223
		95% Percentile Bootstrap UCL	0.224
		95% BCA Bootstrap UCL	0.24
		95% H-UCL	1.675

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.406	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.823	
nu star	35.7	

		Nonparametric Statistics	
A-D Test Statistic	0.719		
5% A-D Critical Value	0.833	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.833	Mean	0.157
5% K-S Critical Value	0.143	SD	0.384
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.04
		95% KM (t) UCL	0.224
Assuming Gamma Distribution		95% KM (z) UCL	0.223
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.223
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.254
Maximum	2.4	95% KM (BCA) UCL	0.231
Mean	0.156	95% KM (Percentile Bootstrap) UCL	0.225
Median	1.00E-06	95% KM (Chebyshev) UCL	0.332
SD	0.386	97.5% KM (Chebyshev) UCL	0.407
k star	0.121	99% KM (Chebyshev) UCL	0.555
Theta star	1.288		
Nu star	22.81	Potential UCLs to Use	
AppChi2	12.95	95% KM (t) UCL	0.224
95% Gamma Approximate UCL (Use when n >= 40)	0.275		
95% Adjusted Gamma UCL (Use when n < 40)	0.278		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin Aldehyde

General Statistics			
Number of Valid Data	83	Number of Detected Data	25
Number of Distinct Detected Data	24	Number of Non-Detect Data	58
		Percent Non-Detects	69.88%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.000064	Minimum Detected	-9.657
Maximum Detected	0.13	Maximum Detected	-2.04
Mean of Detected	0.0189	Mean of Detected	-5.359
SD of Detected	0.0328	SD of Detected	1.969
Minimum Non-Detect	0.0032	Minimum Non-Detect	-5.745
Maximum Non-Detect	0.026	Maximum Non-Detect	-3.65
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	77
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	92.77%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.597	Shapiro Wilk Test Statistic	0.977
5% Shapiro Wilk Critical Value	0.918	5% Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00828	Mean	-5.671
SD	0.0192	SD	1.195
95% DL/2 (t) UCL	0.0118	95% H-Stat (DL/2) UCL	0.00969
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.604
		SD in Log Scale	1.495
		Mean in Original Scale	0.00644
		SD in Original Scale	0.0196
		95% t UCL	0.01
		95% Percentile Bootstrap UCL	0.0105
		95% BCA Bootstrap UCL	0.012
		95% H-UCL	0.00653
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.433	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0437		
nu star	21.66		
A-D Test Statistic	0.456	Nonparametric Statistics	
5% A-D Critical Value	0.815	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.815	Mean	0.00673
5% K-S Critical Value	0.185	SD	0.0194
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00219
		95% KM (t) UCL	0.0104
Assuming Gamma Distribution		95% KM (z) UCL	0.0103
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0103
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0147
Maximum	0.13	95% KM (BCA) UCL	0.0109
Mean	0.00683	95% KM (Percentile Bootstrap) UCL	0.0105
Median	0.000001	95% KM (Chebyshev) UCL	0.0163
SD	0.0197	97.5% KM (Chebyshev) UCL	0.0204
k star	0.163	99% KM (Chebyshev) UCL	0.0285
Theta star	0.0418		
Nu star	27.11	Potential UCLs to Use	
AppChi2	16.24	95% KM (t) UCL	0.0104
95% Gamma Approximate UCL (Use when n >= 40)	0.0114		
95% Adjusted Gamma UCL (Use when n < 40)	0.0115		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-c,d)pyrene

General Statistics			
Number of Valid Data	116	Number of Detected Data	68
Number of Distinct Detected Data	53	Number of Non-Detect Data	48
		Percent Non-Detects	41.38%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.90E-04	Minimum Detected	-8.568
Maximum Detected	3.7	Maximum Detected	1.308
Mean of Detected	0.555	Mean of Detected	-1.774
SD of Detected	0.724	SD of Detected	2.307
Minimum Non-Detect	3.70E-04	Minimum Non-Detect	-7.902
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	112
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	96.55%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.222	Lilliefors Test Statistic	0.162
5% Lilliefors Critical Value	0.107	5% Lilliefors Critical Value	0.107
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.372	Mean	-2.292
SD	0.6	SD	2.168
95% DL/2 (t) UCL	0.464	95% H-Stat (DL/2) UCL	2.17
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.032
		SD in Log Scale	2.401
		Mean in Original Scale	0.33
		SD in Original Scale	0.614
		95% t UCL	0.425
		95% Percentile Bootstrap UCL	0.425
		95% BCA Bootstrap UCL	0.447
		95% H-UCL	2.032
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.518	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	1.071		
nu star	70.39		
A-D Test Statistic	0.905	Nonparametric Statistics	
5% A-D Critical Value	0.814	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.814	Mean	0.342
5% K-S Critical Value	0.114	SD	0.609
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0572
		95% KM (t) UCL	0.437
Assuming Gamma Distribution		95% KM (z) UCL	0.436
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.437
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.468
Maximum	3.7	95% KM (BCA) UCL	0.448
Mean	0.327	95% KM (Percentile Bootstrap) UCL	0.448
Median	0.0575	95% KM (Chebyshev) UCL	0.592
SD	0.616	97.5% KM (Chebyshev) UCL	0.7
k star	0.146	99% KM (Chebyshev) UCL	0.912
Theta star	2.234		
Nu star	33.98	Potential UCLs to Use	
AppChi2	21.65	95% KM (BCA) UCL	0.448
95% Gamma Approximate UCL (Use when n >= 40)	0.513		
95% Adjusted Gamma UCL (Use when n < 40)	0.516		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics

Number of Valid Observations	107	Number of Distinct Observations	99

Raw Statistics		Log-transformed Statistics	
Minimum	1580	Minimum of Log Data	7.365
Maximum	109000	Maximum of Log Data	11.6
Mean	13973	Mean of log Data	9.203
Geometric Mean	9929	SD of log Data	0.819
Median	10700		
SD	14419		
Std. Error of Mean	1394		
Coefficient of Variation	1.032		
Skewness	3.742		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.197	Lilliefors Test Statistic	0.071
Lilliefors Critical Value	0.0857	Lilliefors Critical Value	0.0857
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	16286	95% H-UCL	16346
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	19265
95% Adjusted-CLT UCL (Chen-1995)	16805	97.5% Chebyshev (MVUE) UCL	21619
95% Modified-t UCL (Johnson-1978)	16370	99% Chebyshev (MVUE) UCL	26242

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.571	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	8895		
MLE of Mean	13973		
MLE of Standard Deviation	11148		
nu star	336.2		
Approximate Chi Square Value (.05)	294.7	Nonparametric Statistics	
Adjusted Level of Significance	0.0478	95% CLT UCL	16266
Adjusted Chi Square Value	294.2	95% Jackknife UCL	16286
		95% Standard Bootstrap UCL	16232
Anderson-Darling Test Statistic	0.98	95% Bootstrap-t UCL	17007
Anderson-Darling 5% Critical Value	0.769	95% Hall's Bootstrap UCL	18058
Kolmogorov-Smirnov Test Statistic	0.0749	95% Percentile Bootstrap UCL	16323
Kolmogorov-Smirnov 5% Critical Value	0.0892	95% BCA Bootstrap UCL	17119
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	20049
		97.5% Chebyshev(Mean, Sd) UCL	22678
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	27842
95% Approximate Gamma UCL (Use when n >= 40)	15940		
95% Adjusted Gamma UCL (Use when n < 40)	15968		

Potential UCL to Use	Use 95% Approximate Gamma UCL	15940

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics			
Number of Valid Observations	107	Number of Distinct Observations	103
Raw Statistics		Log-transformed Statistics	
Minimum	8	Minimum of Log Data	2.079
Maximum	1800	Maximum of Log Data	7.496
Mean	338.9	Mean of log Data	5.175
Geometric Mean	176.8	SD of log Data	1.209
Median	173		
SD	415.7		
Std. Error of Mean	40.18		
Coefficient of Variation	1.226		
Skewness	2.116		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.213	Lilliefors Test Statistic	0.046
Lilliefors Critical Value	0.0857	Lilliefors Critical Value	0.0857
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	405.6	95% H-UCL	487.2
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	598.8
95% Adjusted-CLT UCL (Chen-1995)	413.8	97.5% Chebyshev (MVUE) UCL	700.9
95% Modified-t UCL (Johnson-1978)	407	99% Chebyshev (MVUE) UCL	901.4
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.88	Data appear Lognormal at 5% Significance Level	
Theta Star	385.3		
MLE of Mean	338.9		
MLE of Standard Deviation	361.4		
nu star	188.2		
Approximate Chi Square Value (.05)	157.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0478	95% CLT UCL	405
Adjusted Chi Square Value	157.1	95% Jackknife UCL	405.6
		95% Standard Bootstrap UCL	405
Anderson-Darling Test Statistic	1.452	95% Bootstrap-t UCL	413.3
Anderson-Darling 5% Critical Value	0.788	95% Hall's Bootstrap UCL	417.3
Kolmogorov-Smirnov Test Statistic	0.0913	95% Percentile Bootstrap UCL	406
Kolmogorov-Smirnov 5% Critical Value	0.0906	95% BCA Bootstrap UCL	414.2
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	514.1
		97.5% Chebyshev(Mean, Sd) UCL	589.9
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	738.8
95% Approximate Gamma UCL (Use when n >= 40)	405.1		
95% Adjusted Gamma UCL (Use when n < 40)	406.1		
Potential UCL to Use		Use 95% H-UCL	487.2

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

P,P'-DDT

General Statistics			
Number of Valid Data	94	Number of Detected Data	55
Number of Distinct Detected Data	49	Number of Non-Detect Data	39
		Percent Non-Detects	41.49%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.10E-04	Minimum Detected	-9.115
Maximum Detected	2	Maximum Detected	0.693
Mean of Detected	0.275	Mean of Detected	-3.123
SD of Detected	0.457	SD of Detected	2.515
Minimum Non-Detect	0.0017	Minimum Non-Detect	-6.377
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	59
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	35
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	62.77%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.274	Lilliefors Test Statistic	0.107
5% Lilliefors Critical Value	0.119	5% Lilliefors Critical Value	0.119
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.163	Mean	-4.255
SD	0.373	SD	2.392
95% DL/2 (t) UCL	0.227	95% H-Stat (DL/2) UCL	0.653
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.863
		SD in Log Scale	2.904
		Mean in Original Scale	0.162
		SD in Original Scale	0.374
		95% t UCL	0.226
		95% Percentile Bootstrap UCL	0.23
		95% BCA Bootstrap UCL	0.238
		95% H-UCL	2.099
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.357	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.772		
nu star	39.23		
A-D Test Statistic	0.779	Nonparametric Statistics	
5% A-D Critical Value	0.847	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.847	Mean	0.162
5% K-S Critical Value	0.129	SD	0.372
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0387
		95% KM (t) UCL	0.226
Assuming Gamma Distribution		95% KM (z) UCL	0.225
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.226
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.248
Maximum	2	95% KM (BCA) UCL	0.229
Mean	0.161	95% KM (Percentile Bootstrap) UCL	0.226
Median	0.00445	95% KM (Chebyshev) UCL	0.33
SD	0.374	97.5% KM (Chebyshev) UCL	0.403
k star	0.139	99% KM (Chebyshev) UCL	0.547
Theta star	1.161		
Nu star	26.08	Potential UCLs to Use	
AppChi2	15.44	95% KM (BCA) UCL	0.229
95% Gamma Approximate UCL (Use when n >= 40)	0.272		
95% Adjusted Gamma UCL (Use when n < 40)	0.274		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics			
Number of Valid Data	117	Number of Detected Data	70
Number of Distinct Detected Data	54	Number of Non-Detect Data	47
		Percent Non-Detects	40.17%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.90E-04	Minimum Detected	-8.568
Maximum Detected	5.7	Maximum Detected	1.74
Mean of Detected	0.56	Mean of Detected	-1.926
SD of Detected	0.88	SD of Detected	2.456
Minimum Non-Detect	4.30E-04	Minimum Non-Detect	-7.752
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	112
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.73%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.262	Lilliefors Test Statistic	0.226
5% Lilliefors Critical Value	0.106	5% Lilliefors Critical Value	0.106
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.382	Mean	-2.327
SD	0.719	SD	2.183
95% DL/2 (t) UCL	0.493	95% H-Stat (DL/2) UCL	2.177
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.74	Mean in Log Scale	-3.087
SD	1.476	SD in Log Scale	2.438
95% MLE (t) UCL	3.967	Mean in Original Scale	0.339
95% MLE (Tiku) UCL	4.808	SD in Original Scale	0.73
		95% t UCL	0.451
		95% Percentile Bootstrap UCL	0.458
		95% BCA Bootstrap UCL	0.487
		95% H UCL	2.15
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.465	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.204		
nu star	65.09		
A-D Test Statistic	1.06	Nonparametric Statistics	
5% A-D Critical Value	0.823	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.823	Mean	0.353
5% K-S Critical Value	0.113	SD	0.724
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0677
		95% KM (t) UCL	0.465
Assuming Gamma Distribution		95% KM (z) UCL	0.465
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.465
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.529
Maximum	5.7	95% KM (BCA) UCL	0.466
Mean	0.335	95% KM (Percentile Bootstrap) UCL	0.471
Median	0.04	95% KM (Chebyshev) UCL	0.648
SD	0.732	97.5% KM (Chebyshev) UCL	0.776
k star	0.144	99% KM (Chebyshev) UCL	1.027
Theta star	2.322		
Nu star	33.77	Potential UCLs to Use	
AppChi2	21.48	97.5% KM (Chebyshev) UCL	0.776
95% Gamma Approximate UCL (Use when n >= 40)	0.527		
95% Adjusted Gamma UCL (Use when n < 40)	0.53		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Silver

General Statistics			
Number of Valid Data	117	Number of Detected Data	51
Number of Distinct Detected Data	45	Number of Non-Detect Data	66
		Percent Non-Detects	56.41%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.68	Minimum Detected	-0.386
Maximum Detected	62.7	Maximum Detected	4.138
Mean of Detected	6.862	Mean of Detected	1.467
SD of Detected	9.491	SD of Detected	0.914
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.49	Maximum Non-Detect	-0.713
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	66
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	51
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	56.41%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.257	Lilliefors Test Statistic	0.0958
5% Lilliefors Critical Value	0.124	5% Lilliefors Critical Value	0.124
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.034	Mean	-1.097
SD	7.089	SD	2.59
95% DL/2 (t) UCL	4.121	95% H-Stat (DL/2) UCL	25.48
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.0265
		SD in Log Scale	1.556
		Mean in Original Scale	3.251
		SD in Original Scale	7.004
		95% t UCL	4.325
		95% Percentile Bootstrap UCL	4.416
		95% BCA Bootstrap UCL	4.967
		95% H-UCL	5.166
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.17	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	5.863		
nu star	119.4		
A-D Test Statistic	1.184	Nonparametric Statistics	
5% A-D Critical Value	0.774	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.774	Mean	3.375
5% K-S Critical Value	0.127	SD	6.921
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.646
		95% KM (t) UCL	4.446
Assuming Gamma Distribution		95% KM (z) UCL	4.438
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.387
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.254
Maximum	62.7	95% KM (BCA) UCL	4.785
Mean	2.991	95% KM (Percentile Bootstrap) UCL	4.596
Median	1.00E-06	95% KM (Chebyshev) UCL	6.191
SD	7.107	97.5% KM (Chebyshev) UCL	7.41
k star	0.102	99% KM (Chebyshev) UCL	9.804
Theta star	29.39		
Nu star	23.82	Potential UCLs to Use	
AppChi2	13.71	95% KM (t) UCL	4.446
95% Gamma Approximate UCL (Use when n >= 40)	5.196		
95% Adjusted Gamma UCL (Use when n < 40)	5.233		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics			
Number of Valid Data	464	Number of Detected Data	403
Number of Distinct Detected Data	246	Number of Non-Detect Data	61
		Percent Non-Detects	13.15%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0031	Minimum Detected	-5.776
Maximum Detected	470	Maximum Detected	6.153
Mean of Detected	13.28	Mean of Detected	0.828
SD of Detected	34.3	SD of Detected	2.219
Minimum Non-Detect	0.0042	Minimum Non-Detect	-5.473
Maximum Non-Detect	1	Maximum Non-Detect	0
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	193
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	271
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	41.59%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.349	Lilliefors Test Statistic	0.0937
5% Lilliefors Critical Value	0.0441	5% Lilliefors Critical Value	0.0441
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	11.55	Mean	0.263
SD	32.27	SD	2.572
95% DL/2 (t) UCL	14.01	95% H-Stat (DL/2) UCL	56.18
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.275
		SD in Log Scale	2.532
		Mean in Original Scale	11.54
		SD in Original Scale	32.27
		95% t UCL	14.01
		95% Percentile Bootstrap UCL	14.41
		95% BCA Bootstrap UCL	14.39
		95% H-UCL	50.67
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.377	Data do not follow a Discernable Distribution (0.05)	
Theta Star	35.28		
nu star	303.5		
A-D Test Statistic	5.722	Nonparametric Statistics	
5% A-D Critical Value	0.853	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.853	Mean	11.54
5% K-S Critical Value	0.0484	SD	32.23
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.498
		95% KM (t) UCL	14.01
Assuming Gamma Distribution		95% KM (z) UCL	14.01
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	14.01
Minimum	1.00E-06	95% KM (bootstrap t) UCL	15.22
Maximum	470	95% KM (BCA) UCL	14.21
Mean	11.54	95% KM (Percentile Bootstrap) UCL	14.15
Median	2.4	95% KM (Chebyshev) UCL	18.07
SD	32.27	97.5% KM (Chebyshev) UCL	20.9
k star	0.207	99% KM (Chebyshev) UCL	26.45
Theta star	55.79		
Nu star	191.9	Potential UCLs to Use	
AppChi2	160.8	97.5% KM (Chebyshev) UCL	20.9
95% Gamma Approximate UCL (Use when n >= 40)	13.76		
95% Adjusted Gamma UCL (Use when n < 40)	13.77		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Data	107	Number of Detected Data	97
Number of Distinct Detected Data	91	Number of Non-Detect Data	10
		Percent Non-Detects	9.35%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	4.7	Minimum Detected	1.548
Maximum Detected	125	Maximum Detected	4.828
Mean of Detected	31.71	Mean of Detected	3.222
SD of Detected	22.22	SD of Detected	0.711
Minimum Non-Detect	0.72	Minimum Non-Detect	-0.329
Maximum Non-Detect	0.72	Maximum Non-Detect	-0.329

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.151	Lilliefors Test Statistic	0.0596
5% Lilliefors Critical Value	0.09	5% Lilliefors Critical Value	0.09
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	28.78	Mean	2.825
SD	23.05	SD	1.414
95% DL/2 (t) UCL	32.48	95% H-Stat (DL/2) UCL	65.68

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	27.64	Mean in Log Scale	3.069
SD	24.8	SD in Log Scale	0.832
95% MLE (t) UCL	31.62	Mean in Original Scale	29.23
95% MLE (Tiku) UCL	31.58	SD in Original Scale	22.54
		95% t UCL	32.84
		95% Percentile Bootstrap UCL	32.91
		95% BCA Bootstrap UCL	33.31
		95% H UCL	35.94

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.215	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	14.32	
nu star	429.6	

A-D Test Statistic	0.515	Nonparametric Statistics	
5% A-D Critical Value	0.763	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.763	Mean	29.19
5% K-S Critical Value	0.0919	SD	22.47
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	2.183
		95% KM (t) UCL	32.81
Assuming Gamma Distribution		95% KM (z) UCL	32.78
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	32.79
Minimum	0.000001	95% KM (bootstrap t) UCL	33.1
Maximum	125	95% KM (BCA) UCL	33.15
Mean	28.75	95% KM (Percentile Bootstrap) UCL	32.91
Median	21	95% KM (Chebyshev) UCL	38.71
SD	23.09	97.5% KM (Chebyshev) UCL	42.83
k star	0.379	99% KM (Chebyshev) UCL	50.91
Theta star	75.93		
Nu star	81.03	Potential UCLs to Use	
AppChi2	61.29	95% KM (BCA) UCL	33.15
95% Gamma Approximate UCL (Use when n >= 40)	38.01		
95% Adjusted Gamma UCL (Use when n < 40)	38.16		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc

General Statistics

Number of Valid Data	116	Number of Detected Data	114
Number of Distinct Detected Data	111	Number of Non-Detect Data	2
		Percent Non-Detects	1.72%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	4.4	Minimum Detected	1.482
Maximum Detected	3040	Maximum Detected	8.02
Mean of Detected	137.3	Mean of Detected	4.158
SD of Detected	299.7	SD of Detected	1.228
Minimum Non-Detect	0.08	Minimum Non-Detect	-2.526
Maximum Non-Detect	0.08	Maximum Non-Detect	-2.526

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.329	Lilliefors Test Statistic	0.0499
5% Lilliefors Critical Value	0.083	5% Lilliefors Critical Value	0.083
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	134.9	Mean	4.031
SD	297.6	SD	1.553
95% DL/2 (t) UCL	180.8	95% H-Stat (DL/2) UCL	281.8

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	131.5	Mean in Log Scale	4.103
SD	299.7	SD in Log Scale	1.287
95% MLE (t) UCL	177.7	Mean in Original Scale	135
95% MLE (Tiku) UCL	172.8	SD in Original Scale	297.6
		95% t UCL	180.8
		95% Percentile Bootstrap UCL	185.5
		95% BCA Bootstrap UCL	225.4
		95% H UCL	187.1

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.765	Data appear Lognormal at 5% Significance Level
Theta Star	179.5	
nu star	174.4	

A-D Test Statistic	1.841	Nonparametric Statistics	
5% A-D Critical Value	0.794	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.794	Mean	135
5% K-S Critical Value	0.0891	SD	296.3
Data not Gamma Distributed at 5% Significance Level		SE of Mean	27.63
		95% KM (t) UCL	180.8
Assuming Gamma Distribution		95% KM (z) UCL	180.5
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	180.8
Minimum	1.00E-06	95% KM (bootstrap t) UCL	239.4
Maximum	3040	95% KM (BCA) UCL	186.8
Mean	134.9	95% KM (Percentile Bootstrap) UCL	184.8
Median	68.4	95% KM (Chebyshev) UCL	255.5
SD	297.6	97.5% KM (Chebyshev) UCL	307.6
k star	0.577	99% KM (Chebyshev) UCL	410
Theta star	233.7		
Nu star	133.9	Potential UCLs to Use	
AppChi2	108.2	95% KM (Chebyshev) UCL	255.5
95% Gamma Approximate UCL (Use when n >= 40)	167		
95% Adjusted Gamma UCL (Use when n < 40)	167.5		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics

Number of Valid Data	21	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	12
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.016	Minimum Detected	-4.135
Maximum Detected	0.96	Maximum Detected	-0.0408
Mean of Detected	0.317	Mean of Detected	-1.88
SD of Detected	0.316	SD of Detected	1.524
Minimum Non-Detect	0.037	Minimum Non-Detect	-3.297
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.889	Shapiro Wilk Test Statistic	0.892
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.305	Mean	-2.024
SD	0.296	SD	1.573
95% DL/2 (t) UCL	0.417	95% H-Stat (DL/2) UCL	1.521
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.573
		SD in Log Scale	1.231
		Mean in Original Scale	0.167
		SD in Original Scale	0.242
		95% t UCL	0.258
		95% Percentile Bootstrap UCL	0.256
		95% BCA Bootstrap UCL	0.279
		95% H-UCL	0.361
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.615	Data appear Normal at 5% Significance Level	
Theta Star	0.515		
nu star	11.07		
A-D Test Statistic	0.331	Nonparametric Statistics	
5% A-D Critical Value	0.75	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.75	Mean	0.195
5% K-S Critical Value	0.289	SD	0.265
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0711
		95% KM (t) UCL	0.318
Assuming Gamma Distribution		95% KM (z) UCL	0.312
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.316
Minimum	0.000001	95% KM (bootstrap t) UCL	0.382
Maximum	0.96	95% KM (BCA) UCL	0.329
Mean	0.178	95% KM (Percentile Bootstrap) UCL	0.333
Median	0.0518	95% KM (Chebyshev) UCL	0.505
SD	0.245	97.5% KM (Chebyshev) UCL	0.639
k star	0.258	99% KM (Chebyshev) UCL	0.902
Theta star	0.689		
Nu star	10.84	Potential UCLs to Use	
AppChi2	4.474	95% KM (t) UCL	0.318
95% Gamma Approximate UCL (Use when n >= 40)	0.431	95% KM (Percentile Bootstrap) UCL	0.333
95% Adjusted Gamma UCL (Use when n < 40)	0.463		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	2200	Minimum of Log Data	7.696
Maximum	35800	Maximum of Log Data	10.49
Mean	12730	Mean of log Data	9.178
Geometric Mean	9677	SD of log Data	0.781
Median	9600		
SD	9713		
Std. Error of Mean	2120		
Coefficient of Variation	0.763		
Skewness	1.218		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.857	Shapiro Wilk Test Statistic	0.97
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	16386	95% H-UCL	19564
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	23265
95% Adjusted-CLT UCL (Chen-1995)	16818	97.5% Chebyshev (MVUE) UCL	27753
95% Modified-t UCL (Johnson-1978)	16480	99% Chebyshev (MVUE) UCL	36570
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.724	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	7385		
MLE of Mean	12730		
MLE of Standard Deviation	9696		
nu star	72.4		
Approximate Chi Square Value (.05)	53.81	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	16216
Adjusted Chi Square Value	52.58	95% Jackknife UCL	16386
		95% Standard Bootstrap UCL	16139
Anderson-Darling Test Statistic	0.338	95% Bootstrap-t UCL	17568
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	16922
Kolmogorov-Smirnov Test Statistic	0.121	95% Percentile Bootstrap UCL	16287
Kolmogorov-Smirnov 5% Critical Value	0.192	95% BCA Bootstrap UCL	16714
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	21969
		97.5% Chebyshev(Mean, Sd) UCL	25967
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	33820
95% Approximate Gamma UCL (Use when n >= 40)	17129		
95% Adjusted Gamma UCL (Use when n < 40)	17530		
Potential UCL to Use		Use 95% Approximate Gamma UCL	17129

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Antimony

General Statistics			
Number of Valid Data	21	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	9
		Percent Non-Detects	42.86%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.14	Minimum Detected	-1.966
Maximum Detected	19	Maximum Detected	2.944
Mean of Detected	4.088	Mean of Detected	0.853
SD of Detected	5.019	SD of Detected	1.209
Minimum Non-Detect	0.0013	Minimum Non-Detect	-6.645
Maximum Non-Detect	0.32	Maximum Non-Detect	-1.139
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	47.62%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.66	Shapiro Wilk Test Statistic	0.94
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.384	Mean	-0.721
SD	4.233	SD	2.374
95% DL/2 (t) UCL	3.978	95% H-Stat (DL/2) UCL	103.7
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.404
		SD in Log Scale	1.806
		Mean in Original Scale	2.405
		SD in Original Scale	4.222
		95% t UCL	3.994
		95% Percentile Bootstrap UCL	4.061
		95% BCA Bootstrap UCL	4.922
		95% H-UCL	15.91
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.833	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4.907		
nu star	19.99		
A-D Test Statistic	0.342	Nonparametric Statistics	
5% A-D Critical Value	0.756	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.756	Mean	2.396
5% K-S Critical Value	0.252	SD	4.125
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.94
		95% KM (t) UCL	4.017
Assuming Gamma Distribution		95% KM (z) UCL	3.942
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.838
Minimum	0.000001	95% KM (bootstrap t) UCL	5.735
Maximum	19	95% KM (BCA) UCL	4.642
Mean	2.336	95% KM (Percentile Bootstrap) UCL	4.196
Median	0.76	95% KM (Chebyshev) UCL	6.494
SD	4.261	97.5% KM (Chebyshev) UCL	8.267
k star	0.139	99% KM (Chebyshev) UCL	11.75
Theta star	16.77		
Nu star	5.851	Potential UCLs to Use	
AppChi2	1.564	95% KM (BCA) UCL	4.642
95% Gamma Approximate UCL (Use when n >= 40)	8.737		
95% Adjusted Gamma UCL (Use when n < 40)	9.753		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics

Number of Valid Observations	21	Number of Distinct Observations	20

Raw Statistics		Log-transformed Statistics	
Minimum	2.75	Minimum of Log Data	1.012
Maximum	37.6	Maximum of Log Data	3.627
Mean	14.68	Mean of log Data	2.431
Geometric Mean	11.37	SD of log Data	0.766
Median	11.8		
SD	10.27		
Std. Error of Mean	2.241		
Coefficient of Variation	0.7		
Skewness	0.89		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.901	Shapiro Wilk Test Statistic	0.966
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	18.54	95% H-UCL	22.48
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	26.78
95% Adjusted-CLT UCL (Chen-1995)	18.83	97.5% Chebyshev (MVUE) UCL	31.88
95% Modified-t UCL (Johnson-1978)	18.62	99% Chebyshev (MVUE) UCL	41.9

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.842	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	7.969		
MLE of Mean	14.68		
MLE of Standard Deviation	10.82		
nu star	77.36		
Approximate Chi Square Value (.05)	58.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	18.36
Adjusted Chi Square Value	56.82	95% Jackknife UCL	18.54
		95% Standard Bootstrap UCL	18.27
Anderson-Darling Test Statistic	0.26	95% Bootstrap-t UCL	19.28
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	18.76
Kolmogorov-Smirnov Test Statistic	0.125	95% Percentile Bootstrap UCL	18.43
Kolmogorov-Smirnov 5% Critical Value	0.192	95% BCA Bootstrap UCL	18.64
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	24.45
		97.5% Chebyshev(Mean, Sd) UCL	28.67
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	36.97
95% Approximate Gamma UCL (Use when n >= 40)	19.54		
95% Adjusted Gamma UCL (Use when n < 40)	19.99		

Potential UCL to Use	Use 95% Approximate Gamma UCL	19.54

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics			
Number of Valid Data	21	Number of Detected Data	17
Number of Distinct Detected Data	17	Number of Non-Detect Data	4
		Percent Non-Detects	19.05%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.039	Minimum Detected	-3.244
Maximum Detected	9.5	Maximum Detected	2.251
Mean of Detected	1.813	Mean of Detected	-0.239
SD of Detected	2.567	SD of Detected	1.453
Minimum Non-Detect	0.044	Minimum Non-Detect	-3.124
Maximum Non-Detect	0.05	Maximum Non-Detect	-2.996
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	5
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	16
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	23.81%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.664	Shapiro Wilk Test Statistic	0.977
5% Shapiro Wilk Critical Value	0.892	5% Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.472	Mean	-0.915
SD	2.406	SD	1.93
95% DL/2 (t) UCL	2.377	95% H-Stat (DL/2) UCL	14.63
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.013	Mean in Log Scale	-0.786
SD	2.843	SD in Log Scale	1.749
95% MLE (t) UCL	2.083	Mean in Original Scale	1.477
95% MLE (Tiku) UCL	2.09	SD in Original Scale	2.403
		95% t UCL	2.381
		95% Percentile Bootstrap UCL	2.394
		95% BCA Bootstrap UCL	2.795
		95% H UCL	9.005
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.633	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.862		
nu star	21.53		
A-D Test Statistic	0.355	Nonparametric Statistics	
5% A-D Critical Value	0.779	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.779	Mean	1.475
5% K-S Critical Value	0.218	SD	2.346
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.528
		95% KM (t) UCL	2.385
Assuming Gamma Distribution		95% KM (z) UCL	2.343
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.374
Minimum	0.000001	95% KM (bootstrap t) UCL	3.887
Maximum	9.5	95% KM (BCA) UCL	2.505
Mean	1.467	95% KM (Percentile Bootstrap) UCL	2.333
Median	0.63	95% KM (Chebyshev) UCL	3.775
SD	2.409	97.5% KM (Chebyshev) UCL	4.77
k star	0.225	99% KM (Chebyshev) UCL	6.726
Theta star	6.53		
Nu star	9.437	Potential UCLs to Use	
AppChi2	3.593	95% KM (Chebyshev) UCL	3.775
95% Gamma Approximate UCL (Use when n >= 40)	3.854		
95% Adjusted Gamma UCL (Use when n < 40)	4.171		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Number of Valid Data	21	Number of Detected Data	19
Number of Distinct Detected Data	18	Number of Non-Detect Data	2
		Percent Non-Detects	9.52%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.02	Minimum Detected	-3.912
Maximum Detected	9.7	Maximum Detected	2.272
Mean of Detected	1.568	Mean of Detected	-0.648
SD of Detected	2.429	SD of Detected	1.75
Minimum Non-Detect	0.047	Minimum Non-Detect	-3.058
Maximum Non-Detect	0.047	Maximum Non-Detect	-3.058

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.65	Shapiro Wilk Test Statistic	0.965
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.421	Mean	-0.944
SD	2.351	SD	1.905
95% DL/2 (t) UCL	2.306	95% H-Stat (DL/2) UCL	12.99

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.086	Mean in Log Scale	-0.937
SD	2.658	SD in Log Scale	1.898
95% MLE (t) UCL	2.086	Mean in Original Scale	1.421
95% MLE (Tiku) UCL	2.066	SD in Original Scale	2.351
		95% t UCL	2.306
		95% Percentile Bootstrap UCL	2.304
		95% BCA Bootstrap UCL	2.613
		95% H UCL	12.77

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.513	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.057	
nu star	19.49	

A-D Test Statistic	0.24	Nonparametric Statistics	
5% A-D Critical Value	0.796	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.796	Mean	1.421
5% K-S Critical Value	0.209	SD	2.294
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.514
		95% KM (t) UCL	2.308
Assuming Gamma Distribution		95% KM (z) UCL	2.267
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.305
Minimum	0.000001	95% KM (bootstrap t) UCL	3.587
Maximum	9.7	95% KM (BCA) UCL	2.452
Mean	1.419	95% KM (Percentile Bootstrap) UCL	2.274
Median	0.61	95% KM (Chebyshev) UCL	3.663
SD	2.352	97.5% KM (Chebyshev) UCL	4.633
k star	0.293	99% KM (Chebyshev) UCL	6.539
Theta star	4.834		
Nu star	12.33	Potential UCLs to Use	
AppChi2	5.442	95% KM (Chebyshev) UCL	3.663
95% Gamma Approximate UCL (Use when n >= 40)	3.213		
95% Adjusted Gamma UCL (Use when n < 40)	3.433		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Number of Valid Data	21	Number of Detected Data	20
Number of Distinct Detected Data	20	Number of Non-Detect Data	1
		Percent Non-Detects	4.76%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.026	Minimum Detected	-3.65
Maximum Detected	15	Maximum Detected	2.708
Mean of Detected	2.131	Mean of Detected	-0.431
SD of Detected	3.637	SD of Detected	1.81
Minimum Non-Detect	0.05	Minimum Non-Detect	-2.996
Maximum Non-Detect	0.05	Maximum Non-Detect	-2.996

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.585	Shapiro Wilk Test Statistic	0.948
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.031	Mean	-0.586
SD	3.574	SD	1.902
95% DL/2 (t) UCL	3.376	95% H-Stat (DL/2) UCL	18.41

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.512	Mean in Log Scale	-0.561
SD	4.036	SD in Log Scale	1.863
95% MLE (t) UCL	3.031	Mean in Original Scale	2.031
95% MLE (Tiku) UCL	2.998	SD in Original Scale	3.574
		95% t UCL	3.376
		95% Percentile Bootstrap UCL	3.339
		95% BCA Bootstrap UCL	4.056
		95% H UCL	16.48

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.484	Data appear Gamma Distributed at 5% Significance Level
Theta Star	4.403	
nu star	19.36	

A-D Test Statistic	0.413	Nonparametric Statistics	
5% A-D Critical Value	0.8	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.8	Mean	2.031
5% K-S Critical Value	0.204	SD	3.488
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.781
		95% KM (t) UCL	3.378
Assuming Gamma Distribution		95% KM (z) UCL	3.315
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.376
Minimum	0.000001	95% KM (bootstrap t) UCL	6.285
Maximum	15	95% KM (BCA) UCL	3.522
Mean	2.029	95% KM (Percentile Bootstrap) UCL	3.397
Median	1.1	95% KM (Chebyshev) UCL	5.435
SD	3.575	97.5% KM (Chebyshev) UCL	6.908
k star	0.353	99% KM (Chebyshev) UCL	9.801
Theta star	5.753		
Nu star	14.82	Potential UCLs to Use	
AppChi2	7.134	95% KM (Chebyshev) UCL	5.435
95% Gamma Approximate UCL (Use when n >= 40)	4.215		
95% Adjusted Gamma UCL (Use when n < 40)	4.47		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics			
Number of Valid Data	21	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	5
		Percent Non-Detects	23.81%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.027	Minimum Detected	-3.612
Maximum Detected	6.4	Maximum Detected	1.856
Mean of Detected	1.364	Mean of Detected	-0.404
SD of Detected	1.721	SD of Detected	1.371
Minimum Non-Detect	0.044	Minimum Non-Detect	-3.124
Maximum Non-Detect	0.36	Maximum Non-Detect	-1.022

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	42.86%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.724	Shapiro Wilk Test Statistic	0.961
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.052	Mean	-1.111
SD	1.597	SD	1.805
95% DL/2 (t) UCL	1.653	95% H-Stat (DL/2) UCL	7.815
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.404	Mean in Log Scale	-1.015
SD	2.229	SD in Log Scale	1.648
95% MLE (t) UCL	1.243	Mean in Original Scale	1.053
95% MLE (Tiku) UCL	1.37	SD in Original Scale	1.596
		95% t UCL	1.654
		95% Percentile Bootstrap UCL	1.665
		95% BCA Bootstrap UCL	1.852
		95% H UCL	5.213
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.713	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.912		
nu star	22.83		
A-D Test Statistic	0.378	Nonparametric Statistics	
5% A-D Critical Value	0.771	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.771	Mean	1.049
5% K-S Critical Value	0.223	SD	1.56
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.352
		95% KM (t) UCL	1.656
Assuming Gamma Distribution		95% KM (z) UCL	1.628
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.641
Minimum	0.000001	95% KM (bootstrap t) UCL	2.276
Maximum	6.4	95% KM (BCA) UCL	1.746
Mean	1.039	95% KM (Percentile Bootstrap) UCL	1.7
Median	0.55	95% KM (Chebyshev) UCL	2.582
SD	1.605	97.5% KM (Chebyshev) UCL	3.246
k star	0.205	99% KM (Chebyshev) UCL	4.549
Theta star	5.071		
Nu star	8.608	Potential UCLs to Use	
AppChi2	3.092	95% KM (Chebyshev) UCL	2.582
95% Gamma Approximate UCL (Use when n >= 40)	2.894		
95% Adjusted Gamma UCL (Use when n < 40)	3.147		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics			
Number of Valid Data	21	Number of Detected Data	15
Number of Distinct Detected Data	15	Number of Non-Detect Data	6
		Percent Non-Detects	28.57%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.01	Minimum Detected	-4.605
Maximum Detected	4.2	Maximum Detected	1.435
Mean of Detected	1.219	Mean of Detected	-0.861
SD of Detected	1.361	SD of Detected	1.974
Minimum Non-Detect	0.05	Minimum Non-Detect	-2.996
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	80.95%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.82	Shapiro Wilk Test Statistic	0.885
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.973	Mean	-1.108
SD	1.216	SD	1.875
95% DL/2 (t) UCL	1.431	95% H-Stat (DL/2) UCL	9.943
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.376
		SD in Log Scale	1.914
		Mean in Original Scale	0.9
		SD in Original Scale	1.251
		95% t UCL	1.371
		95% Percentile Bootstrap UCL	1.348
		95% BCA Bootstrap UCL	1.458
		95% H-UCL	8.712
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.513	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.375		
nu star	15.39		
A-D Test Statistic	0.335	Nonparametric Statistics	
5% A-D Critical Value	0.787	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.787	Mean	0.93
5% K-S Critical Value	0.233	SD	1.215
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.277
		95% KM (t) UCL	1.408
Assuming Gamma Distribution		95% KM (z) UCL	1.386
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.404
Minimum	0.000001	95% KM (bootstrap t) UCL	1.611
Maximum	4.2	95% KM (BCA) UCL	1.384
Mean	0.915	95% KM (Percentile Bootstrap) UCL	1.4
Median	0.57	95% KM (Chebyshev) UCL	2.137
SD	1.249	97.5% KM (Chebyshev) UCL	2.66
k star	0.223	99% KM (Chebyshev) UCL	3.686
Theta star	4.109		
Nu star	9.349	Potential UCLs to Use	
AppChi2	3.539	95% KM (Chebyshev) UCL	2.137
95% Gamma Approximate UCL (Use when n >= 40)	2.416		
95% Adjusted Gamma UCL (Use when n < 40)	2.616		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bis(2-Ethylhexyl) Phthalate

General Statistics			
Number of Valid Data	21	Number of Detected Data	13
Number of Distinct Detected Data	12	Number of Non-Detect Data	8
		Percent Non-Detects	38.10%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.23	Minimum Detected	-1.47
Maximum Detected	110	Maximum Detected	4.7
Mean of Detected	20.41	Mean of Detected	1.586
SD of Detected	29.74	SD of Detected	2.244
Minimum Non-Detect	1.1	Minimum Non-Detect	0.0953
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	61.90%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.664	Shapiro Wilk Test Statistic	0.827
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	12.87	Mean	0.794
SD	25.06	SD	2.023
95% DL/2 (t) UCL	22.3	95% H-Stat (DL/2) UCL	113.5
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	39.6	Mean in Log Scale	0.757
SD	30.31	SD in Log Scale	2.121
95% MLE (t) UCL	51.01	Mean in Original Scale	12.93
95% MLE (Tiku) UCL	57.29	SD in Original Scale	25.03
		95% t UCL	22.35
		95% Percentile Bootstrap UCL	22.61
		95% BCA Bootstrap UCL	27.44
		95% H UCL	158.9
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.398	Data do not follow a Discernable Distribution (0.05)	
Theta Star	51.23		
nu star	10.36		
A-D Test Statistic	0.833	Nonparametric Statistics	
5% A-D Critical Value	0.8	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.8	Mean	12.78
5% K-S Critical Value	0.251	SD	24.5
Data not Gamma Distributed at 5% Significance Level		SE of Mean	5.564
		95% KM (t) UCL	22.38
Assuming Gamma Distribution		95% KM (z) UCL	21.93
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	22.23
Minimum	0.000001	95% KM (bootstrap t) UCL	34.09
Maximum	110	95% KM (BCA) UCL	22.03
Mean	12.85	95% KM (Percentile Bootstrap) UCL	22.5
Median	0.4	95% KM (Chebyshev) UCL	37.03
SD	25.08	97.5% KM (Chebyshev) UCL	47.53
k star	0.142	99% KM (Chebyshev) UCL	68.14
Theta star	90.45		
Nu star	5.965	Potential UCLs to Use	
AppChi2	1.622	99% KM (Chebyshev) UCL	68.14
95% Gamma Approximate UCL (Use when n >= 40)	47.24		
95% Adjusted Gamma UCL (Use when n < 40)	52.66		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics

Number of Valid Data	21	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	5
		Percent Non-Detects	23.81%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.4	Minimum Detected	0.336
Maximum Detected	40.2	Maximum Detected	3.694
Mean of Detected	13.02	Mean of Detected	2.105
SD of Detected	11.44	SD of Detected	1.092
Minimum Non-Detect	0.19	Minimum Non-Detect	-1.661
Maximum Non-Detect	0.19	Maximum Non-Detect	-1.661

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.876	Shapiro Wilk Test Statistic	0.927
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	9.944	Mean	1.043
SD	11.4	SD	2.163
95% DL/2 (t) UCL	14.24	95% H-Stat (DL/2) UCL	250.3

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	7.929	Mean in Log Scale	1.498
SD	13.71	SD in Log Scale	1.481
95% MLE (t) UCL	13.09	Mean in Original Scale	10.09
95% MLE (Tiku) UCL	13.23	SD in Original Scale	11.27
		95% t UCL	14.33
		95% Percentile Bootstrap UCL	14.21
		95% BCA Bootstrap UCL	14.62
		95% H UCL	39.74

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.035	Data appear Gamma Distributed at 5% Significance Level
Theta Star	12.58	
nu star	33.13	

A-D Test Statistic	0.366	Nonparametric Statistics	
5% A-D Critical Value	0.759	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.759	Mean	10.25
5% K-S Critical Value	0.22	SD	10.86
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.448
		95% KM (t) UCL	14.48
Assuming Gamma Distribution		95% KM (z) UCL	14.28
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	14.43
Minimum	0.000001	95% KM (bootstrap t) UCL	15.51
Maximum	40.2	95% KM (BCA) UCL	14.67
Mean	9.921	95% KM (Percentile Bootstrap) UCL	14.5
Median	6.5	95% KM (Chebyshev) UCL	20.93
SD	11.42	97.5% KM (Chebyshev) UCL	25.54
k star	0.192	99% KM (Chebyshev) UCL	34.62
Theta star	51.7		
Nu star	8.06	Potential UCLs to Use	
AppChi2	2.77	95% KM (BCA) UCL	14.67
95% Gamma Approximate UCL (Use when n >= 40)	28.87		
95% Adjusted Gamma UCL (Use when n < 40)	31.52		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics (Units in mg/kg)

Number of Valid Data	13	Number of Detected Data	6
Number of Distinct Detected Data	5	Number of Non-Detect Data	7
		Percent Non-Detects	53.85%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.038	Minimum Detected	-3.27
Maximum Detected	0.33	Maximum Detected	-1.109
Mean of Detected	0.153	Mean of Detected	-2.096
SD of Detected	0.105	SD of Detected	0.75
Minimum Non-Detect	0.046	Minimum Non-Detect	-3.079
Maximum Non-Detect	0.43	Maximum Non-Detect	-0.844

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk Test Statistic	0.968
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.111	Mean	-2.65
SD	0.1	SD	1.032
95% DL/2 (t) UCL	0.16	95% H-Stat (DL/2) UCL	0.286

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.677
		SD in Log Scale	0.793
		Mean in Original Scale	0.0945
		SD in Original Scale	0.0889
		95% t UCL	0.138
		95% Percentile Bootstrap UCL	0.137
		95% BCA Bootstrap UCL	0.144
		95% H-UCL	0.167

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.349	Data appear Normal at 5% Significance Level
Theta Star	0.113	
nu star	16.19	

		Nonparametric Statistics	
A-D Test Statistic	0.233		
5% A-D Critical Value	0.703	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.703	Mean	0.1
5% K-S Critical Value	0.335	SD	0.0911
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0301
		95% KM (t) UCL	0.154
Assuming Gamma Distribution		95% KM (z) UCL	0.15
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.15
Minimum	0.000001	95% KM (bootstrap t) UCL	0.186
Maximum	0.33	95% KM (BCA) UCL	0.19
Mean	0.0883	95% KM (Percentile Bootstrap) UCL	0.171
Median	0.085	95% KM (Chebyshev) UCL	0.232
SD	0.0958	97.5% KM (Chebyshev) UCL	0.288
k star	0.256	99% KM (Chebyshev) UCL	0.4
Theta star	0.345		
Nu star	6.66	Potential UCLs to Use	
AppChi2	1.986	95% KM (t) UCL	0.154
95% Gamma Approximate UCL (Use when n >= 40)	0.296	95% KM (Percentile Bootstrap) UCL	0.171
95% Adjusted Gamma UCL (Use when n < 40)	0.358		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics

Number of Valid Observations	21	Number of Distinct Observations	21

Raw Statistics		Log-transformed Statistics	
Minimum	2.1	Minimum of Log Data	0.742
Maximum	30.1	Maximum of Log Data	3.405
Mean	10.94	Mean of log Data	2.108
Geometric Mean	8.234	SD of log Data	0.814
Median	10		
SD	7.913		
Std. Error of Mean	1.727		
Coefficient of Variation	0.723		
Skewness	0.85		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.91	Shapiro Wilk Test Statistic	0.952
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	13.92	95% H-UCL	17.49
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	20.7
95% Adjusted-CLT UCL (Chen-1995)	14.12	97.5% Chebyshev (MVUE) UCL	24.8
95% Modified-t UCL (Johnson-1978)	13.97	99% Chebyshev (MVUE) UCL	32.85

Gamma Distribution Test		Data Distribution
k star (bias corrected)	1.669	Data appear Normal at 5% Significance Level
Theta Star	6.553	
MLE of Mean	10.94	
MLE of Standard Deviation	8.466	
nu star	70.11	
Approximate Chi Square Value (.05)	51.83	Nonparametric Statistics
Adjusted Level of Significance	0.0383	95% CLT UCL 13.78
Adjusted Chi Square Value	50.63	95% Jackknife UCL 13.92
		95% Standard Bootstrap UCL 13.74
Anderson-Darling Test Statistic	0.318	95% Bootstrap-t UCL 14.38
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL 14.43
Kolmogorov-Smirnov Test Statistic	0.144	95% Percentile Bootstrap UCL 13.9
Kolmogorov-Smirnov 5% Critical Value	0.192	95% BCA Bootstrap UCL 13.84
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 18.47
		97.5% Chebyshev(Mean, Sd) UCL 21.72
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 28.12
95% Approximate Gamma UCL (Use when n >= 40)	14.79	
95% Adjusted Gamma UCL (Use when n < 40)	15.15	

Potential UCL to Use	Use 95% Student's-t UCL	13.92

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper

General Statistics			
Number of Valid Observations	18	Number of Distinct Observations	17
Raw Statistics		Log-transformed Statistics	
Minimum	12.15	Minimum of Log Data	2.497
Maximum	960	Maximum of Log Data	6.867
Mean	138.7	Mean of log Data	4.266
Geometric Mean	71.27	SD of log Data	1.135
Median	78.15		
SD	218.2		
Std. Error of Mean	51.42		
Coefficient of Variation	1.574		
Skewness	3.474		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.547	Shapiro Wilk Test Statistic	0.962
Shapiro Wilk Critical Value	0.897	Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	228.1	95% H-UCL	296.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	298.2
95% Adjusted-CLT UCL (Chen-1995)	268.2	97.5% Chebyshev (MVUE) UCL	371.6
95% Modified-t UCL (Johnson-1978)	235.1	99% Chebyshev (MVUE) UCL	515.8
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.771	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	179.8		
MLE of Mean	138.7		
MLE of Standard Deviation	157.9		
nu star	27.76		
Approximate Chi Square Value (.05)	16.74	Nonparametric Statistics	
Adjusted Level of Significance	0.0357	95% CLT UCL	223.2
Adjusted Chi Square Value	15.92	95% Jackknife UCL	228.1
		95% Standard Bootstrap UCL	222.7
Anderson-Darling Test Statistic	0.691	95% Bootstrap-t UCL	384.9
Anderson-Darling 5% Critical Value	0.772	95% Hall's Bootstrap UCL	545.2
Kolmogorov-Smirnov Test Statistic	0.166	95% Percentile Bootstrap UCL	232.3
Kolmogorov-Smirnov 5% Critical Value	0.21	95% BCA Bootstrap UCL	285.5
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	362.8
		97.5% Chebyshev(Mean, Sd) UCL	459.8
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	650.3
95% Approximate Gamma UCL (Use when n >= 40)	229.9		
95% Adjusted Gamma UCL (Use when n < 40)	241.7		
Potential UCL to Use		Use 95% Approximate Gamma UCL	229.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics

Number of Valid Data	21	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	14
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.092	Minimum Detected	-2.386
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.476	Mean of Detected	-1.029
SD of Detected	0.354	SD of Detected	0.865
Minimum Non-Detect	0.046	Minimum Non-Detect	-3.079
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.875	Shapiro Wilk Test Statistic	0.918
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.388	Mean	-1.551
SD	0.309	SD	1.385
95% DL/2 (t) UCL	0.505	95% H-Stat (DL/2) UCL	1.458
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.011
		SD in Log Scale	1.052
		Mean in Original Scale	0.232
		SD in Original Scale	0.275
		95% t UCL	0.335
		95% Percentile Bootstrap UCL	0.335
		95% BCA Bootstrap UCL	0.354
		95% H-UCL	0.432
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.176	Data appear Normal at 5% Significance Level	
Theta Star	0.405		
nu star	16.47		
A-D Test Statistic	0.418	Nonparametric Statistics	
5% A-D Critical Value	0.716	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.716	Mean	0.291
5% K-S Critical Value	0.316	SD	0.298
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0865
		95% KM (t) UCL	0.44
Assuming Gamma Distribution		95% KM (z) UCL	0.433
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.425
Minimum	0.000001	95% KM (bootstrap t) UCL	0.469
Maximum	1	95% KM (BCA) UCL	0.601
Mean	0.198	95% KM (Percentile Bootstrap) UCL	0.472
Median	0.000001	95% KM (Chebyshev) UCL	0.668
SD	0.311	97.5% KM (Chebyshev) UCL	0.831
k star	0.133	99% KM (Chebyshev) UCL	1.152
Theta star	1.487		
Nu star	5.592	Potential UCLs to Use	
AppChi2	1.435	95% KM (t) UCL	0.44
95% Gamma Approximate UCL (Use when n >= 40)	0.771	95% KM (Percentile Bootstrap) UCL	0.472
95% Adjusted Gamma UCL (Use when n < 40)	0.864		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics

Number of Valid Data	18	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	9
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00345	Minimum Detected	-5.669
Maximum Detected	16	Maximum Detected	2.773
Mean of Detected	1.835	Mean of Detected	-3.201
SD of Detected	5.313	SD of Detected	2.686
Minimum Non-Detect	0.0043	Minimum Non-Detect	-5.449
Maximum Non-Detect	0.014	Maximum Non-Detect	-4.269

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	66.67%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.404	Shapiro Wilk Test Statistic	0.844
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.92	Mean	-4.208
SD	3.764	SD	2.128
95% DL/2 (t) UCL	2.464	95% H-Stat (DL/2) UCL	1.497
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.595
		SD in Log Scale	2.416
		Mean in Original Scale	0.919
		SD in Original Scale	3.765
		95% t UCL	2.463
		95% Percentile Bootstrap UCL	2.694
		95% BCA Bootstrap UCL	3.586
		95% H-UCL	3.672
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.204	Data appear Lognormal at 5% Significance Level	
Theta Star	9.015		
nu star	3.663		
A-D Test Statistic	1.515	Nonparametric Statistics	
5% A-D Critical Value	0.847	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.847	Mean	0.919
5% K-S Critical Value	0.308	SD	3.659
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.915
		95% KM (t) UCL	2.51
Assuming Gamma Distribution		95% KM (z) UCL	2.424
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.463
Minimum	0.000001	95% KM (bootstrap t) UCL	249.5
Maximum	16	95% KM (BCA) UCL	2.694
Mean	0.917	95% KM (Percentile Bootstrap) UCL	2.68
Median	0.00173	95% KM (Chebyshev) UCL	4.906
SD	3.765	97.5% KM (Chebyshev) UCL	6.631
k star	0.118	99% KM (Chebyshev) UCL	10.02
Theta star	7.793		
Nu star	4.238	Potential UCLs to Use	
AppChi2	0.818	99% KM (Chebyshev) UCL	10.02
95% Gamma Approximate UCL (Use when n >= 40)	4.753		
95% Adjusted Gamma UCL (Use when n < 40)	5.65		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Di-N-Octylphthalate

General Statistics

Number of Valid Data	21	Number of Detected Data	7
Number of Distinct Detected Data	6	Number of Non-Detect Data	14
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.027	Minimum Detected	-3.612
Maximum Detected	7.8	Maximum Detected	2.054
Mean of Detected	1.606	Mean of Detected	-0.86
SD of Detected	2.773	SD of Detected	2.033
Minimum Non-Detect	0.025	Minimum Non-Detect	-3.689
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.24%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.608	Shapiro Wilk Test Statistic	0.909
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.783	Mean	-1.503
SD	1.649	SD	1.839
95% DL/2 (t) UCL	1.404	95% H-Stat (DL/2) UCL	5.921
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.823
		SD in Log Scale	2.041
		Mean in Original Scale	0.562
		SD in Original Scale	1.697
		95% t UCL	1.201
		95% Percentile Bootstrap UCL	1.262
		95% BCA Bootstrap UCL	1.728
		95% H-UCL	3.266
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.369	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4.352		
nu star	5.167		
A-D Test Statistic	0.404	Nonparametric Statistics	
5% A-D Critical Value	0.755	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.755	Mean	0.601
5% K-S Critical Value	0.328	SD	1.652
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.392
		95% KM (t) UCL	1.277
Assuming Gamma Distribution		95% KM (z) UCL	1.246
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.242
Minimum	0.000001	95% KM (bootstrap t) UCL	2.831
Maximum	7.8	95% KM (BCA) UCL	1.57
Mean	0.574	95% KM (Percentile Bootstrap) UCL	1.38
Median	0.000001	95% KM (Chebyshev) UCL	2.31
SD	1.702	97.5% KM (Chebyshev) UCL	3.049
k star	0.116	99% KM (Chebyshev) UCL	4.501
Theta star	4.949		
Nu star	4.867	Potential UCLs to Use	
AppChi2	1.091	95% KM (t) UCL	1.277
95% Gamma Approximate UCL (Use when n >= 40)	2.558		
95% Adjusted Gamma UCL (Use when n < 40)	2.899		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin Aldehyde

General Statistics

Number of Valid Data	19	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	13
		Percent Non-Detects	68.42%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0011	Minimum Detected	-6.812
Maximum Detected	5.16	Maximum Detected	1.641
Mean of Detected	0.929	Mean of Detected	-3.219
SD of Detected	2.076	SD of Detected	3.232
Minimum Non-Detect	0.0004	Minimum Non-Detect	-7.824
Maximum Non-Detect	0.014	Maximum Non-Detect	-4.269

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	84.21%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.538	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.296	Mean	-4.895
SD	1.18	SD	2.218
95% DL/2 (t) UCL	0.766	95% H-Stat (DL/2) UCL	0.989
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.536
		SD in Log Scale	3.184
		Mean in Original Scale	0.294
		SD in Original Scale	1.18
		95% t UCL	0.763
		95% Percentile Bootstrap UCL	0.829
		95% BCA Bootstrap UCL	1.116
		95% H-UCL	28.53
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.226	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4.117		
nu star	2.708		
A-D Test Statistic	0.471	Nonparametric Statistics	
5% A-D Critical Value	0.792	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.792	Mean	0.295
5% K-S Critical Value	0.362	SD	1.149
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.289
		95% KM (t) UCL	0.795
Assuming Gamma Distribution		95% KM (z) UCL	0.77
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.764
Minimum	0.000001	95% KM (bootstrap t) UCL	8.763
Maximum	5.16	95% KM (BCA) UCL	0.845
Mean	0.293	95% KM (Percentile Bootstrap) UCL	0.837
Median	0.000001	95% KM (Chebyshev) UCL	1.553
SD	1.18	97.5% KM (Chebyshev) UCL	2.097
k star	0.11	99% KM (Chebyshev) UCL	3.167
Theta star	2.663		
Nu star	4.185	Potential UCLs to Use	
AppChi2	0.796	95% KM (t) UCL	0.795
95% Gamma Approximate UCL (Use when n >= 40)	1.542		
95% Adjusted Gamma UCL (Use when n < 40)	1.806		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor Epoxide

General Statistics

Number of Valid Data	19	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	12
		Percent Non-Detects	63.16%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00039	Minimum Detected	-7.849
Maximum Detected	11.78	Maximum Detected	2.466
Mean of Detected	1.782	Mean of Detected	-3.43
SD of Detected	4.412	SD of Detected	3.606
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.0071	Maximum Non-Detect	-4.948

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	78.95%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.484	Shapiro Wilk Test Statistic	0.953
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.658	Mean	-5.147
SD	2.696	SD	2.517
95% DL/2 (t) UCL	1.731	95% H-Stat (DL/2) UCL	2.985
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.685
		SD in Log Scale	3.443
		Mean in Original Scale	0.657
		SD in Original Scale	2.696
		95% t UCL	1.729
		95% Percentile Bootstrap UCL	1.891
		95% BCA Bootstrap UCL	2.526
		95% H-UCL	127.5
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.201	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	8.852		
nu star	2.819		
A-D Test Statistic	0.615	Nonparametric Statistics	
5% A-D Critical Value	0.827	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.827	Mean	0.657
5% K-S Critical Value	0.343	SD	2.624
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.65
		95% KM (t) UCL	1.785
Assuming Gamma Distribution		95% KM (z) UCL	1.727
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.729
Minimum	0.000001	95% KM (bootstrap t) UCL	40.56
Maximum	11.78	95% KM (BCA) UCL	1.898
Mean	0.657	95% KM (Percentile Bootstrap) UCL	1.887
Median	0.000001	95% KM (Chebyshev) UCL	3.492
SD	2.696	97.5% KM (Chebyshev) UCL	4.718
k star	0.108	99% KM (Chebyshev) UCL	7.127
Theta star	6.089		
Nu star	4.098	Potential UCLs to Use	
AppChi2	0.761	95% KM (t) UCL	1.785
95% Gamma Approximate UCL (Use when n >= 40)	3.537		
95% Adjusted Gamma UCL (Use when n < 40)	4.153		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-c,d)pyrene

General Statistics			
Number of Valid Data	21	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	5
		Percent Non-Detects	23.81%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.033	Minimum Detected	-3.411
Maximum Detected	6	Maximum Detected	1.792
Mean of Detected	1.224	Mean of Detected	-0.537
SD of Detected	1.613	SD of Detected	1.348
Minimum Non-Detect	0.045	Minimum Non-Detect	-3.101
Maximum Non-Detect	0.36	Maximum Non-Detect	-1.022
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	47.62%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.709	Shapiro Wilk Test Statistic	0.981
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.945	Mean	-1.208
SD	1.488	SD	1.744
95% DL/2 (t) UCL	1.505	95% H-Stat (DL/2) UCL	5.808
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.198	Mean in Log Scale	-1.135
SD	2.198	SD in Log Scale	1.619
95% MLE (t) UCL	1.026	Mean in Original Scale	0.945
95% MLE (Tiku) UCL	1.198	SD in Original Scale	1.488
		95% t UCL	1.505
		95% Percentile Bootstrap UCL	1.496
		95% BCA Bootstrap UCL	1.714
		95% H UCL	4.234
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.694	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.765		
nu star	22.19		
A-D Test Statistic	0.368	Nonparametric Statistics	
5% A-D Critical Value	0.772	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.772	Mean	0.944
5% K-S Critical Value	0.223	SD	1.453
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.327
		95% KM (t) UCL	1.509
Assuming Gamma Distribution		95% KM (z) UCL	1.483
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.496
Minimum	0.000001	95% KM (bootstrap t) UCL	2.104
Maximum	6	95% KM (BCA) UCL	1.647
Mean	0.932	95% KM (Percentile Bootstrap) UCL	1.52
Median	0.42	95% KM (Chebyshev) UCL	2.371
SD	1.496	97.5% KM (Chebyshev) UCL	2.989
k star	0.205	99% KM (Chebyshev) UCL	4.202
Theta star	4.543		
Nu star	8.62	Potential UCLs to Use	
AppChi2	3.099	95% KM (Chebyshev) UCL	2.371
95% Gamma Approximate UCL (Use when n >= 40)	2.594		
95% Adjusted Gamma UCL (Use when n < 40)	2.821		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	19
Raw Statistics		Log-transformed Statistics	
Minimum	6500	Minimum of Log Data	8.78
Maximum	88000	Maximum of Log Data	11.39
Mean	25709	Mean of log Data	9.908
Geometric Mean	20095	SD of log Data	0.729
Median	23000		
SD	19297		
Std. Error of Mean	4211		
Coefficient of Variation	0.751		
Skewness	1.748		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.836	Shapiro Wilk Test Statistic	0.956
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	32971	95% H-UCL	37653
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	45018
95% Adjusted-CLT UCL (Chen-1995)	34351	97.5% Chebyshev (MVUE) UCL	53332
95% Modified-t UCL (Johnson-1978)	33239	99% Chebyshev (MVUE) UCL	69662
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.902	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	13519		
MLE of Mean	25709		
MLE of Standard Deviation	18643		
nu star	79.87		
Approximate Chi Square Value (.05)	60.28	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	32635
Adjusted Chi Square Value	58.97	95% Jackknife UCL	32971
		95% Standard Bootstrap UCL	32410
Anderson-Darling Test Statistic	0.36	95% Bootstrap-t UCL	36205
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	39667
Kolmogorov-Smirnov Test Statistic	0.137	95% Percentile Bootstrap UCL	32610
Kolmogorov-Smirnov 5% Critical Value	0.192	95% BCA Bootstrap UCL	34052
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	44063
		97.5% Chebyshev(Mean, Sd) UCL	52006
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	67606
95% Approximate Gamma UCL (Use when n >= 40)	34064		
95% Adjusted Gamma UCL (Use when n < 40)	34819		
Potential UCL to Use		Use 95% Approximate Gamma UCL	34064

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics			
Number of Valid Observations	18	Number of Distinct Observations	17
Raw Statistics		Log-transformed Statistics	
Minimum	37.7	Minimum of Log Data	3.63
Maximum	1050	Maximum of Log Data	6.957
Mean	385.7	Mean of log Data	5.581
Geometric Mean	265.3	SD of log Data	1.077
Median	398		
SD	261.3		
Std. Error of Mean	61.58		
Coefficient of Variation	0.677		
Skewness	0.708		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.908	Shapiro Wilk Test Statistic	0.783
Shapiro Wilk Critical Value	0.897	Shapiro Wilk Critical Value	0.897
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	492.8	95% H-UCL	971.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1013
95% Adjusted-CLT UCL (Chen-1995)	497.9	97.5% Chebyshev (MVUE) UCL	1255
95% Modified-t UCL (Johnson-1978)	494.5	99% Chebyshev (MVUE) UCL	1732
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.272	Data appear Normal at 5% Significance Level	
Theta Star	303.3		
MLE of Mean	385.7		
MLE of Standard Deviation	342		
nu star	45.78		
Approximate Chi Square Value (.05)	31.26	Nonparametric Statistics	
Adjusted Level of Significance	0.0357	95% CLT UCL	487
Adjusted Chi Square Value	30.11	95% Jackknife UCL	492.8
		95% Standard Bootstrap UCL	481.3
Anderson-Darling Test Statistic	1.287	95% Bootstrap-t UCL	503.2
Anderson-Darling 5% Critical Value	0.757	95% Hall's Bootstrap UCL	519.6
Kolmogorov-Smirnov Test Statistic	0.216	95% Percentile Bootstrap UCL	479.4
Kolmogorov-Smirnov 5% Critical Value	0.207	95% BCA Bootstrap UCL	498.7
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	654.1
		97.5% Chebyshev(Mean, Sd) UCL	770.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	998.4
95% Approximate Gamma UCL (Use when n >= 40)	564.9		
95% Adjusted Gamma UCL (Use when n < 40)	586.5		
Potential UCL to Use		Use 95% Student's-t UCL	492.8

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics

Number of Valid Data	21	Number of Detected Data	16
Number of Distinct Detected Data	14	Number of Non-Detect Data	5
		Percent Non-Detects	23.81%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.04	Minimum Detected	-3.219
Maximum Detected	9.4	Maximum Detected	2.241
Mean of Detected	2.333	Mean of Detected	0.0982
SD of Detected	2.895	SD of Detected	1.48
Minimum Non-Detect	0.043	Minimum Non-Detect	-3.147
Maximum Non-Detect	0.35	Maximum Non-Detect	-1.05

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	42.86%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.679	Shapiro Wilk Test Statistic	0.92
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.79	Mean	-0.733
SD	2.698	SD	2.034
95% DL/2 (t) UCL	2.805	95% H-Stat (DL/2) UCL	25.65

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.604	Mean in Log Scale	-0.546
SD	3.875	SD in Log Scale	1.759
95% MLE (t) UCL	2.063	Mean in Original Scale	1.797
95% MLE (Tiku) UCL	2.282	SD in Original Scale	2.693
		95% t UCL	2.81
		95% Percentile Bootstrap UCL	2.784
		95% BCA Bootstrap UCL	3.079
		95% H UCL	11.81

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.686	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.399	
nu star	21.96	

		Nonparametric Statistics	
A-D Test Statistic	0.44		
5% A-D Critical Value	0.773	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.773	Mean	1.791
5% K-S Critical Value	0.223	SD	2.632
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.593
		95% KM (t) UCL	2.814
Assuming Gamma Distribution		95% KM (z) UCL	2.766
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.799
Minimum	0.000001	95% KM (bootstrap t) UCL	4.044
Maximum	9.4	95% KM (BCA) UCL	2.951
Mean	1.777	95% KM (Percentile Bootstrap) UCL	2.746
Median	1.15	95% KM (Chebyshev) UCL	4.376
SD	2.706	97.5% KM (Chebyshev) UCL	5.495
k star	0.199	99% KM (Chebyshev) UCL	7.693
Theta star	8.938		
Nu star	8.352	Potential UCLs to Use	
AppChi2	2.94	95% KM (Chebyshev) UCL	4.376
95% Gamma Approximate UCL (Use when n >= 40)	5.048		
95% Adjusted Gamma UCL (Use when n < 40)	5.501		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics			
Number of Valid Data	437	Number of Detected Data	366
Number of Distinct Detected Data	200	Number of Non-Detect Data	71
		Percent Non-Detects	16.25%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	924	Maximum Detected	6.829
Mean of Detected	22.2	Mean of Detected	1.102
SD of Detected	83.04	SD of Detected	1.96
Minimum Non-Detect	0.04	Minimum Non-Detect	-3.219
Maximum Non-Detect	0.72	Maximum Non-Detect	-0.329
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	164
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	273
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	37.53%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.395	Lilliefors Test Statistic	0.0429
5% Lilliefors Critical Value	0.0463	5% Lilliefors Critical Value	0.0463
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	18.61	Mean	0.424
SD	76.42	SD	2.388
95% DL/2 (t) UCL	24.63	95% H-Stat (DL/2) UCL	39.71
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.436
		SD in Log Scale	2.364
		Mean in Original Scale	18.61
		SD in Original Scale	76.42
		95% t UCL	24.63
		95% Percentile Bootstrap UCL	25.12
		95% BCA Bootstrap UCL	26.57
		95% H-UCL	37.66
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.337	Data appear Lognormal at 5% Significance Level	
Theta Star	65.79		
nu star	247		
A-D Test Statistic	20.14	Nonparametric Statistics	
5% A-D Critical Value	0.862	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.862	Mean	18.6
5% K-S Critical Value	0.0514	SD	76.33
Data not Gamma Distributed at 5% Significance Level		SE of Mean	3.656
		95% KM (t) UCL	24.63
Assuming Gamma Distribution		95% KM (z) UCL	24.62
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	24.63
Minimum	0.000001	95% KM (bootstrap t) UCL	27.45
Maximum	924	95% KM (BCA) UCL	24.61
Mean	18.6	95% KM (Percentile Bootstrap) UCL	24.9
Median	1.6	95% KM (Chebyshev) UCL	34.54
SD	76.42	97.5% KM (Chebyshev) UCL	41.44
k star	0.177	99% KM (Chebyshev) UCL	54.98
Theta star	105		
Nu star	154.7	Potential UCLs to Use	
AppChi2	127	97.5% KM (Chebyshev) UCL	41.44
95% Gamma Approximate UCL (Use when n >= 40)	22.66		
95% Adjusted Gamma UCL (Use when n < 40)	22.68		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics			
Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	12.95	Minimum of Log Data	2.561
Maximum	87.9	Maximum of Log Data	4.476
Mean	42.57	Mean of log Data	3.606
Geometric Mean	36.81	SD of log Data	0.573
Median	40		
SD	22.44		
Std. Error of Mean	4.897		
Coefficient of Variation	0.527		
Skewness	0.591		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.939	Shapiro Wilk Test Statistic	0.957
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	51.02	95% H-UCL	56.49
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	67.59
95% Adjusted-CLT UCL (Chen-1995)	51.3	97.5% Chebyshev (MVUE) UCL	78.23
95% Modified-t UCL (Johnson-1978)	51.13	99% Chebyshev (MVUE) UCL	99.13
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.113	Data appear Normal at 5% Significance Level	
Theta Star	13.67		
MLE of Mean	42.57		
MLE of Standard Deviation	24.13		
nu star	130.8		
Approximate Chi Square Value (.05)	105.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	50.63
Adjusted Chi Square Value	103.6	95% Jackknife UCL	51.02
		95% Standard Bootstrap UCL	50.46
Anderson-Darling Test Statistic	0.256	95% Bootstrap-t UCL	52
Anderson-Darling 5% Critical Value	0.748	95% Hall's Bootstrap UCL	51.89
Kolmogorov-Smirnov Test Statistic	0.0963	95% Percentile Bootstrap UCL	50.39
Kolmogorov-Smirnov 5% Critical Value	0.191	95% BCA Bootstrap UCL	51.13
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	63.92
		97.5% Chebyshev(Mean, Sd) UCL	73.16
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	91.3
95% Approximate Gamma UCL (Use when n >= 40)	52.85		
95% Adjusted Gamma UCL (Use when n < 40)	53.74		
Potential UCL to Use		Use 95% Student's-t UCL	51.02

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics			
Number of Valid Data	30	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	18
		Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00087	Minimum Detected	-7.047
Maximum Detected	0.96	Maximum Detected	-0.0408
Mean of Detected	0.24	Mean of Detected	-2.698
SD of Detected	0.303	SD of Detected	2.091
Minimum Non-Detect	0.035	Minimum Non-Detect	-3.352
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	30
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.802	Shapiro Wilk Test Statistic	0.918
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.219	Mean	-2.723
SD	0.28	SD	1.782
95% DL/2 (t) UCL	0.306	95% H-Stat (DL/2) UCL	1.056
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.576
		SD in Log Scale	1.58
		Mean in Original Scale	0.108
		SD in Original Scale	0.217
		95% t UCL	0.175
		95% Percentile Bootstrap UCL	0.177
		95% BCA Bootstrap UCL	0.193
		95% H-UCL	0.256
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.43	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.559		
nu star	10.32		
A-D Test Statistic	0.423	Nonparametric Statistics	
5% A-D Critical Value	0.785	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.785	Mean	0.126
5% K-S Critical Value	0.259	SD	0.23
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0484
		95% KM (t) UCL	0.208
Assuming Gamma Distribution		95% KM (z) UCL	0.205
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.207
Minimum	0.000001	95% KM (bootstrap t) UCL	0.26
Maximum	0.96	95% KM (BCA) UCL	0.212
Mean	0.114	95% KM (Percentile Bootstrap) UCL	0.207
Median	0.019	95% KM (Chebyshev) UCL	0.337
SD	0.217	97.5% KM (Chebyshev) UCL	0.428
k star	0.188	99% KM (Chebyshev) UCL	0.608
Theta star	0.605		
Nu star	11.27	Potential UCLs to Use	
AppChi2	4.747	95% KM (t) UCL	0.208
95% Gamma Approximate UCL (Use when n >= 40)	0.269		
95% Adjusted Gamma UCL (Use when n < 40)	0.284		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics			
Number of Valid Observations	30	Number of Distinct Observations	30
Raw Statistics		Log-transformed Statistics	
Minimum	2200	Minimum of Log Data	7.696
Maximum	35800	Maximum of Log Data	10.49
Mean	12733	Mean of log Data	9.214
Geometric Mean	10034	SD of log Data	0.709
Median	9235		
SD	9381		
Std. Error of Mean	1713		
Coefficient of Variation	0.737		
Skewness	1.385		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.819	Shapiro Wilk Test Statistic	0.956
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	15644	95% H-UCL	17117
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	20585
95% Adjusted-CLT UCL (Chen-1995)	16013	97.5% Chebyshev (MVUE) UCL	23965
95% Modified-t UCL (Johnson-1978)	15716	99% Chebyshev (MVUE) UCL	30606
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.049	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	6216		
MLE of Mean	12733		
MLE of Standard Deviation	8897		
nu star	122.9		
Approximate Chi Square Value (.05)	98.31	Nonparametric Statistics	
Adjusted Level of Significance	0.041	95% CLT UCL	15551
Adjusted Chi Square Value	97.04	95% Jackknife UCL	15644
		95% Standard Bootstrap UCL	15444
Anderson-Darling Test Statistic	0.747	95% Bootstrap-t UCL	16249
Anderson-Darling 5% Critical Value	0.757	95% Hall's Bootstrap UCL	16005
Kolmogorov-Smirnov Test Statistic	0.157	95% Percentile Bootstrap UCL	15621
Kolmogorov-Smirnov 5% Critical Value	0.162	95% BCA Bootstrap UCL	15952
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	20199
		97.5% Chebyshev(Mean, Sd) UCL	23429
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	29775
95% Approximate Gamma UCL (Use when n >= 40)	15920		
95% Adjusted Gamma UCL (Use when n < 40)	16128		
Potential UCL to Use		Use 95% Approximate Gamma UCL	15920

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Antimony

General Statistics			
Number of Valid Data	30	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	18
		Percent Non-Detects	60.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.14	Minimum Detected	-1.966
Maximum Detected	19	Maximum Detected	2.944
Mean of Detected	4.088	Mean of Detected	0.853
SD of Detected	5.019	SD of Detected	1.209
Minimum Non-Detect	0.0013	Minimum Non-Detect	-6.645
Maximum Non-Detect	0.32	Maximum Non-Detect	-1.139
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	19
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	63.33%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.66	Shapiro Wilk Test Statistic	0.94
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.704	Mean	-1.224
SD	3.671	SD	2.167
95% DL/2 (t) UCL	2.843	95% H-Stat (DL/2) UCL	16.68
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.223
		SD in Log Scale	2.088
		Mean in Original Scale	1.712
		SD in Original Scale	3.669
		95% t UCL	2.85
		95% Percentile Bootstrap UCL	2.952
		95% BCA Bootstrap UCL	3.673
		95% H-UCL	12.66
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.833	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4.907		
nu star	19.99		
A-D Test Statistic	0.342	Nonparametric Statistics	
5% A-D Critical Value	0.756	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.756	Mean	1.719
5% K-S Critical Value	0.252	SD	3.602
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.687
		95% KM (t) UCL	2.886
Assuming Gamma Distribution		95% KM (z) UCL	2.849
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.692
Minimum	0.000001	95% KM (bootstrap t) UCL	4.067
Maximum	19	95% KM (BCA) UCL	3.843
Mean	1.635	95% KM (Percentile Bootstrap) UCL	3.255
Median	0.000001	95% KM (Chebyshev) UCL	4.713
SD	3.702	97.5% KM (Chebyshev) UCL	6.009
k star	0.109	99% KM (Chebyshev) UCL	8.554
Theta star	14.97		
Nu star	6.552	Potential UCLs to Use	
AppChi2	1.928	95% KM (t) UCL	2.886
95% Gamma Approximate UCL (Use when n >= 40)	5.556		
95% Adjusted Gamma UCL (Use when n < 40)	5.994		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics

Number of Valid Data	30	Number of Detected Data	25
Number of Distinct Detected Data	23	Number of Non-Detect Data	5
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.5	Minimum Detected	0.405
Maximum Detected	37.6	Maximum Detected	3.627
Mean of Detected	14.01	Mean of Detected	2.354
SD of Detected	9.994	SD of Detected	0.831
Minimum Non-Detect	0.2	Minimum Non-Detect	-1.609
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.911	Shapiro Wilk Test Statistic	0.966
5% Shapiro Wilk Critical Value	0.918	5% Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	11.69	Mean	1.578
SD	10.51	SD	1.92
95% DL/2 (t) UCL	14.95	95% H-Stat (DL/2) UCL	119.1

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	10.61	Mean in Log Scale	2.04
SD	11.95	SD in Log Scale	1.049
95% MLE (t) UCL	14.31	Mean in Original Scale	11.95
95% MLE (Tiku) UCL	14.36	SD in Original Scale	10.22
		95% t UCL	15.12
		95% Percentile Bootstrap UCL	15.11
		95% BCA Bootstrap UCL	15.52
		95% H UCL	21.87

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.701	Data appear Gamma Distributed at 5% Significance Level
Theta Star	8.232	
nu star	85.07	

		Nonparametric Statistics	
A-D Test Statistic	0.189		
5% A-D Critical Value	0.757	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.757	Mean	11.92
5% K-S Critical Value	0.177	SD	10.08
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.879
		95% KM (t) UCL	15.11
Assuming Gamma Distribution		95% KM (z) UCL	15.01
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	14.98
Minimum	0.000001	95% KM (bootstrap t) UCL	15.53
Maximum	37.6	95% KM (BCA) UCL	15.3
Mean	11.67	95% KM (Percentile Bootstrap) UCL	15.15
Median	8.9	95% KM (Chebyshev) UCL	20.11
SD	10.53	97.5% KM (Chebyshev) UCL	23.65
k star	0.25	99% KM (Chebyshev) UCL	30.61
Theta star	46.65		
Nu star	15.01	Potential UCLs to Use	
AppChi2	7.271	95% KM (BCA) UCL	15.3
95% Gamma Approximate UCL (Use when n >= 40)	24.1		
95% Adjusted Gamma UCL (Use when n < 40)	25.17		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics			
Number of Valid Data	30	Number of Detected Data	20
Number of Distinct Detected Data	20	Number of Non-Detect Data	10
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.014	Minimum Detected	-4.269
Maximum Detected	9.5	Maximum Detected	2.251
Mean of Detected	1.589	Mean of Detected	-0.514
SD of Detected	2.421	SD of Detected	1.631
Minimum Non-Detect	0.04	Minimum Non-Detect	-3.219
Maximum Non-Detect	0.061	Maximum Non-Detect	-2.797
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	18
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	40.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.632	Shapiro Wilk Test Statistic	0.969
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.067	Mean	-1.609
SD	2.099	SD	2.057
95% DL/2 (t) UCL	1.718	95% H-Stat (DL/2) UCL	7.714
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.159	Mean in Log Scale	-1.51
SD	2.935	SD in Log Scale	1.981
95% MLE (t) UCL	1.07	Mean in Original Scale	1.071
95% MLE (Tiku) UCL	1.182	SD in Original Scale	2.097
		95% t UCL	1.721
		95% Percentile Bootstrap UCL	1.738
		95% BCA Bootstrap UCL	1.964
		95% H UCL	6.602
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.567	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.8		
nu star	22.7		
A-D Test Statistic	0.345	Nonparametric Statistics	
5% A-D Critical Value	0.791	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.791	Mean	1.068
5% K-S Critical Value	0.203	SD	2.063
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.386
		95% KM (t) UCL	1.725
Assuming Gamma Distribution		95% KM (z) UCL	1.704
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.719
Minimum	0.000001	95% KM (bootstrap t) UCL	2.653
Maximum	9.5	95% KM (BCA) UCL	1.814
Mean	1.059	95% KM (Percentile Bootstrap) UCL	1.737
Median	0.22	95% KM (Chebyshev) UCL	2.752
SD	2.103	97.5% KM (Chebyshev) UCL	3.481
k star	0.16	99% KM (Chebyshev) UCL	4.913
Theta star	6.62		
Nu star	9.601	Potential UCLs to Use	
AppChi2	3.694	95% KM (BCA) UCL	1.814
95% Gamma Approximate UCL (Use when n >= 40)	2.753		
95% Adjusted Gamma UCL (Use when n < 40)	2.919		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics			
Number of Valid Data	30	Number of Detected Data	22
Number of Distinct Detected Data	21	Number of Non-Detect Data	8
		Percent Non-Detects	26.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.019	Minimum Detected	-3.963
Maximum Detected	9.7	Maximum Detected	2.272
Mean of Detected	1.4	Mean of Detected	-0.821
SD of Detected	2.293	SD of Detected	1.778
Minimum Non-Detect	0.043	Minimum Non-Detect	-3.147
Maximum Non-Detect	0.066	Maximum Non-Detect	-2.718
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	18
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	40.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.617	Shapiro Wilk Test Statistic	0.958
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.033	Mean	-1.6
SD	2.047	SD	2.005
95% DL/2 (t) UCL	1.668	95% H-Stat (DL/2) UCL	6.537
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.149	Mean in Log Scale	-1.588
SD	2.859	SD in Log Scale	2.013
95% MLE (t) UCL	1.036	Mean in Original Scale	1.034
95% MLE (Tiku) UCL	1.145	SD in Original Scale	2.047
		95% t UCL	1.669
		95% Percentile Bootstrap UCL	1.652
		95% BCA Bootstrap UCL	1.883
		95% H UCL	6.788
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.499	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.808		
nu star	21.93		
A-D Test Statistic	0.324	Nonparametric Statistics	
5% A-D Critical Value	0.801	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.801	Mean	1.032
5% K-S Critical Value	0.195	SD	2.013
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.376
		95% KM (t) UCL	1.671
Assuming Gamma Distribution		95% KM (z) UCL	1.651
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.667
Minimum	0.000001	95% KM (bootstrap t) UCL	2.582
Maximum	9.7	95% KM (BCA) UCL	1.81
Mean	1.027	95% KM (Percentile Bootstrap) UCL	1.641
Median	0.245	95% KM (Chebyshev) UCL	2.672
SD	2.051	97.5% KM (Chebyshev) UCL	3.382
k star	0.179	99% KM (Chebyshev) UCL	4.776
Theta star	5.732		
Nu star	10.75	Potential UCLs to Use	
AppChi2	4.413	95% KM (Chebyshev) UCL	2.672
95% Gamma Approximate UCL (Use when n >= 40)	2.5		
95% Adjusted Gamma UCL (Use when n < 40)	2.639		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics			
Number of Valid Data	30	Number of Detected Data	23
Number of Distinct Detected Data	23	Number of Non-Detect Data	7
		Percent Non-Detects	23.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.024	Minimum Detected	-3.73
Maximum Detected	15	Maximum Detected	2.708
Mean of Detected	1.911	Mean of Detected	-0.588
SD of Detected	3.433	SD of Detected	1.825
Minimum Non-Detect	0.046	Minimum Non-Detect	-3.079
Maximum Non-Detect	0.07	Maximum Non-Detect	-2.659
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	19
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	36.67%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.557	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.471	Mean	-1.308
SD	3.098	SD	2.073
95% DL/2 (t) UCL	2.432	95% H-Stat (DL/2) UCL	11.02
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.303	Mean in Log Scale	-1.213
SD	4.15	SD in Log Scale	1.978
95% MLE (t) UCL	1.591	Mean in Original Scale	1.475
95% MLE (Tiku) UCL	1.71	SD in Original Scale	3.096
		95% t UCL	2.435
		95% Percentile Bootstrap UCL	2.467
		95% BCA Bootstrap UCL	2.957
		95% H UCL	8.809
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.474	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4.028		
nu star	21.83		
A-D Test Statistic	0.496	Nonparametric Statistics	
5% A-D Critical Value	0.804	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.804	Mean	1.472
5% K-S Critical Value	0.192	SD	3.045
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.568
		95% KM (t) UCL	2.438
Assuming Gamma Distribution		95% KM (z) UCL	2.407
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.433
Minimum	0.000001	95% KM (bootstrap t) UCL	4.475
Maximum	15	95% KM (BCA) UCL	2.723
Mean	1.465	95% KM (Percentile Bootstrap) UCL	2.496
Median	0.335	95% KM (Chebyshev) UCL	3.95
SD	3.101	97.5% KM (Chebyshev) UCL	5.022
k star	0.188	99% KM (Chebyshev) UCL	7.128
Theta star	7.807		
Nu star	11.26	Potential UCLs to Use	
AppChi2	4.744	95% KM (Chebyshev) UCL	3.95
95% Gamma Approximate UCL (Use when n >= 40)	3.478		
95% Adjusted Gamma UCL (Use when n < 40)	3.665		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics			
Number of Valid Data	30	Number of Detected Data	19
Number of Distinct Detected Data	19	Number of Non-Detect Data	11
		Percent Non-Detects	36.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.012	Minimum Detected	-4.423
Maximum Detected	6.4	Maximum Detected	1.856
Mean of Detected	1.188	Mean of Detected	-0.693
SD of Detected	1.629	SD of Detected	1.57
Minimum Non-Detect	0.041	Minimum Non-Detect	-3.194
Maximum Non-Detect	0.36	Maximum Non-Detect	-1.022
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	13
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	56.67%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.689	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.766	Mean	-1.759
SD	1.402	SD	1.923
95% DL/2 (t) UCL	1.201	95% H-Stat (DL/2) UCL	4.276
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.719
		SD in Log Scale	1.882
		Mean in Original Scale	0.765
		SD in Original Scale	1.402
		95% t UCL	1.2
		95% Percentile Bootstrap UCL	1.206
		95% BCA Bootstrap UCL	1.387
		95% H-UCL	3.898
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.623	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.905		
nu star	23.69		
A-D Test Statistic	0.386	Nonparametric Statistics	
5% A-D Critical Value	0.784	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.784	Mean	0.761
5% K-S Critical Value	0.207	SD	1.381
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.259
		95% KM (t) UCL	1.201
Assuming Gamma Distribution		95% KM (z) UCL	1.187
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.197
Minimum	0.000001	95% KM (bootstrap t) UCL	1.646
Maximum	6.4	95% KM (BCA) UCL	1.27
Mean	0.752	95% KM (Percentile Bootstrap) UCL	1.227
Median	0.225	95% KM (Chebyshev) UCL	1.89
SD	1.409	97.5% KM (Chebyshev) UCL	2.379
k star	0.155	99% KM (Chebyshev) UCL	3.338
Theta star	4.852		
Nu star	9.303	Potential UCLs to Use	
AppChi2	3.511	95% KM (BCA) UCL	1.27
95% Gamma Approximate UCL (Use when n >= 40)	1.993		
95% Adjusted Gamma UCL (Use when n < 40)	2.116		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics			
Number of Valid Data	30	Number of Detected Data	18
Number of Distinct Detected Data	18	Number of Non-Detect Data	12
		Percent Non-Detects	40.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.01	Minimum Detected	-4.605
Maximum Detected	4.2	Maximum Detected	1.435
Mean of Detected	1.067	Mean of Detected	-1.049
SD of Detected	1.289	SD of Detected	1.958
Minimum Non-Detect	0.046	Minimum Non-Detect	-3.079
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	26
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	86.67%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.782	Shapiro Wilk Test Statistic	0.897
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.717	Mean	-1.71
SD	1.092	SD	1.937
95% DL/2 (t) UCL	1.055	95% H-Stat (DL/2) UCL	4.695
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.953
		SD in Log Scale	1.945
		Mean in Original Scale	0.66
		SD in Original Scale	1.109
		95% t UCL	1.005
		95% Percentile Bootstrap UCL	1.004
		95% BCA Bootstrap UCL	1.078
		95% H-UCL	3.77
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.504	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.116		
nu star	18.15		
A-D Test Statistic	0.36	Nonparametric Statistics	
5% A-D Critical Value	0.795	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.795	Mean	0.674
5% K-S Critical Value	0.214	SD	1.091
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.206
		95% KM (t) UCL	1.025
Assuming Gamma Distribution		95% KM (z) UCL	1.013
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.021
Minimum	0.000001	95% KM (bootstrap t) UCL	1.164
Maximum	4.2	95% KM (BCA) UCL	1.038
Mean	0.658	95% KM (Percentile Bootstrap) UCL	1.013
Median	0.061	95% KM (Chebyshev) UCL	1.573
SD	1.114	97.5% KM (Chebyshev) UCL	1.962
k star	0.153	99% KM (Chebyshev) UCL	2.727
Theta star	4.292		
Nu star	9.202	Potential UCLs to Use	
AppChi2	3.449	95% KM (BCA) UCL	1.038
95% Gamma Approximate UCL (Use when n >= 40)	1.756		
95% Adjusted Gamma UCL (Use when n < 40)	1.865		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bis(2-Ethylhexyl) Phthalate

General Statistics			
Number of Valid Data	30	Number of Detected Data	16
Number of Distinct Detected Data	15	Number of Non-Detect Data	14
		Percent Non-Detects	46.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.12	Minimum Detected	-2.12
Maximum Detected	110	Maximum Detected	4.7
Mean of Detected	20.78	Mean of Detected	1.587
SD of Detected	27.85	SD of Detected	2.329
Minimum Non-Detect	0.017	Minimum Non-Detect	-4.075
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	66.67%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.709	Shapiro Wilk Test Statistic	0.833
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	11.25	Mean	-0.134
SD	22.55	SD	2.826
95% DL/2 (t) UCL	18.24	95% H-Stat (DL/2) UCL	760.7
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	38.98	Mean in Log Scale	-0.54
SD	27.6	SD in Log Scale	3.01
95% MLE (t) UCL	47.54	Mean in Original Scale	11.14
95% MLE (Tiku) UCL	53.27	SD in Original Scale	22.6
		95% t UCL	18.16
		95% Percentile Bootstrap UCL	18.12
		95% BCA Bootstrap UCL	21.24
		95% H UCL	1235
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.405	Data do not follow a Discernable Distribution (0.05)	
Theta Star	51.34		
nu star	12.95		
A-D Test Statistic	0.957	Nonparametric Statistics	
5% A-D Critical Value	0.807	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.807	Mean	11.17
5% K-S Critical Value	0.229	SD	22.21
Data not Gamma Distributed at 5% Significance Level		SE of Mean	4.188
		95% KM (t) UCL	18.28
Assuming Gamma Distribution		95% KM (z) UCL	18.06
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	18.14
Minimum	0.000001	95% KM (bootstrap t) UCL	24.03
Maximum	110	95% KM (BCA) UCL	18.81
Mean	11.09	95% KM (Percentile Bootstrap) UCL	18.26
Median	0.235	95% KM (Chebyshev) UCL	29.42
SD	22.63	97.5% KM (Chebyshev) UCL	37.32
k star	0.118	99% KM (Chebyshev) UCL	52.84
Theta star	94.12		
Nu star	7.072	Potential UCLs to Use	
AppChi2	2.21	99% KM (Chebyshev) UCL	52.84
95% Gamma Approximate UCL (Use when n >= 40)	35.5		
95% Adjusted Gamma UCL (Use when n < 40)	38.15		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics

Number of Valid Data	30	Number of Detected Data	19
Number of Distinct Detected Data	18	Number of Non-Detect Data	11
		Percent Non-Detects	36.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.4	Minimum Detected	0.336
Maximum Detected	40.2	Maximum Detected	3.694
Mean of Detected	12.69	Mean of Detected	2.083
SD of Detected	10.82	SD of Detected	1.095
Minimum Non-Detect	0.019	Minimum Non-Detect	-3.963
Maximum Non-Detect	0.19	Maximum Non-Detect	-1.661

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	19
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	36.67%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.894	Shapiro Wilk Test Statistic	0.914
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	8.067	Mean	0.379
SD	10.53	SD	2.469
95% DL/2 (t) UCL	11.33	95% H-Stat (DL/2) UCL	265.1

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.314	Mean in Log Scale	1.113
SD	14.68	SD in Log Scale	1.616
95% MLE (t) UCL	8.869	Mean in Original Scale	8.292
95% MLE (Tiku) UCL	9.324	SD in Original Scale	10.36
		95% t UCL	11.51
		95% Percentile Bootstrap UCL	11.52
		95% BCA Bootstrap UCL	11.81
		95% H UCL	30.56

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.073	Data appear Gamma Distributed at 5% Significance Level
Theta Star	11.82	
nu star	40.78	

		Nonparametric Statistics	
A-D Test Statistic	0.385		
5% A-D Critical Value	0.764	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.764	Mean	8.548
5% K-S Critical Value	0.203	SD	9.994
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.875
		95% KM (t) UCL	11.73
Assuming Gamma Distribution		95% KM (z) UCL	11.63
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	11.67
Minimum	0.000001	95% KM (bootstrap t) UCL	12.51
Maximum	40.2	95% KM (BCA) UCL	11.85
Mean	8.035	95% KM (Percentile Bootstrap) UCL	11.73
Median	2.2	95% KM (Chebyshev) UCL	16.72
SD	10.55	97.5% KM (Chebyshev) UCL	20.26
k star	0.143	99% KM (Chebyshev) UCL	27.2
Theta star	56.27		
Nu star	8.568	Potential UCLs to Use	
AppChi2	3.068	95% KM (Percentile Bootstrap) UCL	11.73
95% Gamma Approximate UCL (Use when n >= 40)	22.44		
95% Adjusted Gamma UCL (Use when n < 40)	23.9		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics			
Number of Valid Data	22	Number of Detected Data	8
Number of Distinct Detected Data	6	Number of Non-Detect Data	14
		Percent Non-Detects	63.64%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.019	Minimum Detected	-3.963
Maximum Detected	0.33	Maximum Detected	-1.109
Mean of Detected	0.132	Mean of Detected	-2.332
SD of Detected	0.101	SD of Detected	0.914
Minimum Non-Detect	0.024	Minimum Non-Detect	-3.73
Maximum Non-Detect	0.43	Maximum Non-Detect	-0.844

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.891	Shapiro Wilk Test Statistic	0.935
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0788	Mean	-3.065
SD	0.0878	SD	1.011
95% DL/2 (t) UCL	0.111	95% H-Stat (DL/2) UCL	0.138
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.19
		SD in Log Scale	0.907
		Mean in Original Scale	0.0652
		SD in Original Scale	0.0781
		95% t UCL	0.0938
		95% Percentile Bootstrap UCL	0.095
		95% BCA Bootstrap UCL	0.103
		95% H-UCL	0.101
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.199	Data appear Normal at 5% Significance Level	
Theta Star	0.11		
nu star	19.18		
A-D Test Statistic	0.291	Nonparametric Statistics	
5% A-D Critical Value	0.726	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.726	Mean	0.0676
5% K-S Critical Value	0.298	SD	0.0796
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0193
		95% KM (t) UCL	0.101
Assuming Gamma Distribution		95% KM (z) UCL	0.0994
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.098
Minimum	0.000001	95% KM (bootstrap t) UCL	0.114
Maximum	0.33	95% KM (BCA) UCL	0.137
Mean	0.0633	95% KM (Percentile Bootstrap) UCL	0.13
Median	0.046	95% KM (Chebyshev) UCL	0.152
SD	0.0814	97.5% KM (Chebyshev) UCL	0.188
k star	0.255	99% KM (Chebyshev) UCL	0.26
Theta star	0.248		
Nu star	11.22	Potential UCLs to Use	
AppChi2	4.719	95% KM (t) UCL	0.101
95% Gamma Approximate UCL (Use when n >= 40)	0.15	95% KM (Percentile Bootstrap) UCL	0.13
95% Adjusted Gamma UCL (Use when n < 40)	0.161		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics

Number of Valid Observations	30	Number of Distinct Observations	30

Raw Statistics		Log-transformed Statistics	
Minimum	2.1	Minimum of Log Data	0.742
Maximum	30.1	Maximum of Log Data	3.405
Mean	10.37	Mean of log Data	2.093
Geometric Mean	8.112	SD of log Data	0.735
Median	8.15		
SD	7.294		
Std. Error of Mean	1.332		
Coefficient of Variation	0.703		
Skewness	1.034		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.891	Shapiro Wilk Test Statistic	0.969
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	12.64	95% H-UCL	14.28
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	17.19
95% Adjusted-CLT UCL (Chen-1995)	12.83	97.5% Chebyshev (MVUE) UCL	20.09
95% Modified-t UCL (Johnson-1978)	12.68	99% Chebyshev (MVUE) UCL	25.77

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.989	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	5.215		
MLE of Mean	10.37		
MLE of Standard Deviation	7.355		
nu star	119.3		
Approximate Chi Square Value (.05)	95.12	Nonparametric Statistics	
Adjusted Level of Significance	0.041	95% CLT UCL	12.56
Adjusted Chi Square Value	93.87	95% Jackknife UCL	12.64
		95% Standard Bootstrap UCL	12.5
Anderson-Darling Test Statistic	0.308	95% Bootstrap-t UCL	12.9
Anderson-Darling 5% Critical Value	0.757	95% Hall's Bootstrap UCL	12.82
Kolmogorov-Smirnov Test Statistic	0.101	95% Percentile Bootstrap UCL	12.65
Kolmogorov-Smirnov 5% Critical Value	0.162	95% BCA Bootstrap UCL	12.86
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16.18
		97.5% Chebyshev(Mean, Sd) UCL	18.69
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23.62
95% Approximate Gamma UCL (Use when n >= 40)	13.02		
95% Adjusted Gamma UCL (Use when n < 40)	13.19		

Potential UCL to Use	Use 95% Approximate Gamma UCL	13.02

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper

General Statistics

Number of Valid Observations	27	Number of Distinct Observations	25

Raw Statistics		Log-transformed Statistics	
Minimum	3.9	Minimum of Log Data	1.361
Maximum	960	Maximum of Log Data	6.867
Mean	107.3	Mean of log Data	3.753
Geometric Mean	42.67	SD of log Data	1.429
Median	38		
SD	186.6		
Std. Error of Mean	35.91		
Coefficient of Variation	1.739		
Skewness	3.941		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.532	Shapiro Wilk Test Statistic	0.965
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	168.6	95% H-UCL	284.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	273.6
95% Adjusted-CLT UCL (Chen-1995)	195.5	97.5% Chebyshev (MVUE) UCL	344.2
95% Modified-t UCL (Johnson-1978)	173.1	99% Chebyshev (MVUE) UCL	482.9

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.612	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	175.3		
MLE of Mean	107.3		
MLE of Standard Deviation	137.2		
nu star	33.05		
Approximate Chi Square Value (.05)	20.9	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	166.4
Adjusted Chi Square Value	20.29	95% Jackknife UCL	168.6
		95% Standard Bootstrap UCL	166.5
Anderson-Darling Test Statistic	0.654	95% Bootstrap-t UCL	245.8
Anderson-Darling 5% Critical Value	0.792	95% Hall's Bootstrap UCL	394.7
Kolmogorov-Smirnov Test Statistic	0.143	95% Percentile Bootstrap UCL	174.5
Kolmogorov-Smirnov 5% Critical Value	0.176	95% BCA Bootstrap UCL	212.7
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	263.8
		97.5% Chebyshev(Mean, Sd) UCL	331.6
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	464.6
95% Approximate Gamma UCL (Use when n >= 40)	169.6		
95% Adjusted Gamma UCL (Use when n < 40)	174.8		

Potential UCL to Use	Use 95% Approximate Gamma UCL	169.6

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics			
Number of Valid Data	30	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	20
		Percent Non-Detects	66.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0037	Minimum Detected	-5.599
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.356	Mean of Detected	-1.745
SD of Detected	0.35	SD of Detected	1.636
Minimum Non-Detect	0.042	Minimum Non-Detect	-3.17
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	30
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.843	Shapiro Wilk Test Statistic	0.868
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.284	Mean	-2.179
SD	0.305	SD	1.597
95% DL/2 (t) UCL	0.378	95% H-Stat (DL/2) UCL	1.08
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.448
		SD in Log Scale	1.743
		Mean in Original Scale	0.135
		SD in Original Scale	0.254
		95% t UCL	0.214
		95% Percentile Bootstrap UCL	0.214
		95% BCA Bootstrap UCL	0.237
		95% H-UCL	0.456
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.648	Data appear Normal at 5% Significance Level	
Theta Star	0.549		
nu star	12.96		
A-D Test Statistic	0.274	Nonparametric Statistics	
5% A-D Critical Value	0.754	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.754	Mean	0.162
5% K-S Critical Value	0.275	SD	0.279
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0616
		95% KM (t) UCL	0.267
Assuming Gamma Distribution		95% KM (z) UCL	0.263
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.252
Minimum	0.000001	95% KM (bootstrap t) UCL	0.322
Maximum	1	95% KM (BCA) UCL	0.33
Mean	0.136	95% KM (Percentile Bootstrap) UCL	0.289
Median	0.000001	95% KM (Chebyshev) UCL	0.43
SD	0.263	97.5% KM (Chebyshev) UCL	0.547
k star	0.125	99% KM (Chebyshev) UCL	0.775
Theta star	1.09		
Nu star	7.507	Potential UCLs to Use	
AppChi2	2.453	95% KM (t) UCL	0.267
95% Gamma Approximate UCL (Use when n >= 40)	0.417	95% KM (Percentile Bootstrap) UCL	0.289
95% Adjusted Gamma UCL (Use when n < 40)	0.447		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics			
Number of Valid Data	24	Number of Detected Data	14
Number of Distinct Detected Data	14	Number of Non-Detect Data	10
		Percent Non-Detects	41.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.000043	Minimum Detected	-10.05
Maximum Detected	16	Maximum Detected	2.773
Mean of Detected	1.18	Mean of Detected	-5.238
SD of Detected	4.267	SD of Detected	3.574
Minimum Non-Detect	0.0038	Minimum Non-Detect	-5.573
Maximum Non-Detect	0.014	Maximum Non-Detect	-4.269
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	18
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	75.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.309	Shapiro Wilk Test Statistic	0.951
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.69	Mean	-5.272
SD	3.262	SD	2.704
95% DL/2 (t) UCL	1.831	95% H-Stat (DL/2) UCL	3.943
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.273
		SD in Log Scale	3.06
		Mean in Original Scale	0.688
		SD in Original Scale	3.262
		95% t UCL	1.83
		95% Percentile Bootstrap UCL	2.018
		95% BCA Bootstrap UCL	2.703
		95% H-UCL	8.981
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.16	Data appear Lognormal at 5% Significance Level	
Theta Star	7.365		
nu star	4.484		
A-D Test Statistic	1.807	Nonparametric Statistics	
5% A-D Critical Value	0.893	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.893	Mean	0.689
5% K-S Critical Value	0.255	SD	3.193
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.676
		95% KM (t) UCL	1.848
Assuming Gamma Distribution		95% KM (z) UCL	1.801
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.83
Minimum	0.000001	95% KM (bootstrap t) UCL	178.5
Maximum	16	95% KM (BCA) UCL	2.02
Mean	0.688	95% KM (Percentile Bootstrap) UCL	2.009
Median	0.000109	95% KM (Chebyshev) UCL	3.637
SD	3.262	97.5% KM (Chebyshev) UCL	4.913
k star	0.112	99% KM (Chebyshev) UCL	7.419
Theta star	6.124		
Nu star	5.393	Potential UCLs to Use	
AppChi2	1.338	99% KM (Chebyshev) UCL	7.419
95% Gamma Approximate UCL (Use when n >= 40)	2.773		
95% Adjusted Gamma UCL (Use when n < 40)	3.085		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor Epoxide

General Statistics

Number of Valid Data	25	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	17
		Percent Non-Detects	68.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00014	Minimum Detected	-8.874
Maximum Detected	11.78	Maximum Detected	2.466
Mean of Detected	1.56	Mean of Detected	-4.111
SD of Detected	4.133	SD of Detected	3.854
Minimum Non-Detect	0.0018	Minimum Non-Detect	-6.32
Maximum Non-Detect	0.0071	Maximum Non-Detect	-4.948

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	84.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.448	Shapiro Wilk Test Statistic	0.954
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.5	Mean	-5.659
SD	2.352	SD	2.396
95% DL/2 (t) UCL	1.305	95% H-Stat (DL/2) UCL	0.591

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-7.317
		SD in Log Scale	3.276
		Mean in Original Scale	0.499
		SD in Original Scale	2.352
		95% t UCL	1.304
		95% Percentile Bootstrap UCL	1.434
		95% BCA Bootstrap UCL	1.947
		95% H-UCL	8.533

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.187	Data appear Gamma Distributed at 5% Significance Level
Theta Star	8.331	
nu star	2.995	

A-D Test Statistic	0.704	Nonparametric Statistics	
5% A-D Critical Value	0.848	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.848	Mean	0.499
5% K-S Critical Value	0.325	SD	2.305
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.493
		95% KM (t) UCL	1.343
Assuming Gamma Distribution		95% KM (z) UCL	1.31
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.304
Minimum	0.000001	95% KM (bootstrap t) UCL	30.7
Maximum	11.78	95% KM (BCA) UCL	1.454
Mean	0.499	95% KM (Percentile Bootstrap) UCL	1.434
Median	0.000001	95% KM (Chebyshev) UCL	2.647
SD	2.352	97.5% KM (Chebyshev) UCL	3.577
k star	0.0997	99% KM (Chebyshev) UCL	5.403
Theta star	5.008		
Nu star	4.983	Potential UCLs to Use	
AppChi2	1.144	95% KM (t) UCL	1.343
95% Gamma Approximate UCL (Use when n >= 40)	2.173		
95% Adjusted Gamma UCL (Use when n < 40)	2.424		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-c,d)pyrene

General Statistics			
Number of Valid Data	30	Number of Detected Data	19
Number of Distinct Detected Data	19	Number of Non-Detect Data	11
		Percent Non-Detects	36.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	6	Maximum Detected	1.792
Mean of Detected	1.066	Mean of Detected	-0.819
SD of Detected	1.522	SD of Detected	1.545
Minimum Non-Detect	0.041	Minimum Non-Detect	-3.194
Maximum Non-Detect	0.36	Maximum Non-Detect	-1.022
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	18
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	60.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.672	Shapiro Wilk Test Statistic	0.964
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.689	Mean	-1.834
SD	1.301	SD	1.861
95% DL/2 (t) UCL	1.092	95% H-Stat (DL/2) UCL	3.256
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.83
		SD in Log Scale	1.854
		Mean in Original Scale	0.687
		SD in Original Scale	1.302
		95% t UCL	1.091
		95% Percentile Bootstrap UCL	1.11
		95% BCA Bootstrap UCL	1.284
		95% H-UCL	3.203
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.613	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.738		
nu star	23.3		
A-D Test Statistic	0.381	Nonparametric Statistics	
5% A-D Critical Value	0.785	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.785	Mean	0.685
5% K-S Critical Value	0.207	SD	1.281
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.24
		95% KM (t) UCL	1.093
Assuming Gamma Distribution		95% KM (z) UCL	1.08
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.089
Minimum	0.000001	95% KM (bootstrap t) UCL	1.49
Maximum	6	95% KM (BCA) UCL	1.176
Mean	0.675	95% KM (Percentile Bootstrap) UCL	1.107
Median	0.19	95% KM (Chebyshev) UCL	1.732
SD	1.308	97.5% KM (Chebyshev) UCL	2.186
k star	0.156	99% KM (Chebyshev) UCL	3.076
Theta star	4.336		
Nu star	9.341	Potential UCLs to Use	
AppChi2	3.534	95% KM (BCA) UCL	1.176
95% Gamma Approximate UCL (Use when n >= 40)	1.784		
95% Adjusted Gamma UCL (Use when n < 40)	1.894		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics

Number of Valid Observations	30	Number of Distinct Observations	28

Raw Statistics		Log-transformed Statistics	
Minimum	6500	Minimum of Log Data	8.78
Maximum	88000	Maximum of Log Data	11.39
Mean	22511	Mean of log Data	9.762
Geometric Mean	17354	SD of log Data	0.726
Median	16000		
SD	17831		
Std. Error of Mean	3256		
Coefficient of Variation	0.792		
Skewness	1.882		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.808	Shapiro Wilk Test Statistic	0.93
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	28042	95% H-UCL	30230
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	36377
95% Adjusted-CLT UCL (Chen-1995)	29061	97.5% Chebyshev (MVUE) UCL	42449
95% Modified-t UCL (Johnson-1978)	28229	99% Chebyshev (MVUE) UCL	54377

Gamma Distribution Test		Data Distribution
k star (bias corrected)	1.888	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	11923	
MLE of Mean	22511	
MLE of Standard Deviation	16382	
nu star	113.3	
Approximate Chi Square Value (.05)	89.71	Nonparametric Statistics
Adjusted Level of Significance	0.041	95% CLT UCL 27866
Adjusted Chi Square Value	88.5	95% Jackknife UCL 28042
		95% Standard Bootstrap UCL 27814
Anderson-Darling Test Statistic	0.778	95% Bootstrap-t UCL 29572
Anderson-Darling 5% Critical Value	0.758	95% Hall's Bootstrap UCL 31386
Kolmogorov-Smirnov Test Statistic	0.15	95% Percentile Bootstrap UCL 28125
Kolmogorov-Smirnov 5% Critical Value	0.162	95% BCA Bootstrap UCL 29230
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 36701
		97.5% Chebyshev(Mean, Sd) UCL 42842
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 54903
95% Approximate Gamma UCL (Use when n >= 40)	28425	
95% Adjusted Gamma UCL (Use when n < 40)	28813	

Potential UCL to Use	Use 95% Approximate Gamma UCL	28425

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics			
Number of Valid Observations	27	Number of Distinct Observations	26
Raw Statistics		Log-transformed Statistics	
Minimum	34.2	Minimum of Log Data	3.532
Maximum	1050	Maximum of Log Data	6.957
Mean	331.9	Mean of log Data	5.439
Geometric Mean	230.3	SD of log Data	1.007
Median	336		
SD	239.8		
Std. Error of Mean	46.14		
Coefficient of Variation	0.722		
Skewness	0.968		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.906	Shapiro Wilk Test Statistic	0.866
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	410.6	95% H-UCL	629.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	731.4
95% Adjusted-CLT UCL (Chen-1995)	417	97.5% Chebyshev (MVUE) UCL	886.8
95% Modified-t UCL (Johnson-1978)	412	99% Chebyshev (MVUE) UCL	1192
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.37	Data do not follow a Discernable Distribution (0.05)	
Theta Star	242.2		
MLE of Mean	331.9		
MLE of Standard Deviation	283.5		
nu star	74		
Approximate Chi Square Value (.05)	55.19	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	407.8
Adjusted Chi Square Value	54.15	95% Jackknife UCL	410.6
		95% Standard Bootstrap UCL	406.4
Anderson-Darling Test Statistic	0.988	95% Bootstrap-t UCL	421.3
Anderson-Darling 5% Critical Value	0.763	95% Hall's Bootstrap UCL	427
Kolmogorov-Smirnov Test Statistic	0.175	95% Percentile Bootstrap UCL	408.2
Kolmogorov-Smirnov 5% Critical Value	0.171	95% BCA Bootstrap UCL	418.6
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	533
		97.5% Chebyshev(Mean, Sd) UCL	620
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	791
95% Approximate Gamma UCL (Use when n >= 40)	445		
95% Adjusted Gamma UCL (Use when n < 40)	453.5		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	533

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics			
Number of Valid Data	30	Number of Detected Data	19
Number of Distinct Detected Data	17	Number of Non-Detect Data	11
		Percent Non-Detects	36.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.014	Minimum Detected	-4.269
Maximum Detected	9.4	Maximum Detected	2.241
Mean of Detected	2.027	Mean of Detected	-0.232
SD of Detected	2.746	SD of Detected	1.718
Minimum Non-Detect	0.04	Minimum Non-Detect	-3.219
Maximum Non-Detect	0.35	Maximum Non-Detect	-1.05
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	13
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	56.67%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.656	Shapiro Wilk Test Statistic	0.923
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.297	Mean	-1.478
SD	2.373	SD	2.178
95% DL/2 (t) UCL	2.033	95% H-Stat (DL/2) UCL	13.47
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.416
		SD in Log Scale	2.122
		Mean in Original Scale	1.298
		SD in Original Scale	2.373
		95% t UCL	2.034
		95% Percentile Bootstrap UCL	2.106
		95% BCA Bootstrap UCL	2.326
		95% H-UCL	11.75
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.583	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.479		
nu star	22.15		
A-D Test Statistic	0.389	Nonparametric Statistics	
5% A-D Critical Value	0.788	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.788	Mean	1.293
5% K-S Critical Value	0.208	SD	2.336
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.438
		95% KM (t) UCL	2.037
Assuming Gamma Distribution		95% KM (z) UCL	2.014
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.024
Minimum	0.000001	95% KM (bootstrap t) UCL	2.937
Maximum	9.4	95% KM (BCA) UCL	2.163
Mean	1.284	95% KM (Percentile Bootstrap) UCL	2.096
Median	0.245	95% KM (Chebyshev) UCL	3.203
SD	2.381	97.5% KM (Chebyshev) UCL	4.029
k star	0.15	99% KM (Chebyshev) UCL	5.653
Theta star	8.567		
Nu star	8.992	Potential UCLs to Use	
AppChi2	3.322	95% KM (BCA) UCL	2.163
95% Gamma Approximate UCL (Use when n >= 40)	3.475		
95% Adjusted Gamma UCL (Use when n < 40)	3.694		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics			
Number of Valid Data	688	Number of Detected Data	561
Number of Distinct Detected Data	253	Number of Non-Detect Data	127
		Percent Non-Detects	18.46%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0025	Minimum Detected	-5.991
Maximum Detected	924	Maximum Detected	6.829
Mean of Detected	21.03	Mean of Detected	0.976
SD of Detected	75.36	SD of Detected	2.087
Minimum Non-Detect	0.035	Minimum Non-Detect	-3.352
Maximum Non-Detect	0.72	Maximum Non-Detect	-0.329
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	286
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	402
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	41.57%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.39	Lilliefors Test Statistic	0.0319
5% Lilliefors Critical Value	0.0374	5% Lilliefors Critical Value	0.0374
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	17.16	Mean	0.227
SD	68.52	SD	2.484
95% DL/2 (t) UCL	21.46	95% H-Stat (DL/2) UCL	38.42
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.2
		SD in Log Scale	2.518
		Mean in Original Scale	17.16
		SD in Original Scale	68.52
		95% t UCL	21.46
		95% Percentile Bootstrap UCL	21.52
		95% BCA Bootstrap UCL	22.12
		95% H-UCL	41.01
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.328	Data appear Lognormal at 5% Significance Level	
Theta Star	64.16		
nu star	367.7		
A-D Test Statistic	26.99	Nonparametric Statistics	
5% A-D Critical Value	0.865	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.865	Mean	17.15
5% K-S Critical Value	0.0422	SD	68.47
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2.613
		95% KM (t) UCL	21.46
Assuming Gamma Distribution		95% KM (z) UCL	21.45
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	21.46
Minimum	0.000001	95% KM (bootstrap t) UCL	23.14
Maximum	924	95% KM (BCA) UCL	21.92
Mean	17.15	95% KM (Percentile Bootstrap) UCL	21.61
Median	1.4	95% KM (Chebyshev) UCL	28.54
SD	68.52	97.5% KM (Chebyshev) UCL	33.47
k star	0.165	99% KM (Chebyshev) UCL	43.15
Theta star	103.8		
Nu star	227.3	Potential UCLs to Use	
AppChi2	193.4	97.5% KM (Chebyshev) UCL	33.47
95% Gamma Approximate UCL (Use when n >= 40)	20.15		
95% Adjusted Gamma UCL (Use when n < 40)	20.16		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations	30	Number of Distinct Observations	29

Raw Statistics		Log-transformed Statistics	
Minimum	10.6	Minimum of Log Data	2.361
Maximum	87.9	Maximum of Log Data	4.476
Mean	36.43	Mean of log Data	3.412
Geometric Mean	30.32	SD of log Data	0.633
Median	33.9		
SD	21.95		
Std. Error of Mean	4.008		
Coefficient of Variation	0.603		
Skewness	0.843		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.907	Shapiro Wilk Test Statistic	0.949
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	43.24	95% H-UCL	47.22
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	56.5
95% Adjusted-CLT UCL (Chen-1995)	43.68	97.5% Chebyshev (MVUE) UCL	65.05
95% Modified-t UCL (Johnson-1978)	43.34	99% Chebyshev (MVUE) UCL	81.84

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.612	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	13.95		
MLE of Mean	36.43		
MLE of Standard Deviation	22.54		
nu star	156.7		
Approximate Chi Square Value (.05)	128.8	Nonparametric Statistics	
Adjusted Level of Significance	0.041	95% CLT UCL	43.02
Adjusted Chi Square Value	127.3	95% Jackknife UCL	43.24
		95% Standard Bootstrap UCL	43
Anderson-Darling Test Statistic	0.413	95% Bootstrap-t UCL	43.71
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	43.62
Kolmogorov-Smirnov Test Statistic	0.124	95% Percentile Bootstrap UCL	43.28
Kolmogorov-Smirnov 5% Critical Value	0.161	95% BCA Bootstrap UCL	43.47
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	53.9
		97.5% Chebyshev(Mean, Sd) UCL	61.46
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	76.31
95% Approximate Gamma UCL (Use when n >= 40)	44.34		
95% Adjusted Gamma UCL (Use when n < 40)	44.84		

Potential UCL to Use	Use 95% Approximate Gamma UCL	44.34

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics

Number of Valid Data	6	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	1
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0018	Minimum Detected	-6.32
Maximum Detected	0.017	Maximum Detected	-4.075
Mean of Detected	0.0073	Mean of Detected	-5.197
SD of Detected	0.00599	SD of Detected	0.853
Minimum Non-Detect	0.00081	Minimum Non-Detect	-7.118
Maximum Non-Detect	0.00081	Maximum Non-Detect	-7.118

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.894	Shapiro Wilk Test Statistic	0.999
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00615	Mean	-5.633
SD	0.00605	SD	1.312
95% DL/2 (t) UCL	0.0111	95% H-Stat (DL/2) UCL	0.18

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.00561	Mean in Log Scale	-5.57
SD	0.0063	SD in Log Scale	1.189
95% MLE (t) UCL	0.0108	Mean in Original Scale	0.00618
95% MLE (Tiku) UCL	0.0108	SD in Original Scale	0.00602
		95% t UCL	0.0111
		95% Percentile Bootstrap UCL	0.0101
		95% BCA Bootstrap UCL	0.0109
		95% H UCL	0.0983

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.914	Data appear Normal at 5% Significance Level
Theta Star	0.00799	
nu star	9.14	

		Nonparametric Statistics	
A-D Test Statistic	0.185		
5% A-D Critical Value	0.685	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.685	Mean	0.00638
5% K-S Critical Value	0.361	SD	0.0053
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00242
		95% KM (t) UCL	0.0113
Assuming Gamma Distribution		95% KM (z) UCL	0.0104
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0111
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0165
Maximum	0.017	95% KM (BCA) UCL	0.0112
Mean	0.00608	95% KM (Percentile Bootstrap) UCL	0.0106
Median	0.0045	95% KM (Chebyshev) UCL	0.0169
SD	0.00613	97.5% KM (Chebyshev) UCL	0.0215
k star	0.324	99% KM (Chebyshev) UCL	0.0305
Theta star	0.0188		
Nu star	3.886	Potential UCLs to Use	
AppChi2	0.677	95% KM (t) UCL	0.0113
95% Gamma Approximate UCL (Use when n >= 40)	0.0349	95% KM (Percentile Bootstrap) UCL	0.0106
95% Adjusted Gamma UCL (Use when n < 40)	0.0725		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	8040	Minimum of Log Data	8.992
Maximum	16900	Maximum of Log Data	9.735
Mean	13273	Mean of log Data	9.46
Geometric Mean	12838	SD of log Data	0.292
Median	13950		
SD	3522		
Std. Error of Mean	1438		
Coefficient of Variation	0.265		
Skewness	-0.598		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk Test Statistic	0.888
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	16170	95% H-UCL	17896
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	20221
95% Adjusted-CLT UCL (Chen-1995)	15263	97.5% Chebyshev (MVUE) UCL	23216
95% Modified-t UCL (Johnson-1978)	16112	99% Chebyshev (MVUE) UCL	29098

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	7.687	Data appear Normal at 5% Significance Level	
Theta Star	1727		
MLE of Mean	13273		
MLE of Standard Deviation	4787		
nu star	92.25		
Approximate Chi Square Value (.05)	71.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	15638
Adjusted Chi Square Value	64.42	95% Jackknife UCL	16170
		95% Standard Bootstrap UCL	15430
Anderson-Darling Test Statistic	0.39	95% Bootstrap-t UCL	15613
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	15129
Kolmogorov-Smirnov Test Statistic	0.261	95% Percentile Bootstrap UCL	15350
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	15217
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	19540
		97.5% Chebyshev(Mean, Sd) UCL	22252
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	27579
95% Approximate Gamma UCL (Use when n >= 40)	17221		
95% Adjusted Gamma UCL (Use when n < 40)	19006		

Potential UCL to Use	Use 95% Student's-t UCL	16170

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Arsenic

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	1.3	Minimum of Log Data	0.262
Maximum	3	Maximum of Log Data	1.099
Mean	1.983	Mean of log Data	0.648
Geometric Mean	1.912	SD of log Data	0.294
Median	1.95		
SD	0.598		
Std. Error of Mean	0.244		
Coefficient of Variation	0.302		
Skewness	0.881		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.943	Shapiro Wilk Test Statistic	0.976
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.475	95% H-UCL	2.672
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.019
95% Adjusted-CLT UCL (Chen-1995)	2.479	97.5% Chebyshev (MVUE) UCL	3.468
95% Modified-t UCL (Johnson-1978)	2.49	99% Chebyshev (MVUE) UCL	4.349

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	7.05	Data appear Normal at 5% Significance Level	
Theta Star	0.281		
MLE of Mean	1.983		
MLE of Standard Deviation	0.747		
nu star	84.6		
Approximate Chi Square Value (.05)	64.4	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	2.385
Adjusted Chi Square Value	58.07	95% Jackknife UCL	2.475
		95% Standard Bootstrap UCL	2.348
Anderson-Darling Test Statistic	0.215	95% Bootstrap-t UCL	2.582
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	2.932
Kolmogorov-Smirnov Test Statistic	0.15	95% Percentile Bootstrap UCL	2.35
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	2.383
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.048
		97.5% Chebyshev(Mean, Sd) UCL	3.508
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4.413
95% Approximate Gamma UCL (Use when n >= 40)	2.605		
95% Adjusted Gamma UCL (Use when n < 40)	2.889		

Potential UCL to Use	Use 95% Student's-t UCL	2.475

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.027	Minimum of Log Data	-3.612
Maximum	2	Maximum of Log Data	0.693
Mean	0.555	Mean of log Data	-1.407
Geometric Mean	0.245	SD of log Data	1.517
Median	0.31		
SD	0.742		
Std. Error of Mean	0.303		
Coefficient of Variation	1.337		
Skewness	1.993		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.743	Shapiro Wilk Test Statistic	0.973
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.165	95% H-UCL	43.61
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2.037
95% Adjusted-CLT UCL (Chen-1995)	1.316	97.5% Chebyshev (MVUE) UCL	2.67
95% Modified-t UCL (Johnson-1978)	1.206	99% Chebyshev (MVUE) UCL	3.912

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.478	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.159		
MLE of Mean	0.555		
MLE of Standard Deviation	0.802		
nu star	5.741		
Approximate Chi Square Value (.05)	1.509	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	1.052
Adjusted Chi Square Value	0.859	95% Jackknife UCL	1.165
		95% Standard Bootstrap UCL	1.003
Anderson-Darling Test Statistic	0.279	95% Bootstrap-t UCL	2.28
Anderson-Darling 5% Critical Value	0.722	95% Hall's Bootstrap UCL	2.868
Kolmogorov-Smirnov Test Statistic	0.221	95% Percentile Bootstrap UCL	1.062
Kolmogorov-Smirnov 5% Critical Value	0.344	95% BCA Bootstrap UCL	1.272
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.874
		97.5% Chebyshev(Mean, Sd) UCL	2.445
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.567
95% Approximate Gamma UCL (Use when n >= 40)	2.11		
95% Adjusted Gamma UCL (Use when n < 40)	3.706		

Potential UCL to Use	Use 95% Approximate Gamma UCL	2.11
Recommended UCL exceeds the maximum observation		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Number of Valid Data	6	Number of Detected Data	5
Number of Distinct Detected Data	4	Number of Non-Detect Data	1
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.13	Minimum Detected	-2.04
Maximum Detected	1.9	Maximum Detected	0.642
Mean of Detected	0.66	Mean of Detected	-0.916
SD of Detected	0.729	SD of Detected	1.143
Minimum Non-Detect	0.044	Minimum Non-Detect	-3.124
Maximum Non-Detect	0.044	Maximum Non-Detect	-3.124

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.794	Shapiro Wilk Test Statistic	0.899
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.554	Mean	-1.399
SD	0.702	SD	1.565
95% DL/2 (t) UCL	1.131	95% H-Stat (DL/2) UCL	60.42

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.482	Mean in Log Scale	-1.399
SD	0.731	SD in Log Scale	1.564
95% MLE (t) UCL	1.084	Mean in Original Scale	0.554
95% MLE (Tiku) UCL	1.075	SD in Original Scale	0.702
		95% t UCL	1.131
		95% Percentile Bootstrap UCL	1.041
		95% BCA Bootstrap UCL	1.138
		95% H UCL	60.36

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.588	Data appear Normal at 5% Significance Level
Theta Star	1.122	
nu star	5.884	

		Nonparametric Statistics	
A-D Test Statistic	0.371		
5% A-D Critical Value	0.69	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.69	Mean	0.572
5% K-S Critical Value	0.364	SD	0.627
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.286
		95% KM (t) UCL	1.148
Assuming Gamma Distribution		95% KM (z) UCL	1.042
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.137
Minimum	0.000001	95% KM (bootstrap t) UCL	1.74
Maximum	1.9	95% KM (BCA) UCL	1.015
Mean	0.55	95% KM (Percentile Bootstrap) UCL	1.077
Median	0.315	95% KM (Chebyshev) UCL	1.819
SD	0.705	97.5% KM (Chebyshev) UCL	2.359
k star	0.252	99% KM (Chebyshev) UCL	3.42
Theta star	2.181		
Nu star	3.027	Potential UCLs to Use	
AppChi2	0.38	95% KM (t) UCL	1.148
95% Gamma Approximate UCL (Use when n >= 40)	4.376	95% KM (Percentile Bootstrap) UCL	1.077
95% Adjusted Gamma UCL (Use when n < 40)	9.741		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.06	Minimum of Log Data	-2.813
Maximum	2.3	Maximum of Log Data	0.833
Mean	0.692	Mean of log Data	-1.025
Geometric Mean	0.359	SD of log Data	1.318
Median	0.405		
SD	0.842		
Std. Error of Mean	0.344		
Coefficient of Variation	1.217		
Skewness	1.828		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.781	Shapiro Wilk Test Statistic	0.973
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.384	95% H-UCL	18.68
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2.262
95% Adjusted-CLT UCL (Chen-1995)	1.531	97.5% Chebyshev (MVUE) UCL	2.939
95% Modified-t UCL (Johnson-1978)	1.427	99% Chebyshev (MVUE) UCL	4.27

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.557	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.242		
MLE of Mean	0.692		
MLE of Standard Deviation	0.927		
nu star	6.683		
Approximate Chi Square Value (.05)	1.998	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	1.257
Adjusted Chi Square Value	1.206	95% Jackknife UCL	1.384
		95% Standard Bootstrap UCL	1.224
Anderson-Darling Test Statistic	0.275	95% Bootstrap-t UCL	2.618
Anderson-Darling 5% Critical Value	0.718	95% Hall's Bootstrap UCL	3.318
Kolmogorov-Smirnov Test Statistic	0.234	95% Percentile Bootstrap UCL	1.273
Kolmogorov-Smirnov 5% Critical Value	0.342	95% BCA Bootstrap UCL	1.422
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.189
		97.5% Chebyshev(Mean, Sd) UCL	2.837
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4.11
95% Approximate Gamma UCL (Use when n >= 40)	2.313		
95% Adjusted Gamma UCL (Use when n < 40)	3.833		

Potential UCL to Use		Use 95% Approximate Gamma UCL	2.313
Recommended UCL exceeds the maximum observation			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	6	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	1
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.097	Minimum Detected	-2.333
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.423	Mean of Detected	-1.244
SD of Detected	0.381	SD of Detected	1.025
Minimum Non-Detect	0.069	Minimum Non-Detect	-2.674
Maximum Non-Detect	0.069	Maximum Non-Detect	-2.674

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.888	Shapiro Wilk Test Statistic	0.914
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.359	Mean	-1.598
SD	0.376	SD	1.262
95% DL/2 (t) UCL	0.668	95% H-Stat (DL/2) UCL	7.659

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.325	Mean in Log Scale	-1.683
SD	0.389	SD in Log Scale	1.412
95% MLE (t) UCL	0.645	Mean in Original Scale	0.356
95% MLE (Tiku) UCL	0.642	SD in Original Scale	0.379
		95% t UCL	0.668
		95% Percentile Bootstrap UCL	0.603
		95% BCA Bootstrap UCL	0.637
		95% H UCL	16.89

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.71	Data appear Normal at 5% Significance Level
Theta Star	0.596	
nu star	7.104	

		Nonparametric Statistics	
A-D Test Statistic	0.311		
5% A-D Critical Value	0.687	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.687	Mean	0.369
5% K-S Critical Value	0.362	SD	0.334
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.153
		95% KM (t) UCL	0.676
Assuming Gamma Distribution		95% KM (z) UCL	0.62
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.67
Minimum	0.000001	95% KM (bootstrap t) UCL	1.04
Maximum	1	95% KM (BCA) UCL	0.652
Mean	0.353	95% KM (Percentile Bootstrap) UCL	0.637
Median	0.21	95% KM (Chebyshev) UCL	1.034
SD	0.382	97.5% KM (Chebyshev) UCL	1.322
k star	0.261	99% KM (Chebyshev) UCL	1.887
Theta star	1.351		
Nu star	3.134	Potential UCLs to Use	
AppChi2	0.413	95% KM (t) UCL	0.676
95% Gamma Approximate UCL (Use when n >= 40)	2.676	95% KM (Percentile Bootstrap) UCL	0.637
95% Adjusted Gamma UCL (Use when n < 40)	5.934		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics

Number of Valid Data	6	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	3
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1	Minimum Detected	0
Maximum Detected	9.4	Maximum Detected	2.241
Mean of Detected	4.833	Mean of Detected	1.217
SD of Detected	4.248	SD of Detected	1.133
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.019	Maximum Non-Detect	-3.963

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	50.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.978	Shapiro Wilk Test Statistic	0.978
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.419	Mean	-2.47
SD	3.77	SD	4.184
95% DL/2 (t) UCL	5.52	95% H-Stat (DL/2) UCL	3.89E+15

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.08	Mean in Log Scale	-0.639
SD	5.909	SD in Log Scale	2.203
95% MLE (t) UCL	4.941	Mean in Original Scale	2.465
95% MLE (Tiku) UCL	6.065	SD in Original Scale	3.735
		95% t UCL	5.537
		95% Percentile Bootstrap UCL	5.04
		95% BCA Bootstrap UCL	6.073
		95% H UCL	24487

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	2.917
5% K-S Critical Value	N/A	SD	3.113
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.556
		95% KM (t) UCL	6.053
Assuming Gamma Distribution		95% KM (z) UCL	5.477
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.105
Minimum	N/A	95% KM (bootstrap t) UCL	5.02
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	9.4
Median	N/A	95% KM (Chebyshev) UCL	9.7
SD	N/A	97.5% KM (Chebyshev) UCL	12.64
k star	N/A	99% KM (Chebyshev) UCL	18.4
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	6.053
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	9.4
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics

Number of Valid Data	6	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	4
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0053	Minimum Detected	-5.24
Maximum Detected	0.039	Maximum Detected	-3.244
Mean of Detected	0.0222	Mean of Detected	-4.242
SD of Detected	0.0238	SD of Detected	1.411
Minimum Non-Detect	0.056	Minimum Non-Detect	-2.882
Maximum Non-Detect	0.06	Maximum Non-Detect	-2.813

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0268	Mean	-3.772
SD	0.0113	SD	0.729
95% DL/2 (t) UCL	0.0361	95% H-Stat (DL/2) UCL	0.0869

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.0222
5% K-S Critical Value	N/A	SD	0.0169
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0169
		95% KM (t) UCL	0.0561
Assuming Gamma Distribution		95% KM (z) UCL	0.0499
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.066
Minimum	N/A	95% KM (bootstrap t) UCL	0.0559
Maximum	N/A	95% KM (BCA) UCL	0.039
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.039
Median	N/A	95% KM (Chebyshev) UCL	0.0956
SD	N/A	97.5% KM (Chebyshev) UCL	0.127
k star	N/A	99% KM (Chebyshev) UCL	0.19
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (BCA) UCL	0.039
95% Gamma Approximate UCL (Use when n >= 40)	N/A		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	2.8	Minimum of Log Data	1.03
Maximum	7.4	Maximum of Log Data	2.001
Mean	5.817	Mean of log Data	1.711
Geometric Mean	5.537	SD of log Data	0.369
Median	6.3		
SD	1.751		
Std. Error of Mean	0.715		
Coefficient of Variation	0.301		
Skewness	-1.175		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.882	Shapiro Wilk Test Statistic	0.818
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	7.257	95% H-UCL	8.734
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9.697
95% Adjusted-CLT UCL (Chen-1995)	6.626	97.5% Chebyshev (MVUE) UCL	11.36
95% Modified-t UCL (Johnson-1978)	7.2	99% Chebyshev (MVUE) UCL	14.62

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.262	Data appear Normal at 5% Significance Level	
Theta Star	1.105		
MLE of Mean	5.817		
MLE of Standard Deviation	2.536		
nu star	63.14		
Approximate Chi Square Value (.05)	45.86	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	6.992
Adjusted Chi Square Value	40.6	95% Jackknife UCL	7.257
		95% Standard Bootstrap UCL	6.885
Anderson-Darling Test Statistic	0.521	95% Bootstrap-t UCL	6.91
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	6.606
Kolmogorov-Smirnov Test Statistic	0.289	95% Percentile Bootstrap UCL	6.817
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	6.667
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	8.932
		97.5% Chebyshev(Mean, Sd) UCL	10.28
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	12.93
95% Approximate Gamma UCL (Use when n >= 40)	8.008		
95% Adjusted Gamma UCL (Use when n < 40)	9.046		

Potential UCL to Use	Use 95% Student's-t UCL	7.257

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Cyanide

General Statistics

Number of Valid Data	6	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	2
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.21	Minimum Detected	-1.561
Maximum Detected	6.1	Maximum Detected	1.808
Mean of Detected	1.985	Mean of Detected	-0.0536
SD of Detected	2.762	SD of Detected	1.403
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.738	Shapiro Wilk Test Statistic	0.969
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.324	Mean	-2.107
SD	2.372	SD	3.362
95% DL/2 (t) UCL	3.275	95% H-Stat (DL/2) UCL	7.36E+09

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.623	Mean in Log Scale	-1.374
SD	2.902	SD in Log Scale	2.349
95% MLE (t) UCL	3.01	Mean in Original Scale	1.331
95% MLE (Tiku) UCL	3.173	SD in Original Scale	2.368
		95% t UCL	3.278
		95% Percentile Bootstrap UCL	3.096
		95% BCA Bootstrap UCL	3.427
		95% H UCL	50381

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.367	Data appear Gamma Distributed at 5% Significance Level
Theta Star	5.404	
nu star	2.938	

A-D Test Statistic	0.376	Nonparametric Statistics	
5% A-D Critical Value	0.67	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.67	Mean	1.393
5% K-S Critical Value	0.404	SD	2.125
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.002
		95% KM (t) UCL	3.412
Assuming Gamma Distribution		95% KM (z) UCL	3.041
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.257
Minimum	0.000001	95% KM (bootstrap t) UCL	11.24
Maximum	6.1	95% KM (BCA) UCL	3.427
Mean	1.323	95% KM (Percentile Bootstrap) UCL	3.287
Median	0.42	95% KM (Chebyshev) UCL	5.76
SD	2.372	97.5% KM (Chebyshev) UCL	7.649
k star	0.189	99% KM (Chebyshev) UCL	11.36
Theta star	7.009		
Nu star	2.266	Potential UCLs to Use	
AppChi2	0.193	95% KM (BCA) UCL	3.427
95% Gamma Approximate UCL (Use when n >= 40)	15.54		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics

Number of Valid Data	6	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	1
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.035	Minimum Detected	-3.352
Maximum Detected	0.3	Maximum Detected	-1.204
Mean of Detected	0.13	Mean of Detected	-2.382
SD of Detected	0.112	SD of Detected	0.957
Minimum Non-Detect	0.044	Minimum Non-Detect	-3.124
Maximum Non-Detect	0.044	Maximum Non-Detect	-3.124

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.885	Shapiro Wilk Test Statistic	0.899
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.112	Mean	-2.621
SD	0.109	SD	1.038
95% DL/2 (t) UCL	0.202	95% H-Stat (DL/2) UCL	0.9

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0541	Mean in Log Scale	-2.532
SD	0.166	SD in Log Scale	0.933
95% MLE (t) UCL	0.191	Mean in Original Scale	0.115
95% MLE (Tiku) UCL	0.222	SD in Original Scale	0.107
		95% t UCL	0.203
		95% Percentile Bootstrap UCL	0.189
		95% BCA Bootstrap UCL	0.196
		95% H UCL	0.619

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.778	Data appear Normal at 5% Significance Level
Theta Star	0.167	
nu star	7.778	

		Nonparametric Statistics	
A-D Test Statistic	0.333		
5% A-D Critical Value	0.686	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.686	Mean	0.114
5% K-S Critical Value	0.361	SD	0.098
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0447
		95% KM (t) UCL	0.204
Assuming Gamma Distribution		95% KM (z) UCL	0.188
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.203
Minimum	0.023	95% KM (bootstrap t) UCL	0.297
Maximum	0.3	95% KM (BCA) UCL	0.2
Mean	0.112	95% KM (Percentile Bootstrap) UCL	0.192
Median	0.0675	95% KM (Chebyshev) UCL	0.309
SD	0.109	97.5% KM (Chebyshev) UCL	0.394
k star	0.769	99% KM (Chebyshev) UCL	0.559
Theta star	0.146		
Nu star	9.231	Potential UCLs to Use	
AppChi2	3.467	95% KM (t) UCL	0.204
95% Gamma Approximate UCL (Use when n >= 40)	0.299	95% KM (Percentile Bootstrap) UCL	0.192
95% Adjusted Gamma UCL (Use when n < 40)	0.446		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Di-N-Octylphthalate

General Statistics

Number of Valid Data	6	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	4
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.055	Minimum Detected	-2.9
Maximum Detected	0.16	Maximum Detected	-1.833
Mean of Detected	0.108	Mean of Detected	-2.367
SD of Detected	0.0742	SD of Detected	0.755
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.047	Maximum Non-Detect	-3.058

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	66.67%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0488	Mean	-3.454
SD	0.0565	SD	0.96
95% DL/2 (t) UCL	0.0953	95% H-Stat (DL/2) UCL	0.277

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.0725
5% K-S Critical Value	N/A	SD	0.0391
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0226
		95% KM (t) UCL	0.118
Assuming Gamma Distribution		95% KM (z) UCL	0.11
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.155
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	0.16
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.16
Median	N/A	95% KM (Chebyshev) UCL	0.171
SD	N/A	97.5% KM (Chebyshev) UCL	0.214
k star	N/A	99% KM (Chebyshev) UCL	0.297
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.118
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.16
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-c,d)pyrene

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.041	Minimum of Log Data	-3.194
Maximum	1.4	Maximum of Log Data	0.336
Mean	0.426	Mean of log Data	-1.523
Geometric Mean	0.218	SD of log Data	1.303
Median	0.185		
SD	0.525		
Std. Error of Mean	0.215		
Coefficient of Variation	1.233		
Skewness	1.67		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.785	Shapiro Wilk Test Statistic	0.971
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.858	95% H-UCL	10.42
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.346
95% Adjusted-CLT UCL (Chen-1995)	0.935	97.5% Chebyshev (MVUE) UCL	1.748
95% Modified-t UCL (Johnson-1978)	0.883	99% Chebyshev (MVUE) UCL	2.538

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.549	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.777		
MLE of Mean	0.426		
MLE of Standard Deviation	0.575		
nu star	6.586		
Approximate Chi Square Value (.05)	1.946	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	0.779
Adjusted Chi Square Value	1.168	95% Jackknife UCL	0.858
		95% Standard Bootstrap UCL	0.746
Anderson-Darling Test Statistic	0.31	95% Bootstrap-t UCL	2.405
Anderson-Darling 5% Critical Value	0.718	95% Hall's Bootstrap UCL	2.621
Kolmogorov-Smirnov Test Statistic	0.225	95% Percentile Bootstrap UCL	0.774
Kolmogorov-Smirnov 5% Critical Value	0.342	95% BCA Bootstrap UCL	0.848
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.361
		97.5% Chebyshev(Mean, Sd) UCL	1.766
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.561
95% Approximate Gamma UCL (Use when n >= 40)	1.442		
95% Adjusted Gamma UCL (Use when n < 40)	2.403		

Potential UCL to Use		Use 95% Approximate Gamma UCL	1.442
Recommended UCL exceeds the maximum observation			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Iron

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	16500	Minimum of Log Data	9.711
Maximum	28600	Maximum of Log Data	10.26
Mean	20583	Mean of log Data	9.904
Geometric Mean	20014	SD of log Data	0.254
Median	17500		
SD	5561		
Std. Error of Mean	2270		
Coefficient of Variation	0.27		
Skewness	0.983		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.74	Shapiro Wilk Test Statistic	0.75
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25158	95% H-UCL	26375
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	29833
95% Adjusted-CLT UCL (Chen-1995)	25292	97.5% Chebyshev (MVUE) UCL	33847
95% Modified-t UCL (Johnson-1978)	25310	99% Chebyshev (MVUE) UCL	41731

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	9.111	Data do not follow a Discernable Distribution (0.05)	
Theta Star	2259		
MLE of Mean	20583		
MLE of Standard Deviation	6819		
nu star	109.3		
Approximate Chi Square Value (.05)	86.2	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	24318
Adjusted Chi Square Value	78.8	95% Jackknife UCL	25158
		95% Standard Bootstrap UCL	24029
Anderson-Darling Test Statistic	0.872	95% Bootstrap-t UCL	56721
Anderson-Darling 5% Critical Value	0.697	95% Hall's Bootstrap UCL	69012
Kolmogorov-Smirnov Test Statistic	0.366	95% Percentile Bootstrap UCL	24083
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	24483
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	30480
		97.5% Chebyshev(Mean, Sd) UCL	34762
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	43174
95% Approximate Gamma UCL (Use when n >= 40)	26108		
95% Adjusted Gamma UCL (Use when n < 40)	28560		

Potential UCL to Use		Use 95% Student's-t UCL	25158
		or 95% Modified-t UCL	25310

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	110	Minimum of Log Data	4.7
Maximum	798	Maximum of Log Data	6.682
Mean	400.5	Mean of log Data	5.78
Geometric Mean	323.7	SD of log Data	0.75
Median	366		
SD	263.3		
Std. Error of Mean	107.5		
Coefficient of Variation	0.657		
Skewness	0.506		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.928	Shapiro Wilk Test Statistic	0.945
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	617.1	95% H-UCL	1305
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	944.7
95% Adjusted-CLT UCL (Chen-1995)	601	97.5% Chebyshev (MVUE) UCL	1178
95% Modified-t UCL (Johnson-1978)	620.8	99% Chebyshev (MVUE) UCL	1635

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.362	Data appear Normal at 5% Significance Level	
Theta Star	294		
MLE of Mean	400.5		
MLE of Standard Deviation	343.1		
nu star	16.35		
Approximate Chi Square Value (.05)	8.208	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	577.3
Adjusted Chi Square Value	6.24	95% Jackknife UCL	617.1
		95% Standard Bootstrap UCL	563.9
Anderson-Darling Test Statistic	0.286	95% Bootstrap-t UCL	701.2
Anderson-Darling 5% Critical Value	0.703	95% Hall's Bootstrap UCL	550.4
Kolmogorov-Smirnov Test Statistic	0.217	95% Percentile Bootstrap UCL	564.8
Kolmogorov-Smirnov 5% Critical Value	0.335	95% BCA Bootstrap UCL	565.3
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	869
		97.5% Chebyshev(Mean, Sd) UCL	1072
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1470
95% Approximate Gamma UCL (Use when n >= 40)	797.7		
95% Adjusted Gamma UCL (Use when n < 40)	1049		

Potential UCL to Use	Use 95% Student's-t UCL	617.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	0.026	Minimum of Log Data	-3.65
Maximum	2	Maximum of Log Data	0.693
Mean	0.468	Mean of log Data	-1.914
Geometric Mean	0.147	SD of log Data	1.726
Median	0.164		
SD	0.767		
Std. Error of Mean	0.313		
Coefficient of Variation	1.638		
Skewness	2.224		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.666	Shapiro Wilk Test Statistic	0.918
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.099	95% H-UCL	114.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.648
95% Adjusted-CLT UCL (Chen-1995)	1.287	97.5% Chebyshev (MVUE) UCL	2.174
95% Modified-t UCL (Johnson-1978)	1.147	99% Chebyshev (MVUE) UCL	3.207

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.382	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.224		
MLE of Mean	0.468		
MLE of Standard Deviation	0.757		
nu star	4.59		
Approximate Chi Square Value (.05)	0.968	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	0.983
Adjusted Chi Square Value	0.501	95% Jackknife UCL	1.099
		95% Standard Bootstrap UCL	0.947
Anderson-Darling Test Statistic	0.412	95% Bootstrap-t UCL	2.877
Anderson-Darling 5% Critical Value	0.733	95% Hall's Bootstrap UCL	3.306
Kolmogorov-Smirnov Test Statistic	0.224	95% Percentile Bootstrap UCL	1.027
Kolmogorov-Smirnov 5% Critical Value	0.348	95% BCA Bootstrap UCL	1.155
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.833
		97.5% Chebyshev(Mean, Sd) UCL	2.424
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.584
95% Approximate Gamma UCL (Use when n >= 40)	2.222		
95% Adjusted Gamma UCL (Use when n < 40)	4.292		

Potential UCL to Use	Use 95% Approximate Gamma UCL	2.222
Recommended UCL exceeds the maximum observation		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.125	Minimum of Log Data	-2.079
Maximum	62	Maximum of Log Data	4.127
Mean	19.03	Mean of log Data	0.742
Geometric Mean	2.101	SD of log Data	2.639
Median	0.852		
SD	28.89		
Std. Error of Mean	11.79		
Coefficient of Variation	1.518		
Skewness	1.042		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.693	Shapiro Wilk Test Statistic	0.853
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	42.79	95% H-UCL	9847645
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	90.03
95% Adjusted-CLT UCL (Chen-1995)	43.79	97.5% Chebyshev (MVUE) UCL	120.6
95% Modified-t UCL (Johnson-1978)	43.63	99% Chebyshev (MVUE) UCL	180.7

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.267	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	71.36		
MLE of Mean	19.03		
MLE of Standard Deviation	36.85		
nu star	3.2		
Approximate Chi Square Value (.05)	0.434	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	38.43
Adjusted Chi Square Value	0.196	95% Jackknife UCL	42.79
		95% Standard Bootstrap UCL	36.8
Anderson-Darling Test Statistic	0.715	95% Bootstrap-t UCL	1349
Anderson-Darling 5% Critical Value	0.765	95% Hall's Bootstrap UCL	1431
Kolmogorov-Smirnov Test Statistic	0.345	95% Percentile Bootstrap UCL	37.62
Kolmogorov-Smirnov 5% Critical Value	0.356	95% BCA Bootstrap UCL	39.58
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	70.44
		97.5% Chebyshev(Mean, Sd) UCL	92.68
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	136.4
95% Approximate Gamma UCL (Use when n >= 40)	140.3		
95% Adjusted Gamma UCL (Use when n < 40)	310		

Potential UCL to Use	Use 95% Adjusted Gamma UCL	310
Recommended UCL exceeds the maximum observation		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics

Number of Valid Data	12	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	3
		Percent Non-Detects	25.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0013	Minimum Detected	-6.645
Maximum Detected	0.054	Maximum Detected	-2.919
Mean of Detected	0.0121	Mean of Detected	-5.082
SD of Detected	0.0167	SD of Detected	1.21
Minimum Non-Detect	0.00073	Minimum Non-Detect	-7.222
Maximum Non-Detect	0.00081	Maximum Non-Detect	-7.118

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	25.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.679	Shapiro Wilk Test Statistic	0.964
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0092	Mean	-5.778
SD	0.0152	SD	1.627
95% DL/2 (t) UCL	0.0171	95% H-Stat (DL/2) UCL	0.0895

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.00622	Mean in Log Scale	-5.826
SD	0.0178	SD in Log Scale	1.695
95% MLE (t) UCL	0.0154	Mean in Original Scale	0.00919
95% MLE (Tiku) UCL	0.0155	SD in Original Scale	0.0152
		95% t UCL	0.0171
		95% Percentile Bootstrap UCL	0.0165
		95% BCA Bootstrap UCL	0.0206
		95% H UCL	0.112

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.657	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0185		
nu star	11.82		

A-D Test Statistic	0.392	Nonparametric Statistics	
5% A-D Critical Value	0.748	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.748	Mean	0.00943
5% K-S Critical Value	0.288	SD	0.0144
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00442
		95% KM (t) UCL	0.0174
Assuming Gamma Distribution		95% KM (z) UCL	0.0167
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0172
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0308
Maximum	0.054	95% KM (BCA) UCL	0.0183
Mean	0.00911	95% KM (Percentile Bootstrap) UCL	0.0172
Median	0.00305	95% KM (Chebyshev) UCL	0.0287
SD	0.0153	97.5% KM (Chebyshev) UCL	0.037
k star	0.26	99% KM (Chebyshev) UCL	0.0534
Theta star	0.035		
Nu star	6.244	Potential UCLs to Use	
AppChi2	1.766	95% KM (Chebyshev) UCL	0.0287
95% Gamma Approximate UCL (Use when n >= 40)	0.0322		
95% Adjusted Gamma UCL (Use when n < 40)	0.0398		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	12
Raw Statistics		Log-transformed Statistics	
Minimum	8040	Minimum of Log Data	8.992
Maximum	18600	Maximum of Log Data	9.831
Mean	12772	Mean of log Data	9.423
Geometric Mean	12365	SD of log Data	0.268
Median	12250		
SD	3361		
Std. Error of Mean	970.1		
Coefficient of Variation	0.263		
Skewness	0.303		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.959	Shapiro Wilk Test Statistic	0.963
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	14514	95% H-UCL	14939
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	17114
95% Adjusted-CLT UCL (Chen-1995)	14458	97.5% Chebyshev (MVUE) UCL	18991
95% Modified-t UCL (Johnson-1978)	14528	99% Chebyshev (MVUE) UCL	22677
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	11.77	Data appear Normal at 5% Significance Level	
Theta Star	1085		
MLE of Mean	12772		
MLE of Standard Deviation	3723		
nu star	282.4		
Approximate Chi Square Value (.05)	244.5	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	14367
Adjusted Chi Square Value	239.1	95% Jackknife UCL	14514
		95% Standard Bootstrap UCL	14264
Anderson-Darling Test Statistic	0.198	95% Bootstrap-t UCL	14586
Anderson-Darling 5% Critical Value	0.731	95% Hall's Bootstrap UCL	14524
Kolmogorov-Smirnov Test Statistic	0.128	95% Percentile Bootstrap UCL	14375
Kolmogorov-Smirnov 5% Critical Value	0.245	95% BCA Bootstrap UCL	14393
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	17000
		97.5% Chebyshev(Mean, Sd) UCL	18830
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	22424
95% Approximate Gamma UCL (Use when n >= 40)	14753		
95% Adjusted Gamma UCL (Use when n < 40)	15085		
Potential UCL to Use		Use 95% Student's-t UCL	14514

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics

Number of Valid Observations	12	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	0.39	Minimum of Log Data	-0.942
Maximum	6	Maximum of Log Data	1.792
Mean	2.052	Mean of log Data	0.527
Geometric Mean	1.694	SD of log Data	0.665
Median	1.9		
SD	1.422		
Std. Error of Mean	0.41		
Coefficient of Variation	0.693		
Skewness	2.096		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.796	Shapiro Wilk Test Statistic	0.949
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.789	95% H-UCL	3.393
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.865
95% Adjusted-CLT UCL (Chen-1995)	2.992	97.5% Chebyshev (MVUE) UCL	4.642
95% Modified-t UCL (Johnson-1978)	2.83	99% Chebyshev (MVUE) UCL	6.17

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.129	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.964		
MLE of Mean	2.052		
MLE of Standard Deviation	1.406		
nu star	51.1		
Approximate Chi Square Value (.05)	35.68	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	2.727
Adjusted Chi Square Value	33.73	95% Jackknife UCL	2.789
		95% Standard Bootstrap UCL	2.691
Anderson-Darling Test Statistic	0.368	95% Bootstrap-t UCL	3.354
Anderson-Darling 5% Critical Value	0.74	95% Hall's Bootstrap UCL	6.217
Kolmogorov-Smirnov Test Statistic	0.18	95% Percentile Bootstrap UCL	2.752
Kolmogorov-Smirnov 5% Critical Value	0.248	95% BCA Bootstrap UCL	3.025
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.841
		97.5% Chebyshev(Mean, Sd) UCL	4.615
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	6.135
95% Approximate Gamma UCL (Use when n >= 40)	2.938		
95% Adjusted Gamma UCL (Use when n < 40)	3.109		

Potential UCL to Use	Use 95% Approximate Gamma UCL	2.938

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	0.00078	Minimum of Log Data	-7.156
Maximum	2.6	Maximum of Log Data	0.956
Mean	0.663	Mean of log Data	-2.098
Geometric Mean	0.123	SD of log Data	2.663
Median	0.13		
SD	0.922		
Std. Error of Mean	0.266		
Coefficient of Variation	1.391		
Skewness	1.341		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.731	Shapiro Wilk Test Statistic	0.887
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.141	95% H-UCL	741.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8.152
95% Adjusted-CLT UCL (Chen-1995)	1.211	97.5% Chebyshev (MVUE) UCL	10.88
95% Modified-t UCL (Johnson-1978)	1.158	99% Chebyshev (MVUE) UCL	16.24
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.349	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.898		
MLE of Mean	0.663		
MLE of Standard Deviation	1.122		
nu star	8.38		
Approximate Chi Square Value (.05)	2.957	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	1.101
Adjusted Chi Square Value	2.488	95% Jackknife UCL	1.141
		95% Standard Bootstrap UCL	1.075
Anderson-Darling Test Statistic	0.34	95% Bootstrap-t UCL	1.353
Anderson-Darling 5% Critical Value	0.806	95% Hall's Bootstrap UCL	1.033
Kolmogorov-Smirnov Test Statistic	0.18	95% Percentile Bootstrap UCL	1.095
Kolmogorov-Smirnov 5% Critical Value	0.262	95% BCA Bootstrap UCL	1.193
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.823
		97.5% Chebyshev(Mean, Sd) UCL	2.325
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.311
95% Approximate Gamma UCL (Use when n >= 40)	1.878		
95% Adjusted Gamma UCL (Use when n < 40)	2.233		
Potential UCL to Use		Use 95% Adjusted Gamma UCL	2.233

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Number of Valid Data	12	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	3
		Percent Non-Detects	25.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.094	Minimum Detected	-2.364
Maximum Detected	2	Maximum Detected	0.693
Mean of Detected	0.796	Mean of Detected	-0.839
SD of Detected	0.806	SD of Detected	1.251
Minimum Non-Detect	0.04	Minimum Non-Detect	-3.219
Maximum Non-Detect	0.044	Maximum Non-Detect	-3.124

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	25.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.794	Shapiro Wilk Test Statistic	0.866
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.602	Mean	-1.595
SD	0.772	SD	1.735
95% DL/2 (t) UCL	1.002	95% H-Stat (DL/2) UCL	9.075

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.459	Mean in Log Scale	-1.578
SD	0.912	SD in Log Scale	1.71
95% MLE (t) UCL	0.932	Mean in Original Scale	0.603
95% MLE (Tiku) UCL	0.943	SD in Original Scale	0.771
		95% t UCL	1.003
		95% Percentile Bootstrap UCL	0.966
		95% BCA Bootstrap UCL	1.04
		95% H UCL	8.333

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.708	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.125	
nu star	12.74	

		Nonparametric Statistics	
A-D Test Statistic	0.612		
5% A-D Critical Value	0.745	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.745	Mean	0.621
5% K-S Critical Value	0.287	SD	0.725
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.222
		95% KM (t) UCL	1.019
Assuming Gamma Distribution		95% KM (z) UCL	0.986
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.008
Minimum	0.000001	95% KM (bootstrap t) UCL	1.116
Maximum	2	95% KM (BCA) UCL	1.028
Mean	0.597	95% KM (Percentile Bootstrap) UCL	0.983
Median	0.15	95% KM (Chebyshev) UCL	1.588
SD	0.776	97.5% KM (Chebyshev) UCL	2.007
k star	0.21	99% KM (Chebyshev) UCL	2.829
Theta star	2.848		
Nu star	5.031	Potential UCLs to Use	
AppChi2	1.167	95% KM (Chebyshev) UCL	1.588
95% Gamma Approximate UCL (Use when n >= 40)	2.575		
95% Adjusted Gamma UCL (Use when n < 40)	3.298		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics			
Number of Valid Data	12	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	2
		Percent Non-Detects	16.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.06	Minimum Detected	-2.813
Maximum Detected	3.6	Maximum Detected	1.281
Mean of Detected	1.069	Mean of Detected	-0.764
SD of Detected	1.281	SD of Detected	1.455
Minimum Non-Detect	0.048	Minimum Non-Detect	-3.037
Maximum Non-Detect	0.051	Maximum Non-Detect	-2.976
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	2
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	16.67%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.785	Shapiro Wilk Test Statistic	0.931
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.895	Mean	-1.254
SD	1.228	SD	1.743
95% DL/2 (t) UCL	1.532	95% H-Stat (DL/2) UCL	13.19
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.758	Mean in Log Scale	-1.341
SD	1.339	SD in Log Scale	1.883
95% MLE (t) UCL	1.452	Mean in Original Scale	0.893
95% MLE (Tiku) UCL	1.437	SD in Original Scale	1.229
		95% t UCL	1.531
		95% Percentile Bootstrap UCL	1.498
		95% BCA Bootstrap UCL	1.652
		95% H UCL	22.31
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.573	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.865		
nu star	11.47		
A-D Test Statistic	0.49	Nonparametric Statistics	
5% A-D Critical Value	0.759	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.759	Mean	0.901
5% K-S Critical Value	0.276	SD	1.171
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.356
		95% KM (t) UCL	1.541
Assuming Gamma Distribution		95% KM (z) UCL	1.487
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.531
Minimum	0.000001	95% KM (bootstrap t) UCL	1.817
Maximum	3.6	95% KM (BCA) UCL	1.535
Mean	0.891	95% KM (Percentile Bootstrap) UCL	1.472
Median	0.215	95% KM (Chebyshev) UCL	2.455
SD	1.231	97.5% KM (Chebyshev) UCL	3.127
k star	0.244	99% KM (Chebyshev) UCL	4.448
Theta star	3.65		
Nu star	5.857	Potential UCLs to Use	
AppChi2	1.567	95% KM (Chebyshev) UCL	2.455
95% Gamma Approximate UCL (Use when n >= 40)	3.329		
95% Adjusted Gamma UCL (Use when n < 40)	4.158		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	12	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	3
		Percent Non-Detects	25.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.06	Minimum Detected	-2.813
Maximum Detected	1.5	Maximum Detected	0.405
Mean of Detected	0.517	Mean of Detected	-1.197
SD of Detected	0.506	SD of Detected	1.174
Minimum Non-Detect	0.062	Minimum Non-Detect	-2.781
Maximum Non-Detect	0.069	Maximum Non-Detect	-2.674

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.862	Shapiro Wilk Test Statistic	0.923
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.396	Mean	-1.752
SD	0.484	SD	1.418
95% DL/2 (t) UCL	0.647	95% H-Stat (DL/2) UCL	2.336
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.263	Mean in Log Scale	-1.704
SD	0.62	SD in Log Scale	1.359
95% MLE (t) UCL	0.584	Mean in Original Scale	0.398
95% MLE (Tiku) UCL	0.608	SD in Original Scale	0.482
		95% t UCL	0.648
		95% Percentile Bootstrap UCL	0.641
		95% BCA Bootstrap UCL	0.662
		95% H UCL	2.004
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.784	Data appear Normal at 5% Significance Level	
Theta Star	0.66		
nu star	14.12		
A-D Test Statistic	0.389	Nonparametric Statistics	
5% A-D Critical Value	0.742	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.742	Mean	0.403
5% K-S Critical Value	0.287	SD	0.458
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.14
		95% KM (t) UCL	0.655
Assuming Gamma Distribution		95% KM (z) UCL	0.634
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.646
Minimum	0.000001	95% KM (bootstrap t) UCL	0.778
Maximum	1.5	95% KM (BCA) UCL	0.65
Mean	0.388	95% KM (Percentile Bootstrap) UCL	0.638
Median	0.125	95% KM (Chebyshev) UCL	1.014
SD	0.491	97.5% KM (Chebyshev) UCL	1.279
k star	0.216	99% KM (Chebyshev) UCL	1.798
Theta star	1.797		
Nu star	5.183	Potential UCLs to Use	
AppChi2	1.238	95% KM (t) UCL	0.655
95% Gamma Approximate UCL (Use when n >= 40)	1.625	95% KM (Percentile Bootstrap) UCL	0.638
95% Adjusted Gamma UCL (Use when n < 40)	2.071		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics

Number of Valid Data	12	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	3
		Percent Non-Detects	25.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.076	Minimum Detected	-2.577
Maximum Detected	3.7	Maximum Detected	1.308
Mean of Detected	0.832	Mean of Detected	-1.101
SD of Detected	1.215	SD of Detected	1.446
Minimum Non-Detect	0.06	Minimum Non-Detect	-2.813
Maximum Non-Detect	0.066	Maximum Non-Detect	-2.718

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	25.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.703	Shapiro Wilk Test Statistic	0.902
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.632	Mean	-1.69
SD	1.098	SD	1.631
95% DL/2 (t) UCL	1.201	95% H-Stat (DL/2) UCL	5.41

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.415	Mean in Log Scale	-1.981
SD	1.277	SD in Log Scale	2.013
95% MLE (t) UCL	1.077	Mean in Original Scale	0.627
95% MLE (Tiku) UCL	1.084	SD in Original Scale	1.101
		95% t UCL	1.197
		95% Percentile Bootstrap UCL	1.165
		95% BCA Bootstrap UCL	1.392
		95% H UCL	21.68

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.517	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.611	
nu star	9.3	

		Nonparametric Statistics	
A-D Test Statistic	0.542		
5% A-D Critical Value	0.758	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.758	Mean	0.643
5% K-S Critical Value	0.291	SD	1.045
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.32
		95% KM (t) UCL	1.217
Assuming Gamma Distribution		95% KM (z) UCL	1.169
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.209
Minimum	0.000001	95% KM (bootstrap t) UCL	2.591
Maximum	3.7	95% KM (BCA) UCL	1.231
Mean	0.624	95% KM (Percentile Bootstrap) UCL	1.199
Median	0.109	95% KM (Chebyshev) UCL	2.037
SD	1.102	97.5% KM (Chebyshev) UCL	2.641
k star	0.201	99% KM (Chebyshev) UCL	3.826
Theta star	3.102		
Nu star	4.828	Potential UCLs to Use	
AppChi2	1.074	95% KM (Chebyshev) UCL	2.037
95% Gamma Approximate UCL (Use when n >= 40)	2.807		
95% Adjusted Gamma UCL (Use when n < 40)	3.621		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics			
Number of Valid Data	12	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	7
		Percent Non-Detects	58.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1	Minimum Detected	0
Maximum Detected	9.4	Maximum Detected	2.241
Mean of Detected	4.68	Mean of Detected	1.318
SD of Detected	3.085	SD of Detected	0.827
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.019	Maximum Non-Detect	-3.963

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	58.33%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.959	Shapiro Wilk Test Statistic	0.928
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.953	Mean	-2.917
SD	3.042	SD	3.875
95% DL/2 (t) UCL	3.53	95% H-Stat (DL/2) UCL	4511330
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.188
		SD in Log Scale	1.525
		Mean in Original Scale	2.155
		SD in Original Scale	2.908
		95% t UCL	3.663
		95% Percentile Bootstrap UCL	3.576
		95% BCA Bootstrap UCL	3.883
		95% H-UCL	16.24
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.083	Data appear Normal at 5% Significance Level	
Theta Star	4.321		
nu star	10.83		
A-D Test Statistic	0.246	Nonparametric Statistics	
5% A-D Critical Value	0.684	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.684	Mean	2.533
5% K-S Critical Value	0.36	SD	2.542
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.821
		95% KM (t) UCL	4.007
Assuming Gamma Distribution		95% KM (z) UCL	3.883
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.248
Minimum	0.000001	95% KM (bootstrap t) UCL	3.97
Maximum	9.4	95% KM (BCA) UCL	5.975
Mean	1.95	95% KM (Percentile Bootstrap) UCL	5.2
Median	0.000001	95% KM (Chebyshev) UCL	6.11
SD	3.044	97.5% KM (Chebyshev) UCL	7.658
k star	0.13	99% KM (Chebyshev) UCL	10.7
Theta star	14.99		
Nu star	3.122	Potential UCLs to Use	
AppChi2	0.41	95% KM (t) UCL	4.007
95% Gamma Approximate UCL (Use when n >= 40)	14.87	95% KM (Percentile Bootstrap) UCL	5.2
95% Adjusted Gamma UCL (Use when n < 40)	20.63		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics

Number of Valid Data	12	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	7
		Percent Non-Detects	58.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0053	Minimum Detected	-5.24
Maximum Detected	0.39	Maximum Detected	-0.942
Mean of Detected	0.11	Mean of Detected	-3.35
SD of Detected	0.162	SD of Detected	1.858
Minimum Non-Detect	0.054	Minimum Non-Detect	-2.919
Maximum Non-Detect	0.06	Maximum Non-Detect	-2.813

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	83.33%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.749	Shapiro Wilk Test Statistic	0.917
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0625	Mean	-3.47
SD	0.106	SD	1.126
95% DL/2 (t) UCL	0.118	95% H-Stat (DL/2) UCL	0.171

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.034
		SD in Log Scale	1.364
		Mean in Original Scale	0.0534
		SD in Original Scale	0.11
		95% t UCL	0.11
		95% Percentile Bootstrap UCL	0.113
		95% BCA Bootstrap UCL	0.144
		95% H-UCL	0.198

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.353	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.312		
nu star	3.525		

A-D Test Statistic	0.324	Nonparametric Statistics	
5% A-D Critical Value	0.709	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.709	Mean	0.0556
5% K-S Critical Value	0.371	SD	0.105
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0346
		95% KM (t) UCL	0.118
Assuming Gamma Distribution		95% KM (z) UCL	0.113
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.115
Minimum	0.000001	95% KM (bootstrap t) UCL	0.209
Maximum	0.39	95% KM (BCA) UCL	0.119
Mean	0.0554	95% KM (Percentile Bootstrap) UCL	0.126
Median	0.022	95% KM (Chebyshev) UCL	0.207
SD	0.11	97.5% KM (Chebyshev) UCL	0.272
k star	0.197	99% KM (Chebyshev) UCL	0.4
Theta star	0.281		
Nu star	4.738	Potential UCLs to Use	
AppChi2	1.033	95% KM (t) UCL	0.118
95% Gamma Approximate UCL (Use when n >= 40)	0.254		
95% Adjusted Gamma UCL (Use when n < 40)	0.329		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	2.8	Minimum of Log Data	1.03
Maximum	11.4	Maximum of Log Data	2.434
Mean	6.092	Mean of log Data	1.731
Geometric Mean	5.644	SD of log Data	0.42
Median	6.15		
SD	2.406		
Std. Error of Mean	0.695		
Coefficient of Variation	0.395		
Skewness	0.609		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.94	Shapiro Wilk Test Statistic	0.934
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	7.339	95% H-UCL	7.992
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9.408
95% Adjusted-CLT UCL (Chen-1995)	7.364	97.5% Chebyshev (MVUE) UCL	10.83
95% Modified-t UCL (Johnson-1978)	7.359	99% Chebyshev (MVUE) UCL	13.63
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.094	Data appear Normal at 5% Significance Level	
Theta Star	1.196		
MLE of Mean	6.092		
MLE of Standard Deviation	2.699		
nu star	122.2		
Approximate Chi Square Value (.05)	97.71	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	7.234
Adjusted Chi Square Value	94.37	95% Jackknife UCL	7.339
		95% Standard Bootstrap UCL	7.203
Anderson-Darling Test Statistic	0.34	95% Bootstrap-t UCL	7.406
Anderson-Darling 5% Critical Value	0.731	95% Hall's Bootstrap UCL	7.657
Kolmogorov-Smirnov Test Statistic	0.185	95% Percentile Bootstrap UCL	7.225
Kolmogorov-Smirnov 5% Critical Value	0.246	95% BCA Bootstrap UCL	7.308
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9.119
		97.5% Chebyshev(Mean, Sd) UCL	10.43
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	13
95% Approximate Gamma UCL (Use when n >= 40)	7.621		
95% Adjusted Gamma UCL (Use when n < 40)	7.891		
Potential UCL to Use		Use 95% Student's-t UCL	7.339

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cyanide

General Statistics

Number of Valid Data	12	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	7
		Percent Non-Detects	58.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.071	Minimum Detected	-2.645
Maximum Detected	6.1	Maximum Detected	1.808
Mean of Detected	1.602	Mean of Detected	-0.572
SD of Detected	2.541	SD of Detected	1.679
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.682	Shapiro Wilk Test Statistic	0.987
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.669	Mean	-3.863
SD	1.74	SD	3.077
95% DL/2 (t) UCL	1.571	95% H-Stat (DL/2) UCL	2216

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.951
		SD in Log Scale	3.487
		Mean in Original Scale	0.671
		SD in Original Scale	1.739
		95% t UCL	1.572
		95% Percentile Bootstrap UCL	1.629
		95% BCA Bootstrap UCL	2.172
		95% H-UCL	51610

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.371	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4.323		
nu star	3.706		

		Nonparametric Statistics	
A-D Test Statistic	0.331		
5% A-D Critical Value	0.706	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.706	Mean	0.709
5% K-S Critical Value	0.37	SD	1.65
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.532
		95% KM (t) UCL	1.665
Assuming Gamma Distribution		95% KM (z) UCL	1.585
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.55
Minimum	0.000001	95% KM (bootstrap t) UCL	4.83
Maximum	6.1	95% KM (BCA) UCL	2.158
Mean	0.668	95% KM (Percentile Bootstrap) UCL	1.76
Median	0.000001	95% KM (Chebyshev) UCL	3.03
SD	1.74	97.5% KM (Chebyshev) UCL	4.034
k star	0.132	99% KM (Chebyshev) UCL	6.007
Theta star	5.039		
Nu star	3.179	Potential UCLs to Use	
AppChi2	0.427	95% KM (t) UCL	1.665
95% Gamma Approximate UCL (Use when n >= 40)	4.965		
95% Adjusted Gamma UCL (Use when n < 40)	6.875		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics			
Number of Valid Data	12	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	4
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.021	Minimum Detected	-3.863
Maximum Detected	0.47	Maximum Detected	-0.755
Mean of Detected	0.176	Mean of Detected	-2.229
SD of Detected	0.16	SD of Detected	1.163
Minimum Non-Detect	0.04	Minimum Non-Detect	-3.219
Maximum Non-Detect	0.044	Maximum Non-Detect	-3.124

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	58.33%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.892	Shapiro Wilk Test Statistic	0.916
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.125	Mean	-2.776
SD	0.149	SD	1.23
95% DL/2 (t) UCL	0.202	95% H-Stat (DL/2) UCL	0.46
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.617
		SD in Log Scale	1.091
		Mean in Original Scale	0.129
		SD in Original Scale	0.146
		95% t UCL	0.204
		95% Percentile Bootstrap UCL	0.201
		95% BCA Bootstrap UCL	0.217
		95% H-UCL	0.364
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.802	Data appear Normal at 5% Significance Level	
Theta Star	0.22		
nu star	12.83		
A-D Test Statistic	0.341	Nonparametric Statistics	
5% A-D Critical Value	0.733	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.733	Mean	0.128
5% K-S Critical Value	0.301	SD	0.141
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0434
		95% KM (t) UCL	0.206
Assuming Gamma Distribution		95% KM (z) UCL	0.199
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.204
Minimum	0.0131	95% KM (bootstrap t) UCL	0.235
Maximum	0.47	95% KM (BCA) UCL	0.195
Mean	0.122	95% KM (Percentile Bootstrap) UCL	0.203
Median	0.0355	95% KM (Chebyshev) UCL	0.317
SD	0.151	97.5% KM (Chebyshev) UCL	0.399
k star	0.601	99% KM (Chebyshev) UCL	0.56
Theta star	0.203		
Nu star	14.42	Potential UCLs to Use	
AppChi2	6.857	95% KM (t) UCL	0.206
95% Gamma Approximate UCL (Use when n >= 40)	0.256	95% KM (Percentile Bootstrap) UCL	0.203
95% Adjusted Gamma UCL (Use when n < 40)	0.289		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Di-N-Octylphthalate

General Statistics

Number of Valid Data	12	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	8
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.015	Minimum Detected	-4.2
Maximum Detected	0.16	Maximum Detected	-1.833
Mean of Detected	0.0648	Mean of Detected	-3.118
SD of Detected	0.0656	SD of Detected	1.008
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.047	Maximum Non-Detect	-3.058

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	83.33%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.837	Shapiro Wilk Test Statistic	0.986
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0355	Mean	-3.641
SD	0.0407	SD	0.692
95% DL/2 (t) UCL	0.0566	95% H-Stat (DL/2) UCL	0.055

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.747
		SD in Log Scale	0.764
		Mean in Original Scale	0.0338
		SD in Original Scale	0.0416
		95% t UCL	0.0554
		95% Percentile Bootstrap UCL	0.0548
		95% BCA Bootstrap UCL	0.0661
		95% H-UCL	0.0563

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.531	Data appear Normal at 5% Significance Level
Theta Star	0.122	
nu star	4.246	

		Nonparametric Statistics	
A-D Test Statistic	0.276		
5% A-D Critical Value	0.663	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.663	Mean	0.0343
5% K-S Critical Value	0.4	SD	0.0396
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0135
		95% KM (t) UCL	0.0586
Assuming Gamma Distribution		95% KM (z) UCL	0.0566
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0557
Minimum	0.000001	95% KM (bootstrap t) UCL	0.076
Maximum	0.16	95% KM (BCA) UCL	0.0811
Mean	0.0306	95% KM (Percentile Bootstrap) UCL	0.0725
Median	0.0133	95% KM (Chebyshev) UCL	0.0934
SD	0.0443	97.5% KM (Chebyshev) UCL	0.119
k star	0.253	99% KM (Chebyshev) UCL	0.169
Theta star	0.121		
Nu star	6.075	Potential UCLs to Use	
AppChi2	1.678	95% KM (t) UCL	0.0586
95% Gamma Approximate UCL (Use when n >= 40)	0.111	95% KM (Percentile Bootstrap) UCL	0.0725
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-c,d)pyrene

General Statistics			
Number of Valid Data	12	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	2
		Percent Non-Detects	16.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.041	Minimum Detected	-3.194
Maximum Detected	1.8	Maximum Detected	0.588
Mean of Detected	0.54	Mean of Detected	-1.336
SD of Detected	0.622	SD of Detected	1.337
Minimum Non-Detect	0.034	Minimum Non-Detect	-3.381
Maximum Non-Detect	0.036	Maximum Non-Detect	-3.324
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	2
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	16.67%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.801	Shapiro Wilk Test Statistic	0.941
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.453	Mean	-1.788
SD	0.599	SD	1.605
95% DL/2 (t) UCL	0.763	95% H-Stat (DL/2) UCL	4.439
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.387	Mean in Log Scale	-1.87
SD	0.652	SD in Log Scale	1.736
95% MLE (t) UCL	0.725	Mean in Original Scale	0.451
95% MLE (Tiku) UCL	0.718	SD in Original Scale	0.599
		95% t UCL	0.762
		95% Percentile Bootstrap UCL	0.746
		95% BCA Bootstrap UCL	0.781
		95% H UCL	6.939
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.642	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.84		
nu star	12.84		
A-D Test Statistic	0.411	Nonparametric Statistics	
5% A-D Critical Value	0.754	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.754	Mean	0.457
5% K-S Critical Value	0.275	SD	0.57
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.174
		95% KM (t) UCL	0.768
Assuming Gamma Distribution		95% KM (z) UCL	0.742
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.763
Minimum	0.000001	95% KM (bootstrap t) UCL	0.957
Maximum	1.8	95% KM (BCA) UCL	0.762
Mean	0.45	95% KM (Percentile Bootstrap) UCL	0.764
Median	0.145	95% KM (Chebyshev) UCL	1.213
SD	0.601	97.5% KM (Chebyshev) UCL	1.54
k star	0.257	99% KM (Chebyshev) UCL	2.183
Theta star	1.751		
Nu star	6.163	Potential UCLs to Use	
AppChi2	1.724	95% KM (Chebyshev) UCL	1.213
95% Gamma Approximate UCL (Use when n >= 40)	1.608		
95% Adjusted Gamma UCL (Use when n < 40)	1.992		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Iron

General Statistics

Number of Valid Observations	12	Number of Distinct Observations	12

Raw Statistics		Log-transformed Statistics	
Minimum	16500	Minimum of Log Data	9.711
Maximum	40500	Maximum of Log Data	10.61
Mean	24417	Mean of log Data	10.07
Geometric Mean	23513	SD of log Data	0.284
Median	23750		
SD	7189		
Std. Error of Mean	2075		
Coefficient of Variation	0.294		
Skewness	0.876		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.913	Shapiro Wilk Test Statistic	0.936
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	28144	95% H-UCL	28848
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	33203
95% Adjusted-CLT UCL (Chen-1995)	28391	97.5% Chebyshev (MVUE) UCL	37012
95% Modified-t UCL (Johnson-1978)	28231	99% Chebyshev (MVUE) UCL	44496

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	10.12	Data appear Normal at 5% Significance Level	
Theta Star	2413		
MLE of Mean	24417		
MLE of Standard Deviation	7676		
nu star	242.8		
Approximate Chi Square Value (.05)	207.7	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	27830
Adjusted Chi Square Value	202.8	95% Jackknife UCL	28144
		95% Standard Bootstrap UCL	27684
Anderson-Darling Test Statistic	0.335	95% Bootstrap-t UCL	28965
Anderson-Darling 5% Critical Value	0.731	95% Hall's Bootstrap UCL	29019
Kolmogorov-Smirnov Test Statistic	0.176	95% Percentile Bootstrap UCL	27983
Kolmogorov-Smirnov 5% Critical Value	0.245	95% BCA Bootstrap UCL	28375
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	33463
		97.5% Chebyshev(Mean, Sd) UCL	37377
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	45067
95% Approximate Gamma UCL (Use when n >= 40)	28539		
95% Adjusted Gamma UCL (Use when n < 40)	29236		

Potential UCL to Use	Use 95% Student's-t UCL	28144

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	12
Raw Statistics		Log-transformed Statistics	
Minimum	55.6	Minimum of Log Data	4.018
Maximum	798	Maximum of Log Data	6.682
Mean	429.2	Mean of log Data	5.832
Geometric Mean	341	SD of log Data	0.816
Median	485		
SD	242.5		
Std. Error of Mean	70		
Coefficient of Variation	0.565		
Skewness	-0.029		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.945	Shapiro Wilk Test Statistic	0.87
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	554.9	95% H-UCL	901.4
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	956.7
95% Adjusted-CLT UCL (Chen-1995)	543.7	97.5% Chebyshev (MVUE) UCL	1172
95% Modified-t UCL (Johnson-1978)	554.8	99% Chebyshev (MVUE) UCL	1594
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.801	Data appear Normal at 5% Significance Level	
Theta Star	238.4		
MLE of Mean	429.2		
MLE of Standard Deviation	319.9		
nu star	43.21		
Approximate Chi Square Value (.05)	29.14	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	544.4
Adjusted Chi Square Value	27.39	95% Jackknife UCL	554.9
		95% Standard Bootstrap UCL	535.5
Anderson-Darling Test Statistic	0.492	95% Bootstrap-t UCL	554
Anderson-Darling 5% Critical Value	0.741	95% Hall's Bootstrap UCL	546.4
Kolmogorov-Smirnov Test Statistic	0.224	95% Percentile Bootstrap UCL	536.6
Kolmogorov-Smirnov 5% Critical Value	0.248	95% BCA Bootstrap UCL	540.3
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	734.3
		97.5% Chebyshev(Mean, Sd) UCL	866.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1126
95% Approximate Gamma UCL (Use when n >= 40)	636.5		
95% Adjusted Gamma UCL (Use when n < 40)	677.3		
Potential UCL to Use		Use 95% Student's-t UCL	554.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Phenanthrene

General Statistics

Number of Valid Observations	12	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	0.0013	Minimum of Log Data	-6.645
Maximum	5.4	Maximum of Log Data	1.686
Mean	0.909	Mean of log Data	-2.241
Geometric Mean	0.106	SD of log Data	2.686
Median	0.099		
SD	1.645		
Std. Error of Mean	0.475		
Coefficient of Variation	1.81		
Skewness	2.229		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.631	Shapiro Wilk Test Statistic	0.946
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.762	95% H-UCL	748.3
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7.401
95% Adjusted-CLT UCL (Chen-1995)	2.017	97.5% Chebyshev (MVUE) UCL	9.88
95% Modified-t UCL (Johnson-1978)	1.813	99% Chebyshev (MVUE) UCL	14.75

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.294	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.088		
MLE of Mean	0.909		
MLE of Standard Deviation	1.675		
nu star	7.064		
Approximate Chi Square Value (.05)	2.206	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	1.69
Adjusted Chi Square Value	1.815	95% Jackknife UCL	1.762
		95% Standard Bootstrap UCL	1.642
Anderson-Darling Test Statistic	0.426	95% Bootstrap-t UCL	2.802
Anderson-Darling 5% Critical Value	0.82	95% Hall's Bootstrap UCL	2.203
Kolmogorov-Smirnov Test Statistic	0.17	95% Percentile Bootstrap UCL	1.71
Kolmogorov-Smirnov 5% Critical Value	0.265	95% BCA Bootstrap UCL	1.957
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.979
		97.5% Chebyshev(Mean, Sd) UCL	3.875
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.635
95% Approximate Gamma UCL (Use when n >= 40)	2.911		
95% Adjusted Gamma UCL (Use when n < 40)	3.537		

Potential UCL to Use	Use 95% Adjusted Gamma UCL	3.537

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics

Number of Valid Data	12	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	1
		Percent Non-Detects	8.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0227	Minimum Detected	-3.785
Maximum Detected	62	Maximum Detected	4.127
Mean of Detected	10.67	Mean of Detected	-0.368
SD of Detected	22.58	SD of Detected	2.615
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	0.012	Maximum Non-Detect	-4.423

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.527	Shapiro Wilk Test Statistic	0.917
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	9.778	Mean	-0.764
SD	21.75	SD	2.845
95% DL/2 (t) UCL	21.05	95% H-Stat (DL/2) UCL	9450

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	8.542	Mean in Log Scale	-0.896
SD	22.05	SD in Log Scale	3.091
95% MLE (t) UCL	19.97	Mean in Original Scale	9.777
95% MLE (Tiku) UCL	19.07	SD in Original Scale	21.75
		95% t UCL	21.05
		95% Percentile Bootstrap UCL	20.13
		95% BCA Bootstrap UCL	23.91
		95% H UCL	47822

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.248	Data appear Lognormal at 5% Significance Level
Theta Star	42.93	
nu star	5.466	

		Nonparametric Statistics	
A-D Test Statistic	1.122		
5% A-D Critical Value	0.837	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.837	Mean	9.779
5% K-S Critical Value	0.278	SD	20.82
Data not Gamma Distributed at 5% Significance Level		SE of Mean	6.304
		95% KM (t) UCL	21.1
Assuming Gamma Distribution		95% KM (z) UCL	20.15
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	21.05
Minimum	0.000001	95% KM (bootstrap t) UCL	367.1
Maximum	62	95% KM (BCA) UCL	20.12
Mean	9.777	95% KM (Percentile Bootstrap) UCL	20.06
Median	0.455	95% KM (Chebyshev) UCL	37.26
SD	21.75	97.5% KM (Chebyshev) UCL	49.15
k star	0.202	99% KM (Chebyshev) UCL	72.5
Theta star	48.29		
Nu star	4.859	Potential UCLs to Use	
AppChi2	1.088	99% KM (Chebyshev) UCL	72.5
95% Gamma Approximate UCL (Use when n >= 40)	43.68		
95% Adjusted Gamma UCL (Use when n < 40)	56.29		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fillet Fish

4,4'-DDE (µg/kg, wet weight)

General Statistics

Number of Valid Data	15	Number of Detected Data	12
Number of Distinct Detected Data	4	Number of Non-Detect Data	3
		Percent Non-Detects	20.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	10	Minimum Detected	2.303
Maximum Detected	60	Maximum Detected	4.094
Mean of Detected	19.17	Mean of Detected	2.741
SD of Detected	15.64	SD of Detected	0.623
Minimum Non-Detect	3.99	Minimum Non-Detect	1.384
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	12
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	20.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.662	Shapiro Wilk Test Statistic	0.741
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	15.73	Mean	2.331
SD	15.58	SD	1.012
95% DL/2 (t) UCL	22.82	95% H-Stat (DL/2) UCL	36.26

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	13.97	Mean in Log Scale	2.468
SD	17.41	SD in Log Scale	0.792
95% MLE (t) UCL	21.89	Mean in Original Scale	16.13
95% MLE (Tiku) UCL	21.91	SD in Original Scale	15.22
		95% t UCL	23.06
		95% Percentile Bootstrap UCL	22.8
		95% BCA Bootstrap UCL	25.42
		95% H UCL	27.02

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.936	Data do not follow a Discernable Distribution (0.05)
Theta Star	9.899	
nu star	46.47	

		Nonparametric Statistics	
A-D Test Statistic	1.523		
5% A-D Critical Value	0.74	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.74	Mean	17.33
5% K-S Critical Value	0.248	SD	13.89
Data not Gamma Distributed at 5% Significance Level		SE of Mean	3.745
		95% KM (t) UCL	23.93
Assuming Gamma Distribution		95% KM (z) UCL	23.49
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	23.87
Minimum	0.000001	95% KM (bootstrap t) UCL	35.85
Maximum	60	95% KM (BCA) UCL	23.33
Mean	15.33	95% KM (Percentile Bootstrap) UCL	24
Median	10	95% KM (Chebyshev) UCL	33.66
SD	15.98	97.5% KM (Chebyshev) UCL	40.72
k star	0.22	99% KM (Chebyshev) UCL	54.6
Theta star	69.63		
Nu star	6.606	Potential UCLs to Use	
AppChi2	1.957	95% KM (BCA) UCL	23.33
95% Gamma Approximate UCL (Use when n >= 40)	51.76		
95% Adjusted Gamma UCL (Use when n < 40)	60.96		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	15	Number of Distinct Observations	13
Raw Statistics		Log-transformed Statistics	
Minimum	270	Minimum of Log Data	5.598
Maximum	2900	Maximum of Log Data	7.972
Mean	910	Mean of log Data	6.617
Geometric Mean	747.5	SD of log Data	0.624
Median	780		
SD	682.1		
Std. Error of Mean	176.1		
Coefficient of Variation	0.75		
Skewness	2.126		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.749	Shapiro Wilk Test Statistic	0.943
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1220	95% H-UCL	1313
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1551
95% Adjusted-CLT UCL (Chen-1995)	1303	97.5% Chebyshev (MVUE) UCL	1835
95% Modified-t UCL (Johnson-1978)	1236	99% Chebyshev (MVUE) UCL	2393
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.202	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	413.3		
MLE of Mean	910		
MLE of Standard Deviation	613.3		
nu star	66.06		
Approximate Chi Square Value (.05)	48.35	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	1200
Adjusted Chi Square Value	46.49	95% Jackknife UCL	1220
		95% Standard Bootstrap UCL	1186
Anderson-Darling Test Statistic	0.685	95% Bootstrap-t UCL	1588
Anderson-Darling 5% Critical Value	0.745	95% Hall's Bootstrap UCL	2729
Kolmogorov-Smirnov Test Statistic	0.27	95% Percentile Bootstrap UCL	1195
Kolmogorov-Smirnov 5% Critical Value	0.224	95% BCA Bootstrap UCL	1278
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1678
		97.5% Chebyshev(Mean, Sd) UCL	2010
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2662
95% Approximate Gamma UCL (Use when n >= 40)	1243		
95% Adjusted Gamma UCL (Use when n < 40)	1293		
Potential UCL to Use		Use 95% Approximate Gamma UCL	1243

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aluminum (mg/kg, wet weight)

General Statistics

Number of Valid Data	15	Number of Detected Data	14
Number of Distinct Detected Data	14	Number of Non-Detect Data	1
		Percent Non-Detects	6.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3.58	Minimum Detected	1.275
Maximum Detected	15	Maximum Detected	2.708
Mean of Detected	7.31	Mean of Detected	1.916
SD of Detected	3.066	SD of Detected	0.389
Minimum Non-Detect	3.23	Minimum Non-Detect	1.172
Maximum Non-Detect	3.23	Maximum Non-Detect	1.172

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.897	Shapiro Wilk Test Statistic	0.975
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	6.931	Mean	1.82
SD	3.3	SD	0.528
95% DL/2 (t) UCL	8.432	95% H-Stat (DL/2) UCL	9.541

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	6.933	Mean in Log Scale	1.852
SD	3.205	SD in Log Scale	0.45
95% MLE (t) UCL	8.39	Mean in Original Scale	6.996
95% MLE (Tiku) UCL	8.364	SD in Original Scale	3.195
		95% t UCL	8.449
		95% Percentile Bootstrap UCL	8.382
		95% BCA Bootstrap UCL	8.7
		95% H UCL	8.986

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	5.549	Data appear Normal at 5% Significance Level
Theta Star	1.317	
nu star	155.4	

		Nonparametric Statistics	
A-D Test Statistic	0.297		
5% A-D Critical Value	0.737	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.737	Mean	7.062
5% K-S Critical Value	0.229	SD	3.002
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.804
		95% KM (t) UCL	8.479
Assuming Gamma Distribution		95% KM (z) UCL	8.385
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	8.449
Minimum	0.000001	95% KM (bootstrap t) UCL	8.955
Maximum	15	95% KM (BCA) UCL	8.615
Mean	6.823	95% KM (Percentile Bootstrap) UCL	8.47
Median	6	95% KM (Chebyshev) UCL	10.57
SD	3.506	97.5% KM (Chebyshev) UCL	12.09
k star	0.515	99% KM (Chebyshev) UCL	15.07
Theta star	13.24		
Nu star	15.46	Potential UCLs to Use	
AppChi2	7.581	95% KM (t) UCL	8.479
95% Gamma Approximate UCL (Use when n >= 40)	13.91	95% KM (Percentile Bootstrap) UCL	8.47
95% Adjusted Gamma UCL (Use when n < 40)	15.26		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Mercury (mg/kg, wet weight)

General Statistics			
Number of Valid Observations	15	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	0.0347	Minimum of Log Data	-3.362
Maximum	0.39	Maximum of Log Data	-0.94
Mean	0.128	Mean of log Data	-2.296
Geometric Mean	0.101	SD of log Data	0.723
Median	0.0762		
SD	0.0954		
Std. Error of Mean	0.0246		
Coefficient of Variation	0.744		
Skewness	1.494		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.816	Shapiro Wilk Test Statistic	0.92
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.172	95% H-UCL	0.205
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.238
95% Adjusted-CLT UCL (Chen-1995)	0.179	97.5% Chebyshev (MVUE) UCL	0.286
95% Modified-t UCL (Johnson-1978)	0.173	99% Chebyshev (MVUE) UCL	0.38
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.817	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0706		
MLE of Mean	0.128		
MLE of Standard Deviation	0.0951		
nu star	54.52		
Approximate Chi Square Value (.05)	38.55	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	0.169
Adjusted Chi Square Value	36.9	95% Jackknife UCL	0.172
		95% Standard Bootstrap UCL	0.167
Anderson-Darling Test Statistic	0.705	95% Bootstrap-t UCL	0.187
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL	0.2
Kolmogorov-Smirnov Test Statistic	0.217	95% Percentile Bootstrap UCL	0.171
Kolmogorov-Smirnov 5% Critical Value	0.224	95% BCA Bootstrap UCL	0.18
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.236
		97.5% Chebyshev(Mean, Sd) UCL	0.282
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.373
95% Approximate Gamma UCL (Use when n >= 40)	0.181		
95% Adjusted Gamma UCL (Use when n < 40)	0.189		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.181

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Selenium (mg/kg, wet weight)

General Statistics			
Number of Valid Observations	15	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	0.164	Minimum of Log Data	-1.81
Maximum	0.508	Maximum of Log Data	-0.676
Mean	0.359	Mean of log Data	-1.053
Geometric Mean	0.349	SD of log Data	0.261
Median	0.352		
SD	0.0807		
Std. Error of Mean	0.0208		
Coefficient of Variation	0.225		
Skewness	-0.532		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.961	Shapiro Wilk Test Statistic	0.867
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.396	95% H-UCL	0.411
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.467
95% Adjusted-CLT UCL (Chen-1995)	0.39	97.5% Chebyshev (MVUE) UCL	0.513
95% Modified-t UCL (Johnson-1978)	0.395	99% Chebyshev (MVUE) UCL	0.604
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	14.28	Data appear Normal at 5% Significance Level	
Theta Star	0.0251		
MLE of Mean	0.359		
MLE of Standard Deviation	0.095		
nu star	428.4		
Approximate Chi Square Value (.05)	381.4	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	0.393
Adjusted Chi Square Value	376	95% Jackknife UCL	0.396
		95% Standard Bootstrap UCL	0.393
Anderson-Darling Test Statistic	0.456	95% Bootstrap-t UCL	0.392
Anderson-Darling 5% Critical Value	0.735	95% Hall's Bootstrap UCL	0.394
Kolmogorov-Smirnov Test Statistic	0.162	95% Percentile Bootstrap UCL	0.392
Kolmogorov-Smirnov 5% Critical Value	0.221	95% BCA Bootstrap UCL	0.39
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.45
		97.5% Chebyshev(Mean, Sd) UCL	0.489
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.566
95% Approximate Gamma UCL (Use when n >= 40)	0.403		
95% Adjusted Gamma UCL (Use when n < 40)	0.409		
Potential UCL to Use		Use 95% Student's-t UCL	0.396

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

4,4'-DDE (µg/kg, wet weight)

General Statistics			
Number of Valid Data	15	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	7
		Percent Non-Detects	46.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	9	Minimum Detected	2.197
Maximum Detected	32.3	Maximum Detected	3.475
Mean of Detected	16.44	Mean of Detected	2.715
SD of Detected	7.783	SD of Detected	0.425
Minimum Non-Detect	3.78	Minimum Non-Detect	1.33
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	46.67%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.848	Shapiro Wilk Test Statistic	0.925
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	9.666	Mean	1.753
SD	9.3	SD	1.106
95% DL/2 (t) UCL	13.9	95% H-Stat (DL/2) UCL	25.22
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	5.887	Mean in Log Scale	2.157
SD	13.58	SD in Log Scale	0.703
95% MLE (t) UCL	12.06	Mean in Original Scale	10.95
95% MLE (Tiku) UCL	13.24	SD in Original Scale	8.228
		95% t UCL	14.69
		95% Percentile Bootstrap UCL	14.31
		95% BCA Bootstrap UCL	15.4
		95% H UCL	17.09
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	3.875	Data appear Normal at 5% Significance Level	
Theta Star	4.243		
nu star	62		
A-D Test Statistic	0.449	Nonparametric Statistics	
5% A-D Critical Value	0.718	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.718	Mean	12.97
5% K-S Critical Value	0.295	SD	6.485
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.79
		95% KM (t) UCL	16.12
Assuming Gamma Distribution		95% KM (z) UCL	15.91
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	15.74
Minimum	0.000001	95% KM (bootstrap t) UCL	17.96
Maximum	32.3	95% KM (BCA) UCL	17.69
Mean	8.769	95% KM (Percentile Bootstrap) UCL	16.66
Median	9	95% KM (Chebyshev) UCL	20.77
SD	10.12	97.5% KM (Chebyshev) UCL	24.15
k star	0.134	99% KM (Chebyshev) UCL	30.78
Theta star	65.55		
Nu star	4.013	Potential UCLs to Use	
AppChi2	0.727	95% KM (t) UCL	16.12
95% Gamma Approximate UCL (Use when n >= 40)	48.41	95% KM (Percentile Bootstrap) UCL	16.66
95% Adjusted Gamma UCL (Use when n < 40)	60.99		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	20	Number of Distinct Observations	16
Raw Statistics		Log-transformed Statistics	
Minimum	85.9	Minimum of Log Data	4.453
Maximum	2300	Maximum of Log Data	7.741
Mean	1092	Mean of log Data	6.74
Geometric Mean	845.3	SD of log Data	0.848
Median	1100		
SD	657.7		
Std. Error of Mean	147.1		
Coefficient of Variation	0.602		
Skewness	0.243		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.96	Shapiro Wilk Test Statistic	0.901
Shapiro Wilk Critical Value	0.905	Shapiro Wilk Critical Value	0.905
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1346	95% H-UCL	1941
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2253
95% Adjusted-CLT UCL (Chen-1995)	1343	97.5% Chebyshev (MVUE) UCL	2715
95% Modified-t UCL (Johnson-1978)	1348	99% Chebyshev (MVUE) UCL	3624
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.821	Data appear Normal at 5% Significance Level	
Theta Star	599.8		
MLE of Mean	1092		
MLE of Standard Deviation	809.4		
nu star	72.83		
Approximate Chi Square Value (.05)	54.18	Nonparametric Statistics	
Adjusted Level of Significance	0.038	95% CLT UCL	1334
Adjusted Chi Square Value	52.91	95% Jackknife UCL	1346
		95% Standard Bootstrap UCL	1323
Anderson-Darling Test Statistic	0.346	95% Bootstrap-t UCL	1357
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL	1344
Kolmogorov-Smirnov Test Statistic	0.146	95% Percentile Bootstrap UCL	1347
Kolmogorov-Smirnov 5% Critical Value	0.196	95% BCA Bootstrap UCL	1345
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1733
		97.5% Chebyshev(Mean, Sd) UCL	2011
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2556
95% Approximate Gamma UCL (Use when n >= 40)	1468		
95% Adjusted Gamma UCL (Use when n < 40)	1503		
Potential UCL to Use		Use 95% Student's-t UCL	1346

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Endrin Aldehyde (µg/kg, wet weight)

General Statistics

Number of Valid Data	15	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	9
		Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	4.68	Minimum Detected	1.543
Maximum Detected	10.71	Maximum Detected	2.371
Mean of Detected	7.042	Mean of Detected	1.915
SD of Detected	2.165	SD of Detected	0.294
Minimum Non-Detect	3.78	Minimum Non-Detect	1.33
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	6
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	60.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.94	Shapiro Wilk Test Statistic	0.983
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.99	Mean	1.168
SD	2.886	SD	0.655
95% DL/2 (t) UCL	5.302	95% H-Stat (DL/2) UCL	5.911

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.096	Mean in Log Scale	1.326
SD	3.988	SD in Log Scale	0.544
95% MLE (t) UCL	4.91	Mean in Original Scale	4.362
95% MLE (Tiku) UCL	5.645	SD in Original Scale	2.629
		95% t UCL	5.558
		95% Percentile Bootstrap UCL	5.492
		95% BCA Bootstrap UCL	5.698
		95% H UCL	5.938

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	6.939	Data appear Normal at 5% Significance Level
Theta Star	1.015	
nu star	83.27	

		Nonparametric Statistics	
A-D Test Statistic	0.2		
5% A-D Critical Value	0.698	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.698	Mean	5.625
5% K-S Critical Value	0.332	SD	1.703
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.482
		95% KM (t) UCL	6.473
Assuming Gamma Distribution		95% KM (z) UCL	6.417
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.416
Minimum	0.000001	95% KM (bootstrap t) UCL	6.742
Maximum	10.71	95% KM (BCA) UCL	7.575
Mean	2.817	95% KM (Percentile Bootstrap) UCL	7.08
Median	0.000001	95% KM (Chebyshev) UCL	7.725
SD	3.798	97.5% KM (Chebyshev) UCL	8.633
k star	0.121	99% KM (Chebyshev) UCL	10.42
Theta star	23.32		
Nu star	3.624	Potential UCLs to Use	
AppChi2	0.579	95% KM (t) UCL	6.473
95% Gamma Approximate UCL (Use when n >= 40)	17.63	95% KM (Percentile Bootstrap) UCL	7.08
95% Adjusted Gamma UCL (Use when n < 40)	22.54		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor epoxide (µg/kg, wet weight)

General Statistics

Number of Valid Data	15	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	3
		Percent Non-Detects	20.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3.22	Minimum Detected	1.169
Maximum Detected	27.3	Maximum Detected	3.307
Mean of Detected	12.06	Mean of Detected	2.292
SD of Detected	7.789	SD of Detected	0.669
Minimum Non-Detect	3.8	Minimum Non-Detect	1.335
Maximum Non-Detect	3.96	Maximum Non-Detect	1.376

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	26.67%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.904	Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	10.03	Mean	1.965
SD	8.078	SD	0.9
95% DL/2 (t) UCL	13.7	95% H-Stat (DL/2) UCL	19.94

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	8.898	Mean in Log Scale	2.04
SD	9.39	SD in Log Scale	0.793
95% MLE (t) UCL	13.17	Mean in Original Scale	10.21
95% MLE (Tiku) UCL	13.35	SD in Original Scale	7.893
		95% t UCL	13.8
		95% Percentile Bootstrap UCL	13.51
		95% BCA Bootstrap UCL	14.11
		95% H UCL	17.65

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.071	Data appear Normal at 5% Significance Level
Theta Star	5.822	
nu star	49.7	

A-D Test Statistic	0.253	Nonparametric Statistics	
5% A-D Critical Value	0.74	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.74	Mean	10.29
5% K-S Critical Value	0.248	SD	7.549
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.036
		95% KM (t) UCL	13.87
Assuming Gamma Distribution		95% KM (z) UCL	13.64
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	13.71
Minimum	0.000001	95% KM (bootstrap t) UCL	14.71
Maximum	27.3	95% KM (BCA) UCL	14.32
Mean	9.645	95% KM (Percentile Bootstrap) UCL	13.68
Median	7.2	95% KM (Chebyshev) UCL	19.16
SD	8.52	97.5% KM (Chebyshev) UCL	23
k star	0.225	99% KM (Chebyshev) UCL	30.54
Theta star	42.83		
Nu star	6.755	Potential UCLs to Use	
AppChi2	2.037	95% KM (t) UCL	13.87
95% Gamma Approximate UCL (Use when n >= 40)	31.98	95% KM (Percentile Bootstrap) UCL	13.68
95% Adjusted Gamma UCL (Use when n < 40)	37.57		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum (mg/kg, wet weight)

General Statistics

Number of Valid Data	15	Number of Detected Data	13
Number of Distinct Detected Data	11	Number of Non-Detect Data	2
		Percent Non-Detects	13.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3	Minimum Detected	1.099
Maximum Detected	170	Maximum Detected	5.136
Mean of Detected	19.08	Mean of Detected	1.976
SD of Detected	45.59	SD of Detected	1.077
Minimum Non-Detect	3.15	Minimum Non-Detect	1.147
Maximum Non-Detect	3.45	Maximum Non-Detect	1.238

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	5
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.381	Shapiro Wilk Test Statistic	0.707
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	16.76	Mean	1.779
SD	42.65	SD	1.125
95% DL/2 (t) UCL	36.16	95% H-Stat (DL/2) UCL	27.05

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.827	Mean in Log Scale	1.784
SD	53.14	SD in Log Scale	1.122
95% MLE (t) UCL	26.99	Mean in Original Scale	16.77
95% MLE (Tiku) UCL	28.62	SD in Original Scale	42.64
		95% t UCL	36.17
		95% Percentile Bootstrap UCL	38.19
		95% BCA Bootstrap UCL	51.31
		95% H UCL	26.99

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.536	Data do not follow a Discernable Distribution (0.05)
Theta Star	35.58	
nu star	13.94	

		Nonparametric Statistics	
A-D Test Statistic	2.526		
5% A-D Critical Value	0.78	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.78	Mean	16.95
5% K-S Critical Value	0.248	SD	41.13
Data not Gamma Distributed at 5% Significance Level		SE of Mean	11.05
		95% KM (t) UCL	36.42
Assuming Gamma Distribution		95% KM (z) UCL	35.14
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	36.29
Minimum	0.000001	95% KM (bootstrap t) UCL	318.9
Maximum	170	95% KM (BCA) UCL	39.19
Mean	16.54	95% KM (Percentile Bootstrap) UCL	37.9
Median	4.8	95% KM (Chebyshev) UCL	65.14
SD	42.74	97.5% KM (Chebyshev) UCL	85.99
k star	0.239	99% KM (Chebyshev) UCL	126.9
Theta star	69.23		
Nu star	7.167	Potential UCLs to Use	
AppChi2	2.263	97.5% KM (Chebyshev) UCL	85.99
95% Gamma Approximate UCL (Use when n >= 40)	52.39		
95% Adjusted Gamma UCL (Use when n < 40)	61.14		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Mercury (mg/kg, wet weight)

General Statistics

Number of Valid Data	15	Number of Detected Data	13
Number of Distinct Detected Data	10	Number of Non-Detect Data	2
		Percent Non-Detects	13.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.04	Minimum Detected	-3.219
Maximum Detected	0.25	Maximum Detected	-1.386
Mean of Detected	0.118	Mean of Detected	-2.284
SD of Detected	0.0695	SD of Detected	0.569
Minimum Non-Detect	0.0506	Minimum Non-Detect	-2.984
Maximum Non-Detect	0.0551	Maximum Non-Detect	-2.899

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	20.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.863	Shapiro Wilk Test Statistic	0.949
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.106	Mean	-2.464
SD	0.072	SD	0.71
95% DL/2 (t) UCL	0.139	95% H-Stat (DL/2) UCL	0.17

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.102	Mean in Log Scale	-2.426
SD	0.0769	SD in Log Scale	0.646
95% MLE (t) UCL	0.137	Mean in Original Scale	0.107
95% MLE (Tiku) UCL	0.137	SD in Original Scale	0.0707
		95% t UCL	0.14
		95% Percentile Bootstrap UCL	0.139
		95% BCA Bootstrap UCL	0.139
		95% H UCL	0.16

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.716	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.0436	
nu star	70.62	

		Nonparametric Statistics	
A-D Test Statistic	0.436		
5% A-D Critical Value	0.738	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.738	Mean	0.108
5% K-S Critical Value	0.238	SD	0.0676
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0182
		95% KM (t) UCL	0.14
Assuming Gamma Distribution		95% KM (z) UCL	0.138
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.139
Minimum	0.000001	95% KM (bootstrap t) UCL	0.149
Maximum	0.25	95% KM (BCA) UCL	0.145
Mean	0.103	95% KM (Percentile Bootstrap) UCL	0.139
Median	0.08	95% KM (Chebyshev) UCL	0.187
SD	0.0767	97.5% KM (Chebyshev) UCL	0.222
k star	0.382	99% KM (Chebyshev) UCL	0.289
Theta star	0.269		
Nu star	11.46	Potential UCLs to Use	
AppChi2	4.876	95% KM (BCA) UCL	0.145
95% Gamma Approximate UCL (Use when n >= 40)	0.241		
95% Adjusted Gamma UCL (Use when n < 40)	0.27		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Selenium (mg/kg, wet weight)

General Statistics

Number of Valid Data	15	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	1
		Percent Non-Detects	6.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.23	Minimum Detected	-1.47
Maximum Detected	0.95	Maximum Detected	-0.0513
Mean of Detected	0.419	Mean of Detected	-0.946
SD of Detected	0.189	SD of Detected	0.386
Minimum Non-Detect	0.276	Minimum Non-Detect	-1.287
Maximum Non-Detect	0.276	Maximum Non-Detect	-1.287

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.825	Shapiro Wilk Test Statistic	0.951
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.4	Mean	-1.015
SD	0.196	SD	0.458
95% DL/2 (t) UCL	0.489	95% H-Stat (DL/2) UCL	0.515

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.376	Mean in Log Scale	-0.98
SD	0.221	SD in Log Scale	0.394
95% MLE (t) UCL	0.476	Mean in Original Scale	0.406
95% MLE (Tiku) UCL	0.48	SD in Original Scale	0.188
		95% t UCL	0.492
		95% Percentile Bootstrap UCL	0.486
		95% BCA Bootstrap UCL	0.512
		95% H UCL	0.499

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	5.381	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.0778	
nu star	150.7	

A-D Test Statistic	0.39	Nonparametric Statistics	
5% A-D Critical Value	0.737	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.737	Mean	0.407
5% K-S Critical Value	0.229	SD	0.181
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0484
		95% KM (t) UCL	0.493
Assuming Gamma Distribution		95% KM (z) UCL	0.487
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.492
Minimum	0.2	95% KM (bootstrap t) UCL	0.542
Maximum	0.95	95% KM (BCA) UCL	0.502
Mean	0.404	95% KM (Percentile Bootstrap) UCL	0.489
Median	0.34	95% KM (Chebyshev) UCL	0.618
SD	0.19	97.5% KM (Chebyshev) UCL	0.71
k star	4.92	99% KM (Chebyshev) UCL	0.889
Theta star	0.0821		
Nu star	147.6	Potential UCLs to Use	
AppChi2	120.5	95% KM (BCA) UCL	0.502
95% Gamma Approximate UCL (Use when n >= 40)	0.495		
95% Adjusted Gamma UCL (Use when n < 40)	0.507		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

4,4'-DDE (µg/kg, wet weight)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	14.91	Minimum of Log Data	2.702
Maximum	50	Maximum of Log Data	3.912
Mean	26.88	Mean of log Data	3.193
Geometric Mean	24.36	SD of log Data	0.485
Median	26		
SD	14.08		
Std. Error of Mean	6.296		
Coefficient of Variation	0.524		
Skewness	1.407		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.853	Shapiro Wilk Test Statistic	0.919
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	40.3	95% H-UCL	55.38
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	51.79
95% Adjusted-CLT UCL (Chen-1995)	41.47	97.5% Chebyshev (MVUE) UCL	62.63
95% Modified-t UCL (Johnson-1978)	40.96	99% Chebyshev (MVUE) UCL	83.93

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.225	Data appear Normal at 5% Significance Level	
Theta Star	12.08		
MLE of Mean	26.88		
MLE of Standard Deviation	18.02		
nu star	22.25		
Approximate Chi Square Value (.05)	12.53	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	37.24
Adjusted Chi Square Value	9.497	95% Jackknife UCL	40.3
		95% Standard Bootstrap UCL	36.21
Anderson-Darling Test Statistic	0.363	95% Bootstrap-t UCL	50.85
Anderson-Darling 5% Critical Value	0.681	95% Hall's Bootstrap UCL	79.19
Kolmogorov-Smirnov Test Statistic	0.228	95% Percentile Bootstrap UCL	36.22
Kolmogorov-Smirnov 5% Critical Value	0.358	95% BCA Bootstrap UCL	38.7
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	54.33
		97.5% Chebyshev(Mean, Sd) UCL	66.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	89.53
95% Approximate Gamma UCL (Use when n >= 40)	47.75		
95% Adjusted Gamma UCL (Use when n < 40)	62.98		

Potential UCL to Use	Use 95% Student's-t UCL	40.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	14	Number of Distinct Observations	14
Raw Statistics		Log-transformed Statistics	
Minimum	684	Minimum of Log Data	6.528
Maximum	5000	Maximum of Log Data	8.517
Mean	1746	Mean of log Data	7.288
Geometric Mean	1463	SD of log Data	0.604
Median	1500		
SD	1174		
Std. Error of Mean	313.6		
Coefficient of Variation	0.672		
Skewness	1.731		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.821	Shapiro Wilk Test Statistic	0.937
Shapiro Wilk Critical Value	0.874	Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2302	95% H-UCL	2544
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2995
95% Adjusted-CLT UCL (Chen-1995)	2417	97.5% Chebyshev (MVUE) UCL	3543
95% Modified-t UCL (Johnson-1978)	2326	99% Chebyshev (MVUE) UCL	4619
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.386	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	731.8		
MLE of Mean	1746		
MLE of Standard Deviation	1130		
nu star	66.82		
Approximate Chi Square Value (.05)	49.01	Nonparametric Statistics	
Adjusted Level of Significance	0.0312	95% CLT UCL	2262
Adjusted Chi Square Value	46.99	95% Jackknife UCL	2302
		95% Standard Bootstrap UCL	2229
Anderson-Darling Test Statistic	0.411	95% Bootstrap-t UCL	2566
Anderson-Darling 5% Critical Value	0.743	95% Hall's Bootstrap UCL	3235
Kolmogorov-Smirnov Test Statistic	0.16	95% Percentile Bootstrap UCL	2264
Kolmogorov-Smirnov 5% Critical Value	0.231	95% BCA Bootstrap UCL	2406
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3114
		97.5% Chebyshev(Mean, Sd) UCL	3705
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4867
95% Approximate Gamma UCL (Use when n >= 40)	2381		
95% Adjusted Gamma UCL (Use when n < 40)	2483		
Potential UCL to Use		Use 95% Approximate Gamma UCL	2381

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Heptachlor epoxide (µg/kg, wet weight)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	11.34	Minimum of Log Data	2.428
Maximum	30	Maximum of Log Data	3.401
Mean	18.6	Mean of log Data	2.859
Geometric Mean	17.44	SD of log Data	0.398
Median	19.4		
SD	7.512		
Std. Error of Mean	3.359		
Coefficient of Variation	0.404		
Skewness	0.833		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.903	Shapiro Wilk Test Statistic	0.922
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25.76	95% H-UCL	32
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	32.92
95% Adjusted-CLT UCL (Chen-1995)	25.46	97.5% Chebyshev (MVUE) UCL	39.13
95% Modified-t UCL (Johnson-1978)	25.97	99% Chebyshev (MVUE) UCL	51.33

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.329	Data appear Normal at 5% Significance Level	
Theta Star	5.587		
MLE of Mean	18.6		
MLE of Standard Deviation	10.19		
nu star	33.29		
Approximate Chi Square Value (.05)	21.09	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	24.12
Adjusted Chi Square Value	16.99	95% Jackknife UCL	25.76
		95% Standard Bootstrap UCL	23.55
Anderson-Darling Test Statistic	0.339	95% Bootstrap-t UCL	29.08
Anderson-Darling 5% Critical Value	0.68	95% Hall's Bootstrap UCL	25.69
Kolmogorov-Smirnov Test Statistic	0.237	95% Percentile Bootstrap UCL	24.15
Kolmogorov-Smirnov 5% Critical Value	0.358	95% BCA Bootstrap UCL	24
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	33.24
		97.5% Chebyshev(Mean, Sd) UCL	39.58
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	52.02
95% Approximate Gamma UCL (Use when n >= 40)	29.34		
95% Adjusted Gamma UCL (Use when n < 40)	36.44		

Potential UCL to Use	Use 95% Student's-t UCL	25.76

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aluminum (mg/kg)

General Statistics

Number of Valid Data	5	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	3
		Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3.1	Minimum Detected	1.131
Maximum Detected	4.6	Maximum Detected	1.526
Mean of Detected	3.85	Mean of Detected	1.329
SD of Detected	1.061	SD of Detected	0.279
Minimum Non-Detect	2.52	Minimum Non-Detect	0.924
Maximum Non-Detect	3.5	Maximum Non-Detect	1.253

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	80.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.422	Mean	0.757
SD	1.419	SD	0.553
95% DL/2 (t) UCL	3.774	95% H-Stat (DL/2) UCL	5.892

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	3.4
5% K-S Critical Value	N/A	SD	0.6
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.379
		95% KM (t) UCL	4.209
Assuming Gamma Distribution		95% KM (z) UCL	4.024
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.669
Minimum	N/A	95% KM (bootstrap t) UCL	3.4
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	4.6
Median	N/A	95% KM (Chebyshev) UCL	5.054
SD	N/A	97.5% KM (Chebyshev) UCL	5.77
k star	N/A	99% KM (Chebyshev) UCL	7.176
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	4.209
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	4.6
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Mercury (mg/kg, wet weight)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	0.04	Minimum of Log Data	-3.219
Maximum	0.11	Maximum of Log Data	-2.207
Mean	0.068	Mean of log Data	-2.752
Geometric Mean	0.0638	SD of log Data	0.397
Median	0.06		
SD	0.0277		
Std. Error of Mean	0.0124		
Coefficient of Variation	0.408		
Skewness	0.927		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.938	Shapiro Wilk Test Statistic	0.981
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0945	95% H-UCL	0.117
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.12
95% Adjusted-CLT UCL (Chen-1995)	0.0939	97.5% Chebyshev (MVUE) UCL	0.143
95% Modified-t UCL (Johnson-1978)	0.0953	99% Chebyshev (MVUE) UCL	0.187

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.326	Data appear Normal at 5% Significance Level	
Theta Star	0.0204		
MLE of Mean	0.068		
MLE of Standard Deviation	0.0373		
nu star	33.26		
Approximate Chi Square Value (.05)	21.07	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	0.0884
Adjusted Chi Square Value	16.97	95% Jackknife UCL	0.0945
		95% Standard Bootstrap UCL	0.0865
Anderson-Darling Test Statistic	0.214	95% Bootstrap-t UCL	0.118
Anderson-Darling 5% Critical Value	0.68	95% Hall's Bootstrap UCL	0.227
Kolmogorov-Smirnov Test Statistic	0.19	95% Percentile Bootstrap UCL	0.088
Kolmogorov-Smirnov 5% Critical Value	0.358	95% BCA Bootstrap UCL	0.088
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.122
		97.5% Chebyshev(Mean, Sd) UCL	0.145
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.191
95% Approximate Gamma UCL (Use when n >= 40)	0.107		
95% Adjusted Gamma UCL (Use when n < 40)	0.133		

Potential UCL to Use	Use 95% Student's-t UCL	0.0945

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Selenium (mg/kg, wet weight)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	0.36	Minimum of Log Data	-1.022
Maximum	0.57	Maximum of Log Data	-0.562
Mean	0.502	Mean of log Data	-0.702
Geometric Mean	0.496	SD of log Data	0.185
Median	0.53		
SD	0.0835		
Std. Error of Mean	0.0373		
Coefficient of Variation	0.166		
Skewness	-1.73		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.825	Shapiro Wilk Test Statistic	0.786
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.582	95% H-UCL	0.616
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.684
95% Adjusted-CLT UCL (Chen-1995)	0.533	97.5% Chebyshev (MVUE) UCL	0.762
95% Modified-t UCL (Johnson-1978)	0.577	99% Chebyshev (MVUE) UCL	0.916

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	15.86	Data appear Normal at 5% Significance Level	
Theta Star	0.0317		
MLE of Mean	0.502		
MLE of Standard Deviation	0.126		
nu star	158.6		
Approximate Chi Square Value (.05)	130.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	0.563
Adjusted Chi Square Value	119.3	95% Jackknife UCL	0.582
		95% Standard Bootstrap UCL	0.556
Anderson-Darling Test Statistic	0.604	95% Bootstrap-t UCL	0.555
Anderson-Darling 5% Critical Value	0.678	95% Hall's Bootstrap UCL	0.537
Kolmogorov-Smirnov Test Statistic	0.311	95% Percentile Bootstrap UCL	0.55
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL	0.542
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.665
		97.5% Chebyshev(Mean, Sd) UCL	0.735
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.873
95% Approximate Gamma UCL (Use when n >= 40)	0.61		
95% Adjusted Gamma UCL (Use when n < 40)	0.667		

Potential UCL to Use		Use 95% Student's-t UCL	0.582
Recommended UCL exceeds the maximum observation			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	13	Number of Distinct Observations	13
Raw Statistics		Log-transformed Statistics	
Minimum	500	Minimum of Log Data	6.215
Maximum	5330	Maximum of Log Data	8.581
Mean	2214	Mean of log Data	7.402
Geometric Mean	1639	SD of log Data	0.837
Median	2010		
SD	1700		
Std. Error of Mean	471.4		
Coefficient of Variation	0.768		
Skewness	0.833		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.864	Shapiro Wilk Test Statistic	0.929
Shapiro Wilk Critical Value	0.866	Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	3054	95% H-UCL	4334
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4661
95% Adjusted-CLT UCL (Chen-1995)	3106	97.5% Chebyshev (MVUE) UCL	5705
95% Modified-t UCL (Johnson-1978)	3072	99% Chebyshev (MVUE) UCL	7756
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.445	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1532		
MLE of Mean	2214		
MLE of Standard Deviation	1842		
nu star	37.57		
Approximate Chi Square Value (.05)	24.53	Nonparametric Statistics	
Adjusted Level of Significance	0.0301	95% CLT UCL	2989
Adjusted Chi Square Value	23.04	95% Jackknife UCL	3054
		95% Standard Bootstrap UCL	2955
Anderson-Darling Test Statistic	0.383	95% Bootstrap-t UCL	3194
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL	2977
Kolmogorov-Smirnov Test Statistic	0.158	95% Percentile Bootstrap UCL	2988
Kolmogorov-Smirnov 5% Critical Value	0.24	95% BCA Bootstrap UCL	3051
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	4269
		97.5% Chebyshev(Mean, Sd) UCL	5158
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	6905
95% Approximate Gamma UCL (Use when n >= 40)	3390		
95% Adjusted Gamma UCL (Use when n < 40)	3610		
Potential UCL to Use		Use 95% Approximate Gamma UCL	3390

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	57.2	Minimum of Log Data	4.047
Maximum	245.9	Maximum of Log Data	5.505
Mean	164.1	Mean of log Data	4.999
Geometric Mean	148.2	SD of log Data	0.558
Median	171.1		
SD	68.56		
Std. Error of Mean	30.66		
Coefficient of Variation	0.418		
Skewness	-0.85		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.938	Shapiro Wilk Test Statistic	0.823
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	229.4	95% H-UCL	415.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	347.4
95% Adjusted-CLT UCL (Chen-1995)	202	97.5% Chebyshev (MVUE) UCL	425.3
95% Modified-t UCL (Johnson-1978)	227.5	99% Chebyshev (MVUE) UCL	578.3

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.165	Data appear Normal at 5% Significance Level	
Theta Star	75.76		
MLE of Mean	164.1		
MLE of Standard Deviation	111.5		
nu star	21.65		
Approximate Chi Square Value (.05)	12.08	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	214.5
Adjusted Chi Square Value	9.115	95% Jackknife UCL	229.4
		95% Standard Bootstrap UCL	209.2
Anderson-Darling Test Statistic	0.485	95% Bootstrap-t UCL	211
Anderson-Darling 5% Critical Value	0.681	95% Hall's Bootstrap UCL	204.7
Kolmogorov-Smirnov Test Statistic	0.324	95% Percentile Bootstrap UCL	205.3
Kolmogorov-Smirnov 5% Critical Value	0.358	95% BCA Bootstrap UCL	201.8
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	297.7
		97.5% Chebyshev(Mean, Sd) UCL	355.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	469.1
95% Approximate Gamma UCL (Use when n >= 40)	294.1		
95% Adjusted Gamma UCL (Use when n < 40)	389.8		

Potential UCL to Use	Use 95% Student's-t UCL	229.4

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

4,4'-DDE (µg/kg, wet weight)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	4

Raw Statistics		Log-transformed Statistics	
Minimum	4	Minimum of Log Data	1.386
Maximum	20	Maximum of Log Data	2.996
Mean	10.2	Mean of log Data	2.187
Geometric Mean	8.905	SD of log Data	0.587
Median	10		
SD	6.017		
Std. Error of Mean	2.691		
Coefficient of Variation	0.59		
Skewness	1.282		

Warning: There are only 4 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.891	Shapiro Wilk Test Statistic	0.968
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	15.94	95% H-UCL	27.42
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	21.71
95% Adjusted-CLT UCL (Chen-1995)	16.27	97.5% Chebyshev (MVUE) UCL	26.7
95% Modified-t UCL (Johnson-1978)	16.19	99% Chebyshev (MVUE) UCL	36.49

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.67	Data appear Normal at 5% Significance Level	
Theta Star	6.108		
MLE of Mean	10.2		
MLE of Standard Deviation	7.893		
nu star	16.7		
Approximate Chi Square Value (.05)	8.458	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	14.63
Adjusted Chi Square Value	6.067	95% Jackknife UCL	15.94
		95% Standard Bootstrap UCL	14.23
Anderson-Darling Test Statistic	0.279	95% Bootstrap-t UCL	19.31
Anderson-Darling 5% Critical Value	0.681	95% Hall's Bootstrap UCL	36.5
Kolmogorov-Smirnov Test Statistic	0.247	95% Percentile Bootstrap UCL	14.8
Kolmogorov-Smirnov 5% Critical Value	0.359	95% BCA Bootstrap UCL	14.8
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	21.93
		97.5% Chebyshev(Mean, Sd) UCL	27
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	36.97
95% Approximate Gamma UCL (Use when n >= 40)	20.14		
95% Adjusted Gamma UCL (Use when n < 40)	28.08		

Potential UCL to Use	Use 95% Student's-t UCL	15.94

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	9
Raw Statistics		Log-transformed Statistics	
Minimum	65.5	Minimum of Log Data	4.182
Maximum	1300	Maximum of Log Data	7.17
Mean	296.2	Mean of log Data	5.247
Geometric Mean	190	SD of log Data	0.905
Median	175.5		
SD	372.8		
Std. Error of Mean	117.9		
Coefficient of Variation	1.259		
Skewness	2.624		

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.622	Shapiro Wilk Test Statistic	0.91
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	512.2	95% H-UCL	689
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	625.2
95% Adjusted-CLT UCL (Chen-1995)	594.6	97.5% Chebyshev (MVUE) UCL	778.2
95% Modified-t UCL (Johnson-1978)	528.5	99% Chebyshev (MVUE) UCL	1079
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.954	Data appear Lognormal at 5% Significance Level	
Theta Star	310.5		
MLE of Mean	296.2		
MLE of Standard Deviation	303.2		
nu star	19.08		
Approximate Chi Square Value (.05)	10.17	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	490
Adjusted Chi Square Value	9.065	95% Jackknife UCL	512.2
		95% Standard Bootstrap UCL	480
Anderson-Darling Test Statistic	0.753	95% Bootstrap-t UCL	1222
Anderson-Darling 5% Critical Value	0.743	95% Hall's Bootstrap UCL	1538
Kolmogorov-Smirnov Test Statistic	0.305	95% Percentile Bootstrap UCL	519.1
Kolmogorov-Smirnov 5% Critical Value	0.272	95% BCA Bootstrap UCL	624.5
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	810
		97.5% Chebyshev(Mean, Sd) UCL	1032
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1469
95% Approximate Gamma UCL (Use when n >= 40)	555.3		
95% Adjusted Gamma UCL (Use when n < 40)	623.3		
Potential UCL to Use		Use 95% H-UCL	689

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury (mg/kg, wet weight)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	0.0571	Minimum of Log Data	-2.864
Maximum	0.24	Maximum of Log Data	-1.427
Mean	0.133	Mean of log Data	-2.236
Geometric Mean	0.107	SD of log Data	0.735
Median	0.0748		
SD	0.0954		
Std. Error of Mean	0.0427		
Coefficient of Variation	0.718		
Skewness	0.587		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.739	Shapiro Wilk Test Statistic	0.771
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.224	95% H-UCL	0.566
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.316
95% Adjusted-CLT UCL (Chen-1995)	0.215	97.5% Chebyshev (MVUE) UCL	0.396
95% Modified-t UCL (Johnson-1978)	0.226	99% Chebyshev (MVUE) UCL	0.553

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.115	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.119		
MLE of Mean	0.133		
MLE of Standard Deviation	0.126		
nu star	11.15		
Approximate Chi Square Value (.05)	4.673	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	0.203
Adjusted Chi Square Value	3.026	95% Jackknife UCL	0.224
		95% Standard Bootstrap UCL	0.196
Anderson-Darling Test Statistic	0.72	95% Bootstrap-t UCL	0.828
Anderson-Darling 5% Critical Value	0.684	95% Hall's Bootstrap UCL	0.823
Kolmogorov-Smirnov Test Statistic	0.325	95% Percentile Bootstrap UCL	0.201
Kolmogorov-Smirnov 5% Critical Value	0.36	95% BCA Bootstrap UCL	0.202
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.319
		97.5% Chebyshev(Mean, Sd) UCL	0.399
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.557
95% Approximate Gamma UCL (Use when n >= 40)	0.317		
95% Adjusted Gamma UCL (Use when n < 40)	0.489		

Potential UCL to Use	Use 95% Approximate Gamma UCL	0.317
Recommended UCL exceeds the maximum observation		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

4,4'-DDE (µg/kg, wet weight)

General Statistics			
Number of Valid Data	20	Number of Detected Data	16
Number of Distinct Detected Data	5	Number of Non-Detect Data	4
		Percent Non-Detects	20.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	10	Minimum Detected	2.303
Maximum Detected	150	Maximum Detected	5.011
Mean of Detected	38.75	Mean of Detected	3.244
SD of Detected	44.7	SD of Detected	0.869
Minimum Non-Detect	3.68	Minimum Non-Detect	1.303
Maximum Non-Detect	4.06	Maximum Non-Detect	1.401
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	16
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	20.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.605	Shapiro Wilk Test Statistic	0.85
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	31.38	Mean	2.726
SD	42.5	SD	1.315
95% DL/2 (t) UCL	47.82	95% H-Stat (DL/2) UCL	92.84
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	25.47	Mean in Log Scale	2.859
SD	48.31	SD in Log Scale	1.104
95% MLE (t) UCL	44.15	Mean in Original Scale	31.75
95% MLE (Tiku) UCL	43.97	SD in Original Scale	42.24
		95% t UCL	48.08
		95% Percentile Bootstrap UCL	48.06
		95% BCA Bootstrap UCL	52.87
		95% H UCL	65.08
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.142	Data do not follow a Discernable Distribution (0.05)	
Theta Star	33.95		
nu star	36.53		
A-D Test Statistic	1.324	Nonparametric Statistics	
5% A-D Critical Value	0.757	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.757	Mean	33
5% K-S Critical Value	0.22	SD	40.39
Data not Gamma Distributed at 5% Significance Level		SE of Mean	9.327
		95% KM (t) UCL	49.13
Assuming Gamma Distribution		95% KM (z) UCL	48.34
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	49.02
Minimum	0.000001	95% KM (bootstrap t) UCL	86.55
Maximum	150	95% KM (BCA) UCL	49
Mean	31	95% KM (Percentile Bootstrap) UCL	49.5
Median	20	95% KM (Chebyshev) UCL	73.65
SD	42.78	97.5% KM (Chebyshev) UCL	91.24
k star	0.207	99% KM (Chebyshev) UCL	125.8
Theta star	150.1		
Nu star	8.26	Potential UCLs to Use	
AppChi2	2.887	95% KM (BCA) UCL	49
95% Gamma Approximate UCL (Use when n >= 40)	88.71		
95% Adjusted Gamma UCL (Use when n < 40)	96.96		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

alpha-Chlordane (µg/kg, wet weight)

General Statistics

Number of Valid Data	20	Number of Detected Data	11
Number of Distinct Detected Data	7	Number of Non-Detect Data	9
		Percent Non-Detects	45.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	20	Minimum Detected	2.996
Maximum Detected	120	Maximum Detected	4.787
Mean of Detected	48.18	Mean of Detected	3.666
SD of Detected	33.71	SD of Detected	0.669
Minimum Non-Detect	3.78	Minimum Non-Detect	1.33
Maximum Non-Detect	4.06	Maximum Non-Detect	1.401

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	45.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.839	Shapiro Wilk Test Statistic	0.874
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	27.37	Mean	2.313
SD	33.99	SD	1.61
95% DL/2 (t) UCL	40.51	95% H-Stat (DL/2) UCL	140.3

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	10.79	Mean in Log Scale	2.868
SD	51.8	SD in Log Scale	1.039
95% MLE (t) UCL	30.81	Mean in Original Scale	29.57
95% MLE (Tiku) UCL	34.28	SD in Original Scale	32.33
		95% t UCL	42.06
		95% Percentile Bootstrap UCL	41.89
		95% BCA Bootstrap UCL	44.88
		95% H UCL	57.39

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.914	Data appear Gamma Distributed at 5% Significance Level
Theta Star	25.17	
nu star	42.11	

A-D Test Statistic	0.617	Nonparametric Statistics	
5% A-D Critical Value	0.736	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.736	Mean	35.5
5% K-S Critical Value	0.258	SD	27.65
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	6.485
		95% KM (t) UCL	46.71
Assuming Gamma Distribution		95% KM (z) UCL	46.17
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	46.47
Minimum	0.000001	95% KM (bootstrap t) UCL	52.8
Maximum	120	95% KM (BCA) UCL	45
Mean	26.5	95% KM (Percentile Bootstrap) UCL	46
Median	20	95% KM (Chebyshev) UCL	63.77
SD	34.68	97.5% KM (Chebyshev) UCL	76
k star	0.125	99% KM (Chebyshev) UCL	100
Theta star	212.4		
Nu star	4.992	Potential UCLs to Use	
AppChi2	1.148	95% KM (t) UCL	46.71
95% Gamma Approximate UCL (Use when n >= 40)	115.2		
95% Adjusted Gamma UCL (Use when n < 40)	130.7		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	20	Number of Distinct Observations	17
Raw Statistics		Log-transformed Statistics	
Minimum	120	Minimum of Log Data	4.787
Maximum	42000	Maximum of Log Data	10.65
Mean	7410	Mean of log Data	7.79
Geometric Mean	2415	SD of log Data	1.601
Median	1600		
SD	11288		
Std. Error of Mean	2524		
Coefficient of Variation	1.523		
Skewness	1.991		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.667	Shapiro Wilk Test Statistic	0.913
Shapiro Wilk Critical Value	0.905	Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	11774	95% H-UCL	32632
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	22115
95% Adjusted-CLT UCL (Chen-1995)	12762	97.5% Chebyshev (MVUE) UCL	28365
95% Modified-t UCL (Johnson-1978)	11961	99% Chebyshev (MVUE) UCL	40643
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.507	Data appear Lognormal at 5% Significance Level	
Theta Star	14612		
MLE of Mean	7410		
MLE of Standard Deviation	10405		
nu star	20.28		
Approximate Chi Square Value (.05)	11.06	Nonparametric Statistics	
Adjusted Level of Significance	0.038	95% CLT UCL	11561
Adjusted Chi Square Value	10.52	95% Jackknife UCL	11774
		95% Standard Bootstrap UCL	11513
Anderson-Darling Test Statistic	1.495	95% Bootstrap-t UCL	14348
Anderson-Darling 5% Critical Value	0.797	95% Hall's Bootstrap UCL	14039
Kolmogorov-Smirnov Test Statistic	0.302	95% Percentile Bootstrap UCL	11731
Kolmogorov-Smirnov 5% Critical Value	0.204	95% BCA Bootstrap UCL	12946
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	18412
		97.5% Chebyshev(Mean, Sd) UCL	23172
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	32523
95% Approximate Gamma UCL (Use when n >= 40)	13588		
95% Adjusted Gamma UCL (Use when n < 40)	14281		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	18412

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aluminum (mg/kg, wet weight)

General Statistics			
Number of Valid Observations	20	Number of Distinct Observations	19
Raw Statistics		Log-transformed Statistics	
Minimum	3.294	Minimum of Log Data	1.192
Maximum	250	Maximum of Log Data	5.521
Mean	20.91	Mean of log Data	2.159
Geometric Mean	8.666	SD of log Data	0.999
Median	6.27		
SD	54.26		
Std. Error of Mean	12.13		
Coefficient of Variation	2.595		
Skewness	4.383		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.322	Shapiro Wilk Test Statistic	0.797
Shapiro Wilk Critical Value	0.905	Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	41.89	95% H-UCL	26.11
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	28.8
95% Adjusted-CLT UCL (Chen-1995)	53.57	97.5% Chebyshev (MVUE) UCL	35.3
95% Modified-t UCL (Johnson-1978)	43.87	99% Chebyshev (MVUE) UCL	48.07
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.618	Data do not follow a Discernable Distribution (0.05)	
Theta Star	33.84		
MLE of Mean	20.91		
MLE of Standard Deviation	26.6		
nu star	24.72		
Approximate Chi Square Value (.05)	14.39	Nonparametric Statistics	
Adjusted Level of Significance	0.038	95% CLT UCL	40.87
Adjusted Chi Square Value	13.77	95% Jackknife UCL	41.89
		95% Standard Bootstrap UCL	39.81
Anderson-Darling Test Statistic	2.908	95% Bootstrap-t UCL	177.2
Anderson-Darling 5% Critical Value	0.785	95% Hall's Bootstrap UCL	117.5
Kolmogorov-Smirnov Test Statistic	0.27	95% Percentile Bootstrap UCL	44.57
Kolmogorov-Smirnov 5% Critical Value	0.202	95% BCA Bootstrap UCL	58.05
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	73.79
		97.5% Chebyshev(Mean, Sd) UCL	96.68
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	141.6
95% Approximate Gamma UCL (Use when n >= 40)	35.91		
95% Adjusted Gamma UCL (Use when n < 40)	37.53		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	73.79

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper (mg/kg, wet weight)

General Statistics			
Number of Valid Observations	20	Number of Distinct Observations	20
Raw Statistics		Log-transformed Statistics	
Minimum	0.38	Minimum of Log Data	-0.968
Maximum	9.1	Maximum of Log Data	2.208
Mean	1.186	Mean of log Data	-0.242
Geometric Mean	0.785	SD of log Data	0.728
Median	0.631		
SD	1.907		
Std. Error of Mean	0.426		
Coefficient of Variation	1.608		
Skewness	4.152		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.401	Shapiro Wilk Test Statistic	0.787
Shapiro Wilk Critical Value	0.905	Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.923	95% H-UCL	1.493
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.771
95% Adjusted-CLT UCL (Chen-1995)	2.31	97.5% Chebyshev (MVUE) UCL	2.102
95% Modified-t UCL (Johnson-1978)	1.989	99% Chebyshev (MVUE) UCL	2.752
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.183	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.002		
MLE of Mean	1.186		
MLE of Standard Deviation	1.09		
nu star	47.33		
Approximate Chi Square Value (.05)	32.54	Nonparametric Statistics	
Adjusted Level of Significance	0.038	95% CLT UCL	1.887
Adjusted Chi Square Value	31.57	95% Jackknife UCL	1.923
		95% Standard Bootstrap UCL	1.863
Anderson-Darling Test Statistic	2.446	95% Bootstrap-t UCL	4.21
Anderson-Darling 5% Critical Value	0.761	95% Hall's Bootstrap UCL	4.203
Kolmogorov-Smirnov Test Statistic	0.262	95% Percentile Bootstrap UCL	1.992
Kolmogorov-Smirnov 5% Critical Value	0.198	95% BCA Bootstrap UCL	2.573
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.045
		97.5% Chebyshev(Mean, Sd) UCL	3.849
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.429
95% Approximate Gamma UCL (Use when n >= 40)	1.725		
95% Adjusted Gamma UCL (Use when n < 40)	1.778		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	3.045

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury (mg/kg, wet weight)

General Statistics

Number of Valid Data	20	Number of Detected Data	19
Number of Distinct Detected Data	19	Number of Non-Detect Data	1
		Percent Non-Detects	5.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.03	Minimum Detected	-3.507
Maximum Detected	0.096	Maximum Detected	-2.343
Mean of Detected	0.0571	Mean of Detected	-2.924
SD of Detected	0.0205	SD of Detected	0.357
Minimum Non-Detect	0.0286	Minimum Non-Detect	-3.554
Maximum Non-Detect	0.0286	Maximum Non-Detect	-3.554

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.92	Shapiro Wilk Test Statistic	0.953
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.055	Mean	-2.99
SD	0.0221	SD	0.457
95% DL/2 (t) UCL	0.0635	95% H-Stat (DL/2) UCL	0.0687

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0552	Mean in Log Scale	-2.968
SD	0.0213	SD in Log Scale	0.4
95% MLE (t) UCL	0.0634	Mean in Original Scale	0.0553
95% MLE (Tiku) UCL	0.0632	SD in Original Scale	0.0214
		95% t UCL	0.0636
		95% Percentile Bootstrap UCL	0.0634
		95% BCA Bootstrap UCL	0.0639
		95% H UCL	0.0665

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	7.14	Data appear Normal at 5% Significance Level
Theta Star	0.008	
nu star	271.3	

		Nonparametric Statistics	
A-D Test Statistic	0.402		
5% A-D Critical Value	0.742	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.742	Mean	0.0557
5% K-S Critical Value	0.199	SD	0.0203
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00467
		95% KM (t) UCL	0.0638
Assuming Gamma Distribution		95% KM (z) UCL	0.0634
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0637
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0645
Maximum	0.096	95% KM (BCA) UCL	0.0643
Mean	0.0542	95% KM (Percentile Bootstrap) UCL	0.0635
Median	0.0546	95% KM (Chebyshev) UCL	0.0761
SD	0.0237	97.5% KM (Chebyshev) UCL	0.0849
k star	0.916	99% KM (Chebyshev) UCL	0.102
Theta star	0.0592		
Nu star	36.62	Potential UCLs to Use	
AppChi2	23.77	95% KM (t) UCL	0.0638
95% Gamma Approximate UCL (Use when n >= 40)	0.0836	95% KM (Percentile Bootstrap) UCL	0.0635
95% Adjusted Gamma UCL (Use when n < 40)	0.0865		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Selenium (mg/kg, wet weight)

General Statistics

Number of Valid Data	20	Number of Detected Data	19
Number of Distinct Detected Data	19	Number of Non-Detect Data	1
		Percent Non-Detects	5.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.177	Minimum Detected	-1.734
Maximum Detected	0.595	Maximum Detected	-0.52
Mean of Detected	0.376	Mean of Detected	-1.048
SD of Detected	0.14	SD of Detected	0.389
Minimum Non-Detect	0.119	Minimum Non-Detect	-2.129
Maximum Non-Detect	0.119	Maximum Non-Detect	-2.129

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.919	Shapiro Wilk Test Statistic	0.937
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.36	Mean	-1.136
SD	0.153	SD	0.548
95% DL/2 (t) UCL	0.419	95% H-Stat (DL/2) UCL	0.484

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.36	Mean in Log Scale	-1.095
SD	0.15	SD in Log Scale	0.434
95% MLE (t) UCL	0.418	Mean in Original Scale	0.364
95% MLE (Tiku) UCL	0.418	SD in Original Scale	0.146
		95% t UCL	0.42
		95% Percentile Bootstrap UCL	0.414
		95% BCA Bootstrap UCL	0.416
		95% H UCL	0.447

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	6.266	Data appear Normal at 5% Significance Level
Theta Star	0.06	
nu star	238.1	

		Nonparametric Statistics	
A-D Test Statistic	0.434		
5% A-D Critical Value	0.742	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.742	Mean	0.366
5% K-S Critical Value	0.199	SD	0.139
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.032
		95% KM (t) UCL	0.421
Assuming Gamma Distribution		95% KM (z) UCL	0.419
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.421
Minimum	0.000001	95% KM (bootstrap t) UCL	0.424
Maximum	0.595	95% KM (BCA) UCL	0.418
Mean	0.357	95% KM (Percentile Bootstrap) UCL	0.417
Median	0.338	95% KM (Chebyshev) UCL	0.505
SD	0.16	97.5% KM (Chebyshev) UCL	0.566
k star	0.791	99% KM (Chebyshev) UCL	0.684
Theta star	0.451		
Nu star	31.66	Potential UCLs to Use	
AppChi2	19.8	95% KM (t) UCL	0.421
95% Gamma Approximate UCL (Use when n >= 40)	0.571	95% KM (Percentile Bootstrap) UCL	0.417
95% Adjusted Gamma UCL (Use when n < 40)	0.593		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

44DDE

General Statistics

Number of Valid Data	8	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	5
		Percent Non-Detects	62.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	44	Minimum Detected	3.784
Maximum Detected	310	Maximum Detected	5.737
Mean of Detected	145.2	Mean of Detected	4.641
SD of Detected	143.9	SD of Detected	0.998
Minimum Non-Detect	3.6	Minimum Non-Detect	1.281
Maximum Non-Detect	3.96	Maximum Non-Detect	1.376

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	5
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	62.50%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.854	Shapiro Wilk Test Statistic	0.957
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	55.65	Mean	2.141
SD	106.9	SD	2.138
95% DL/2 (t) UCL	127.2	95% H-Stat (DL/2) UCL	16364

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	2.276
		SD in Log Scale	2.03
		Mean in Original Scale	55.93
		SD in Original Scale	106.7
		95% t UCL	127.4
		95% Percentile Bootstrap UCL	127.6
		95% BCA Bootstrap UCL	137.6
		95% H-UCL	9043

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A	Kaplan-Meier (KM) Method	
5% A-D Critical Value	N/A		
K-S Test Statistic	N/A	Mean	81.96
5% K-S Critical Value	N/A	SD	87.07
Data not Gamma Distributed at 5% Significance Level		SE of Mean	37.7
		95% KM (t) UCL	153.4
Assuming Gamma Distribution		95% KM (z) UCL	144
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	140.8
Minimum	N/A	95% KM (bootstrap t) UCL	254.6
Maximum	N/A	95% KM (BCA) UCL	310
Mean	N/A	95% KM (Percentile Bootstrap) UCL	310
Median	N/A	95% KM (Chebyshev) UCL	246.3
SD	N/A	97.5% KM (Chebyshev) UCL	317.4
k star	N/A	99% KM (Chebyshev) UCL	457.1
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	153.4
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	310
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	19	Number of Distinct Observations	19
Raw Statistics		Log-transformed Statistics	
Minimum	817	Minimum of Log Data	6.706
Maximum	26000	Maximum of Log Data	10.17
Mean	8045	Mean of log Data	8.623
Geometric Mean	5556	SD of log Data	0.941
Median	5600		
SD	6691		
Std. Error of Mean	1535		
Coefficient of Variation	0.832		
Skewness	1.171		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.88	Shapiro Wilk Test Statistic	0.963
Shapiro Wilk Critical Value	0.901	Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	10707	95% H-UCL	15164
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	17101
95% Adjusted-CLT UCL (Chen-1995)	11010	97.5% Chebyshev (MVUE) UCL	20874
95% Modified-t UCL (Johnson-1978)	10775	99% Chebyshev (MVUE) UCL	28284
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.295	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	6214		
MLE of Mean	8045		
MLE of Standard Deviation	7070		
nu star	49.2		
Approximate Chi Square Value (.05)	34.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0369	95% CLT UCL	10570
Adjusted Chi Square Value	33	95% Jackknife UCL	10707
		95% Standard Bootstrap UCL	10438
Anderson-Darling Test Statistic	0.359	95% Bootstrap-t UCL	11633
Anderson-Darling 5% Critical Value	0.757	95% Hall's Bootstrap UCL	11593
Kolmogorov-Smirnov Test Statistic	0.141	95% Percentile Bootstrap UCL	10729
Kolmogorov-Smirnov 5% Critical Value	0.202	95% BCA Bootstrap UCL	10959
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	14736
		97.5% Chebyshev(Mean, Sd) UCL	17631
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23317
95% Approximate Gamma UCL (Use when n >= 40)	11608		
95% Adjusted Gamma UCL (Use when n < 40)	11995		
Potential UCL to Use		Use 95% Approximate Gamma UCL	11608

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Heptachlor epoxide (µg/kg, wet weight)

General Statistics

Number of Valid Data	8	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	3
		Percent Non-Detects	37.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	22.8	Minimum Detected	3.127
Maximum Detected	110	Maximum Detected	4.7
Mean of Detected	59.56	Mean of Detected	3.905
SD of Detected	37.55	SD of Detected	0.697
Minimum Non-Detect	3.78	Minimum Non-Detect	1.33
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	37.50%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.918	Shapiro Wilk Test Statistic	0.908
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	37.95	Mean	2.688
SD	41.17	SD	1.76
95% DL/2 (t) UCL	65.53	95% H-Stat (DL/2) UCL	2611

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	24.68	Mean in Log Scale	3.199
SD	55.37	SD in Log Scale	1.107
95% MLE (t) UCL	61.77	Mean in Original Scale	40.06
95% MLE (Tiku) UCL	66	SD in Original Scale	39.11
		95% t UCL	66.26
		95% Percentile Bootstrap UCL	63.77
		95% BCA Bootstrap UCL	67.18
		95% H UCL	212.4

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.293	Data appear Normal at 5% Significance Level
Theta Star	46.07	
nu star	12.93	

		Nonparametric Statistics	
A-D Test Statistic	0.325		
5% A-D Critical Value	0.683	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.683	Mean	45.78
5% K-S Critical Value	0.36	SD	31.96
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	12.63
		95% KM (t) UCL	69.71
Assuming Gamma Distribution		95% KM (z) UCL	66.56
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	68.18
Minimum	0.000001	95% KM (bootstrap t) UCL	77.66
Maximum	110	95% KM (BCA) UCL	84
Mean	37.23	95% KM (Percentile Bootstrap) UCL	72.75
Median	24.4	95% KM (Chebyshev) UCL	100.8
SD	41.9	97.5% KM (Chebyshev) UCL	124.7
k star	0.161	99% KM (Chebyshev) UCL	171.5
Theta star	231.3		
Nu star	2.575	Potential UCLs to Use	
AppChi2	0.259	95% KM (t) UCL	69.71
95% Gamma Approximate UCL (Use when n >= 40)	370.8	95% KM (Percentile Bootstrap) UCL	72.75
95% Adjusted Gamma UCL (Use when n < 40)	636.7		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum (mg/kg, wet weight)

General Statistics

Number of Valid Data	8	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	2
		Percent Non-Detects	25.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.6	Minimum Detected	0.956
Maximum Detected	21	Maximum Detected	3.045
Mean of Detected	7.15	Mean of Detected	1.687
SD of Detected	6.96	SD of Detected	0.752
Minimum Non-Detect	2.52	Minimum Non-Detect	0.924
Maximum Non-Detect	3.4	Maximum Non-Detect	1.224

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	50.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.697	Shapiro Wilk Test Statistic	0.89
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.733	Mean	1.36
SD	6.442	SD	0.881
95% DL/2 (t) UCL	10.05	95% H-Stat (DL/2) UCL	16.33

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.431	Mean in Log Scale	1.345
SD	9.336	SD in Log Scale	0.917
95% MLE (t) UCL	8.685	Mean in Original Scale	5.728
95% MLE (Tiku) UCL	10.18	SD in Original Scale	6.45
		95% t UCL	10.05
		95% Percentile Bootstrap UCL	9.808
		95% BCA Bootstrap UCL	11.8
		95% H UCL	17.87

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.077	Data appear Gamma Distributed at 5% Significance Level
Theta Star	6.636	
nu star	12.93	

		Nonparametric Statistics	
A-D Test Statistic	0.564		
5% A-D Critical Value	0.705	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.705	Mean	6.038
5% K-S Critical Value	0.336	SD	5.831
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.259
		95% KM (t) UCL	10.32
Assuming Gamma Distribution		95% KM (z) UCL	9.753
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	10.16
Minimum	0.000001	95% KM (bootstrap t) UCL	22.18

Maximum	21	95% KM (BCA) UCL	10.35
Mean	5.363	95% KM (Percentile Bootstrap) UCL	10.01
Median	3.5	95% KM (Chebyshev) UCL	15.88
SD	6.749	97.5% KM (Chebyshev) UCL	20.14
k star	0.203	99% KM (Chebyshev) UCL	28.51
Theta star	26.41		
Nu star	3.249	Potential UCLs to Use	
AppChi2	0.45	95% KM (Percentile Bootstrap) UCL	10.01
95% Gamma Approximate UCL (Use when n >= 40)	38.74		
95% Adjusted Gamma UCL (Use when n < 40)	66.69		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Copper (mg/kg, wet weight)

General Statistics

Number of Valid Observations	8	Number of Distinct Observations	8

Raw Statistics		Log-transformed Statistics	
Minimum	0.37	Minimum of Log Data	-0.994
Maximum	2.406	Maximum of Log Data	0.878
Mean	0.893	Mean of log Data	-0.328
Geometric Mean	0.721	SD of log Data	0.66
Median	0.54		
SD	0.704		
Std. Error of Mean	0.249		
Coefficient of Variation	0.788		
Skewness	1.738		

Warning: There are only 8 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.765	Shapiro Wilk Test Statistic	0.876
Shapiro Wilk Critical Value	0.818	Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.365	95% H-UCL	1.738
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.766
95% Adjusted-CLT UCL (Chen-1995)	1.466	97.5% Chebyshev (MVUE) UCL	2.155
95% Modified-t UCL (Johnson-1978)	1.39	99% Chebyshev (MVUE) UCL	2.917

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.636	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.546		
MLE of Mean	0.893		
MLE of Standard Deviation	0.698		
nu star	26.17		
Approximate Chi Square Value (.05)	15.51	Nonparametric Statistics	
Adjusted Level of Significance	0.0195	95% CLT UCL	1.303
Adjusted Chi Square Value	13.48	95% Jackknife UCL	1.365
		95% Standard Bootstrap UCL	1.27
Anderson-Darling Test Statistic	0.644	95% Bootstrap-t UCL	2.163
Anderson-Darling 5% Critical Value	0.723	95% Hall's Bootstrap UCL	2.883
Kolmogorov-Smirnov Test Statistic	0.312	95% Percentile Bootstrap UCL	1.316
Kolmogorov-Smirnov 5% Critical Value	0.297	95% BCA Bootstrap UCL	1.443
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.978
		97.5% Chebyshev(Mean, Sd) UCL	2.448
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.37
95% Approximate Gamma UCL (Use when n >= 40)	1.507		
95% Adjusted Gamma UCL (Use when n < 40)	1.734		

Potential UCL to Use	Use 95% Approximate Gamma UCL	1.507

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury (mg/kg, wet weight)

General Statistics

Number of Valid Data	8	Number of Detected Data	4
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.04	Minimum Detected	-3.219
Maximum Detected	0.09	Maximum Detected	-2.408
Mean of Detected	0.0725	Mean of Detected	-2.67
SD of Detected	0.0222	SD of Detected	0.37
Minimum Non-Detect	0.0384	Minimum Non-Detect	-3.26
Maximum Non-Detect	0.38	Maximum Non-Detect	-0.968

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.8	Shapiro Wilk Test Statistic	0.755
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0676	Mean	-3.007
SD	0.0577	SD	0.854
95% DL/2 (t) UCL	0.106	95% H-Stat (DL/2) UCL	0.192

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.024
		SD in Log Scale	0.478
		Mean in Original Scale	0.0537
		SD in Original Scale	0.0255
		95% t UCL	0.0708
		95% Percentile Bootstrap UCL	0.0669
		95% BCA Bootstrap UCL	0.0689
		95% H-UCL	0.0828

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.961	Data appear Normal at 5% Significance Level
Theta Star	0.0245	
nu star	23.69	

		Nonparametric Statistics	
A-D Test Statistic	0.662		
5% A-D Critical Value	0.657	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.657	Mean	0.0586
5% K-S Critical Value	0.395	SD	0.0217
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00946
		95% KM (t) UCL	0.0765
Assuming Gamma Distribution		95% KM (z) UCL	0.0741
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0832
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0675
Maximum	0.09	95% KM (BCA) UCL	0.085
Mean	0.0441	95% KM (Percentile Bootstrap) UCL	0.0838
Median	0.0438	95% KM (Chebyshev) UCL	0.0998
SD	0.0367	97.5% KM (Chebyshev) UCL	0.118
k star	0.254	99% KM (Chebyshev) UCL	0.153
Theta star	0.174		
Nu star	4.056	Potential UCLs to Use	
AppChi2	0.744	95% KM (t) UCL	0.0765
95% Gamma Approximate UCL (Use when n >= 40)	0.24	95% KM (Percentile Bootstrap) UCL	0.0838
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Selenium (mg/kg, wet weight)

General Statistics

Number of Valid Data	8	Number of Detected Data	7
Number of Distinct Detected Data	4	Number of Non-Detect Data	1
		Percent Non-Detects	12.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.44	Minimum Detected	-0.821
Maximum Detected	0.59	Maximum Detected	-0.528
Mean of Detected	0.489	Mean of Detected	-0.722
SD of Detected	0.0573	SD of Detected	0.112
Minimum Non-Detect	0.134	Minimum Non-Detect	-2.01

Maximum Non-Detect	0.134	Maximum Non-Detect	-2.01

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.741	Shapiro Wilk Test Statistic	0.75
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.436	Mean	-0.969
SD	0.158	SD	0.708
95% DL/2 (t) UCL	0.542	95% H-Stat (DL/2) UCL	1.018
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.438	Mean in Log Scale	-0.753
SD	0.144	SD in Log Scale	0.136
95% MLE (t) UCL	0.534	Mean in Original Scale	0.475
95% MLE (Tiku) UCL	0.54	SD in Original Scale	0.0659
		95% t UCL	0.519
		95% Percentile Bootstrap UCL	0.513
		95% BCA Bootstrap UCL	0.51
		95% H UCL	0.524
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	51.9	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.00941		
nu star	726.6		
A-D Test Statistic	1.048	Nonparametric Statistics	
5% A-D Critical Value	0.708	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.708	Mean	0.483
5% K-S Critical Value	0.311	SD	0.0521
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0199
		95% KM (t) UCL	0.52
Assuming Gamma Distribution		95% KM (z) UCL	0.515
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.519
Minimum	0.323	95% KM (bootstrap t) UCL	0.65
Maximum	0.59	95% KM (BCA) UCL	0.515
Mean	0.468	95% KM (Percentile Bootstrap) UCL	0.518
Median	0.46	95% KM (Chebyshev) UCL	0.569
SD	0.0789	97.5% KM (Chebyshev) UCL	0.607
k star	23.8	99% KM (Chebyshev) UCL	0.681
Theta star	0.0197		
Nu star	380.7	Potential UCLs to Use	
AppChi2	336.5	95% KM (Chebyshev) UCL	0.569
95% Gamma Approximate UCL (Use when n >= 40)	0.529		
95% Adjusted Gamma UCL (Use when n < 40)	0.547		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

4,4'-DDE (µg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	41.8	Minimum of Log Data	3.733
Maximum	88.2	Maximum of Log Data	4.48
Mean	68.57	Mean of log Data	4.196
Geometric Mean	66.39	SD of log Data	0.286
Median	70.7		
SD	18.07		
Std. Error of Mean	7.376		
Coefficient of Variation	0.263		
Skewness	-0.452		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.906	Shapiro Wilk Test Statistic	0.891
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	83.43	95% H-UCL	91.68
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	103.7
95% Adjusted-CLT UCL (Chen-1995)	79.25	97.5% Chebyshev (MVUE) UCL	118.8
95% Modified-t UCL (Johnson-1978)	83.2	99% Chebyshev (MVUE) UCL	148.5

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	7.947	Data appear Normal at 5% Significance Level	
Theta Star	8.628		
MLE of Mean	68.57		
MLE of Standard Deviation	24.32		
nu star	95.37		
Approximate Chi Square Value (.05)	73.84	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	80.7
Adjusted Chi Square Value	67.03	95% Jackknife UCL	83.43
		95% Standard Bootstrap UCL	79.82
Anderson-Darling Test Statistic	0.416	95% Bootstrap-t UCL	82.16
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	78.06
Kolmogorov-Smirnov Test Statistic	0.283	95% Percentile Bootstrap UCL	79.77
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	79.07
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	100.7
		97.5% Chebyshev(Mean, Sd) UCL	114.6
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	142
95% Approximate Gamma UCL (Use when n >= 40)	88.55		
95% Adjusted Gamma UCL (Use when n < 40)	97.55		

Potential UCL to Use	Use 95% Student's-t UCL	83.43

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	22	Number of Distinct Observations	22
Raw Statistics		Log-transformed Statistics	
Minimum	414	Minimum of Log Data	6.026
Maximum	8400	Maximum of Log Data	9.036
Mean	3302	Mean of log Data	7.862
Geometric Mean	2596	SD of log Data	0.755
Median	2755		
SD	2234		
Std. Error of Mean	476.2		
Coefficient of Variation	0.677		
Skewness	0.94		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.895	Shapiro Wilk Test Statistic	0.961
Shapiro Wilk Critical Value	0.911	Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	4121	95% H-UCL	5015
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	5972
95% Adjusted-CLT UCL (Chen-1995)	4187	97.5% Chebyshev (MVUE) UCL	7087
95% Modified-t UCL (Johnson-1978)	4137	99% Chebyshev (MVUE) UCL	9276
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.959	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1685		
MLE of Mean	3302		
MLE of Standard Deviation	2359		
nu star	86.19		
Approximate Chi Square Value (.05)	65.79	Nonparametric Statistics	
Adjusted Level of Significance	0.0386	95% CLT UCL	4085
Adjusted Chi Square Value	64.46	95% Jackknife UCL	4121
		95% Standard Bootstrap UCL	4058
Anderson-Darling Test Statistic	0.328	95% Bootstrap-t UCL	4229
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL	4160
Kolmogorov-Smirnov Test Statistic	0.153	95% Percentile Bootstrap UCL	4035
Kolmogorov-Smirnov 5% Critical Value	0.188	95% BCA Bootstrap UCL	4127
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	5377
		97.5% Chebyshev(Mean, Sd) UCL	6275
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	8040
95% Approximate Gamma UCL (Use when n >= 40)	4325		
95% Adjusted Gamma UCL (Use when n < 40)	4414		
Potential UCL to Use		Use 95% Approximate Gamma UCL	4325

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Heptachlor epoxide (µg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	19.6	Minimum of Log Data	2.976
Maximum	52.8	Maximum of Log Data	3.967
Mean	35.82	Mean of log Data	3.498
Geometric Mean	33.05	SD of log Data	0.448
Median	35		
SD	15.04		
Std. Error of Mean	6.141		
Coefficient of Variation	0.42		
Skewness	0.106		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.869	Shapiro Wilk Test Statistic	0.867
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	48.19	95% H-UCL	60.55
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	64.52
95% Adjusted-CLT UCL (Chen-1995)	46.2	97.5% Chebyshev (MVUE) UCL	76.9
95% Modified-t UCL (Johnson-1978)	48.23	99% Chebyshev (MVUE) UCL	101.2

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.305	Data appear Normal at 5% Significance Level	
Theta Star	10.84		
MLE of Mean	35.82		
MLE of Standard Deviation	19.7		
nu star	39.66		
Approximate Chi Square Value (.05)	26.24	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	45.92
Adjusted Chi Square Value	22.37	95% Jackknife UCL	48.19
		95% Standard Bootstrap UCL	44.74
Anderson-Darling Test Statistic	0.427	95% Bootstrap-t UCL	50.68
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	45.59
Kolmogorov-Smirnov Test Statistic	0.219	95% Percentile Bootstrap UCL	45.1
Kolmogorov-Smirnov 5% Critical Value	0.333	95% BCA Bootstrap UCL	45.08
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	62.58
		97.5% Chebyshev(Mean, Sd) UCL	74.17
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	96.92
95% Approximate Gamma UCL (Use when n >= 40)	54.15		
95% Adjusted Gamma UCL (Use when n < 40)	63.5		

Potential UCL to Use	Use 95% Student's-t UCL	48.19

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics

Number of Valid Data	6	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	2
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.7	Minimum Detected	0.993
Maximum Detected	3.6	Maximum Detected	1.281
Mean of Detected	3.15	Mean of Detected	1.142
SD of Detected	0.37	SD of Detected	0.118
Minimum Non-Detect	2.52	Minimum Non-Detect	0.924
Maximum Non-Detect	2.8	Maximum Non-Detect	1.03

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	50.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.984	Shapiro Wilk Test Statistic	0.982
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.543	Mean	0.856
SD	0.983	SD	0.454
95% DL/2 (t) UCL	3.352	95% H-Stat (DL/2) UCL	4.361

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.305	Mean in Log Scale	1.056
SD	0.216	SD in Log Scale	0.165
95% MLE (t) UCL	3.482	Mean in Original Scale	2.907
95% MLE (Tiku) UCL	3.555	SD in Original Scale	0.478
		95% t UCL	3.3
		95% Percentile Bootstrap UCL	3.205
		95% BCA Bootstrap UCL	3.205
		95% H UCL	3.381

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	24.16	Data appear Normal at 5% Significance Level
Theta Star	0.13	
nu star	193.3	

		Nonparametric Statistics	
A-D Test Statistic	0.236		
5% A-D Critical Value	0.656	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.656	Mean	3
5% K-S Critical Value	0.394	SD	0.337
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.159
		95% KM (t) UCL	3.32
Assuming Gamma Distribution		95% KM (z) UCL	3.261
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.345
Minimum	1.861	95% KM (bootstrap t) UCL	3.236
Maximum	3.6	95% KM (BCA) UCL	3.367
Mean	2.8	95% KM (Percentile Bootstrap) UCL	3.35
Median	2.9	95% KM (Chebyshev) UCL	3.692
SD	0.632	97.5% KM (Chebyshev) UCL	3.991
k star	11.05	99% KM (Chebyshev) UCL	4.579
Theta star	0.253		
Nu star	132.6	Potential UCLs to Use	
AppChi2	107	95% KM (t) UCL	3.32
95% Gamma Approximate UCL (Use when n >= 40)	3.47	95% KM (Percentile Bootstrap) UCL	3.35
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Copper (mg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.4	Minimum of Log Data	-0.916
Maximum	4	Maximum of Log Data	1.386
Mean	1.127	Mean of log Data	-0.283
Geometric Mean	0.753	SD of log Data	0.845
Median	0.6		
SD	1.412		
Std. Error of Mean	0.577		
Coefficient of Variation	1.254		
Skewness	2.412		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.575	Shapiro Wilk Test Statistic	0.733
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.289	95% H-UCL	4.22
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2.498
95% Adjusted-CLT UCL (Chen-1995)	2.682	97.5% Chebyshev (MVUE) UCL	3.145
95% Modified-t UCL (Johnson-1978)	2.383	99% Chebyshev (MVUE) UCL	4.416

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.804	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.401		
MLE of Mean	1.127		
MLE of Standard Deviation	1.257		
nu star	9.648		
Approximate Chi Square Value (.05)	3.723	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	2.075
Adjusted Chi Square Value	2.521	95% Jackknife UCL	2.289
		95% Standard Bootstrap UCL	1.992
Anderson-Darling Test Statistic	1.074	95% Bootstrap-t UCL	10.14
Anderson-Darling 5% Critical Value	0.709	95% Hall's Bootstrap UCL	9.003
Kolmogorov-Smirnov Test Statistic	0.422	95% Percentile Bootstrap UCL	2.232
Kolmogorov-Smirnov 5% Critical Value	0.338	95% BCA Bootstrap UCL	2.312
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.64
		97.5% Chebyshev(Mean, Sd) UCL	4.728
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	6.864
95% Approximate Gamma UCL (Use when n >= 40)	2.92		
95% Adjusted Gamma UCL (Use when n < 40)	4.311		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	3.64

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury (mg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	0.11	Minimum of Log Data	-2.207
Maximum	0.2	Maximum of Log Data	-1.609
Mean	0.133	Mean of log Data	-2.041
Geometric Mean	0.13	SD of log Data	0.243
Median	0.115		
SD	0.0361		
Std. Error of Mean	0.0148		
Coefficient of Variation	0.271		
Skewness	1.654		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.75	Shapiro Wilk Test Statistic	0.775
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.163	95% H-UCL	0.169
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.191
95% Adjusted-CLT UCL (Chen-1995)	0.168	97.5% Chebyshev (MVUE) UCL	0.216
95% Modified-t UCL (Johnson-1978)	0.165	99% Chebyshev (MVUE) UCL	0.265

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	9.614	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.0139		
MLE of Mean	0.133		
MLE of Standard Deviation	0.043		
nu star	115.4		
Approximate Chi Square Value (.05)	91.57	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	0.158
Adjusted Chi Square Value	83.93	95% Jackknife UCL	0.163
		95% Standard Bootstrap UCL	0.156
Anderson-Darling Test Statistic	0.747	95% Bootstrap-t UCL	0.273
Anderson-Darling 5% Critical Value	0.697	95% Hall's Bootstrap UCL	0.39
Kolmogorov-Smirnov Test Statistic	0.313	95% Percentile Bootstrap UCL	0.157
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	0.162
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.198
		97.5% Chebyshev(Mean, Sd) UCL	0.225
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.28
95% Approximate Gamma UCL (Use when n >= 40)	0.168		
95% Adjusted Gamma UCL (Use when n < 40)	0.183		

Potential UCL to Use	Use 95% Approximate Gamma UCL	0.168

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Selenium (mg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.26	Minimum of Log Data	-1.347
Maximum	0.46	Maximum of Log Data	-0.777
Mean	0.36	Mean of log Data	-1.039
Geometric Mean	0.354	SD of log Data	0.206
Median	0.37		
SD	0.0716		
Std. Error of Mean	0.0292		
Coefficient of Variation	0.199		
Skewness	-0.118		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.98	Shapiro Wilk Test Statistic	0.968
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.419	95% H-UCL	0.438
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.492
95% Adjusted-CLT UCL (Chen-1995)	0.407	97.5% Chebyshev (MVUE) UCL	0.549
95% Modified-t UCL (Johnson-1978)	0.419	99% Chebyshev (MVUE) UCL	0.661

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	14.73	Data appear Normal at 5% Significance Level	
Theta Star	0.0244		
MLE of Mean	0.36		
MLE of Standard Deviation	0.0938		
nu star	176.8		
Approximate Chi Square Value (.05)	147	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	0.408
Adjusted Chi Square Value	137.2	95% Jackknife UCL	0.419
		95% Standard Bootstrap UCL	0.404
Anderson-Darling Test Statistic	0.215	95% Bootstrap-t UCL	0.413
Anderson-Darling 5% Critical Value	0.697	95% Hall's Bootstrap UCL	0.407
Kolmogorov-Smirnov Test Statistic	0.191	95% Percentile Bootstrap UCL	0.407
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	0.4
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.487
		97.5% Chebyshev(Mean, Sd) UCL	0.542
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.651
95% Approximate Gamma UCL (Use when n >= 40)	0.433		
95% Adjusted Gamma UCL (Use when n < 40)	0.464		

Potential UCL to Use	Use 95% Student's-t UCL	0.419

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

4,4'-DDD (µg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	3
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	120	Minimum Detected	4.787
Maximum Detected	230	Maximum Detected	5.438
Mean of Detected	163.3	Mean of Detected	5.056
SD of Detected	58.59	SD of Detected	0.34
Minimum Non-Detect	3.8	Minimum Non-Detect	1.335
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	50.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.881	Shapiro Wilk Test Statistic	0.916
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	82.65	Mean	2.864
SD	95.84	SD	2.41
95% DL/2 (t) UCL	161.5	95% H-Stat (DL/2) UCL	6590017

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	25.17	Mean in Log Scale	4.503
SD	155.9	SD in Log Scale	0.643
95% MLE (t) UCL	153.4	Mean in Original Scale	107.6
95% MLE (Tiku) UCL	183	SD in Original Scale	71.4
		95% t UCL	166.4
		95% Percentile Bootstrap UCL	155.6
		95% BCA Bootstrap UCL	155.6
		95% H UCL	263.6

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A	Kaplan-Meier (KM) Method	
5% A-D Critical Value	N/A	Mean	141.7
K-S Test Statistic	N/A	SD	40.17
5% K-S Critical Value	N/A	SE of Mean	20.09
Data not Gamma Distributed at 5% Significance Level		95% KM (t) UCL	182.1
		95% KM (z) UCL	174.7
Assuming Gamma Distribution		95% KM (jackknife) UCL	177.1
Gamma ROS Statistics using Extrapolated Data		95% KM (bootstrap t) UCL	246.5
Minimum	N/A	95% KM (BCA) UCL	N/A
Maximum	N/A	95% KM (Percentile Bootstrap) UCL	230
Mean	N/A	95% KM (Chebyshev) UCL	229.2
Median	N/A	97.5% KM (Chebyshev) UCL	267.1
SD	N/A	99% KM (Chebyshev) UCL	341.5
k star	N/A		
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	182.1
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	230
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

4,4'-DDE (µg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	15.48	Minimum of Log Data	2.74
Maximum	150	Maximum of Log Data	5.011
Mean	89.91	Mean of log Data	4.243
Geometric Mean	69.64	SD of log Data	0.883
Median	92		
SD	56.83		
Std. Error of Mean	23.2		
Coefficient of Variation	0.632		
Skewness	-0.188		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.868	Shapiro Wilk Test Statistic	0.855
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	136.7	95% H-UCL	447.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	242.9
95% Adjusted-CLT UCL (Chen-1995)	126.2	97.5% Chebyshev (MVUE) UCL	306.9
95% Modified-t UCL (Johnson-1978)	136.4	99% Chebyshev (MVUE) UCL	432.6

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.166	Data appear Normal at 5% Significance Level	
Theta Star	77.14		
MLE of Mean	89.91		
MLE of Standard Deviation	83.28		
nu star	13.99		
Approximate Chi Square Value (.05)	6.562	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	128.1
Adjusted Chi Square Value	4.845	95% Jackknife UCL	136.7
		95% Standard Bootstrap UCL	124.5
Anderson-Darling Test Statistic	0.472	95% Bootstrap-t UCL	136.5
Anderson-Darling 5% Critical Value	0.704	95% Hall's Bootstrap UCL	114.5
Kolmogorov-Smirnov Test Statistic	0.287	95% Percentile Bootstrap UCL	125
Kolmogorov-Smirnov 5% Critical Value	0.336	95% BCA Bootstrap UCL	124
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	191
		97.5% Chebyshev(Mean, Sd) UCL	234.8
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	320.8
95% Approximate Gamma UCL (Use when n >= 40)	191.6		
95% Adjusted Gamma UCL (Use when n < 40)	259.6		

Potential UCL to Use	Use 95% Student's-t UCL	136.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

alpha-Chlordane (µg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	4
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	30	Minimum Detected	3.401
Maximum Detected	310	Maximum Detected	5.737
Mean of Detected	170	Mean of Detected	4.569
SD of Detected	198	SD of Detected	1.651
Minimum Non-Detect	3.8	Minimum Non-Detect	1.335
Maximum Non-Detect	4.05	Maximum Non-Detect	1.399

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	66.67%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	57.98	Mean	1.974
SD	124	SD	2.141
95% DL/2 (t) UCL	160	95% H-Stat (DL/2) UCL	186865

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	76.67
5% K-S Critical Value	N/A	SD	104.3
Data not Gamma Distributed at 5% Significance Level		SE of Mean	60.25
		95% KM (t) UCL	198.1
Assuming Gamma Distribution		95% KM (z) UCL	175.8
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	295.6
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	310
Mean	N/A	95% KM (Percentile Bootstrap) UCL	310
Median	N/A	95% KM (Chebyshev) UCL	339.3
SD	N/A	97.5% KM (Chebyshev) UCL	452.9
k star	N/A	99% KM (Chebyshev) UCL	676.1
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	97.5% KM (Chebyshev) UCL	452.9
95% Gamma Approximate UCL (Use when n >= 40)	N/A		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	20	Number of Distinct Observations	20
Raw Statistics		Log-transformed Statistics	
Minimum	1000	Minimum of Log Data	6.908
Maximum	27630	Maximum of Log Data	10.23
Mean	9668	Mean of log Data	8.97
Geometric Mean	7867	SD of log Data	0.711
Median	7996		
SD	6342		
Std. Error of Mean	1418		
Coefficient of Variation	0.656		
Skewness	1.538		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.863	Shapiro Wilk Test Statistic	0.928
Shapiro Wilk Critical Value	0.905	Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	12120	95% H-UCL	14626
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	17373
95% Adjusted-CLT UCL (Chen-1995)	12522	97.5% Chebyshev (MVUE) UCL	20572
95% Modified-t UCL (Johnson-1978)	12201	99% Chebyshev (MVUE) UCL	26857
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.227	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4342		
MLE of Mean	9668		
MLE of Standard Deviation	6479		
nu star	89.07		
Approximate Chi Square Value (.05)	68.31	Nonparametric Statistics	
Adjusted Level of Significance	0.038	95% CLT UCL	12000
Adjusted Chi Square Value	66.88	95% Jackknife UCL	12120
		95% Standard Bootstrap UCL	11960
Anderson-Darling Test Statistic	0.384	95% Bootstrap-t UCL	13071
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	14199
Kolmogorov-Smirnov Test Statistic	0.154	95% Percentile Bootstrap UCL	12160
Kolmogorov-Smirnov 5% Critical Value	0.195	95% BCA Bootstrap UCL	12620
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	15849
		97.5% Chebyshev(Mean, Sd) UCL	18524
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23777
95% Approximate Gamma UCL (Use when n >= 40)	12606		
95% Adjusted Gamma UCL (Use when n < 40)	12877		
Potential UCL to Use		Use 95% Approximate Gamma UCL	12606

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

gamma-Chlordane (µg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	2
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	20	Minimum Detected	2.996
Maximum Detected	230	Maximum Detected	5.438
Mean of Detected	137.5	Mean of Detected	4.609
SD of Detected	88.47	SD of Detected	1.101
Minimum Non-Detect	3.8	Minimum Non-Detect	1.335
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	2
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.971	Shapiro Wilk Test Statistic	0.817
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	92.33	Mean	3.295
SD	97.97	SD	2.207
95% DL/2 (t) UCL	172.9	95% H-Stat (DL/2) UCL	1307323

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	66.61	Mean in Log Scale	3.724
SD	123.9	SD in Log Scale	1.615
95% MLE (t) UCL	168.5	Mean in Original Scale	94.03
95% MLE (Tiku) UCL	177.8	SD in Original Scale	96.1
		95% t UCL	173.1
		95% Percentile Bootstrap UCL	151.7
		95% BCA Bootstrap UCL	156.2
		95% H UCL	14408

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.601	Data appear Normal at 5% Significance Level
Theta Star	228.7	
nu star	4.81	

		Nonparametric Statistics	
A-D Test Statistic	0.44		
5% A-D Critical Value	0.662	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.662	Mean	98.35
5% K-S Critical Value	0.399	SD	83.56
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	39.39
		95% KM (t) UCL	177.7
Assuming Gamma Distribution		95% KM (z) UCL	163.1
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	187.4
Minimum	0.000001	95% KM (bootstrap t) UCL	145.2
Maximum	230	95% KM (BCA) UCL	190.1
Mean	91.68	95% KM (Percentile Bootstrap) UCL	190.1
Median	75	95% KM (Chebyshev) UCL	270.1
SD	98.69	97.5% KM (Chebyshev) UCL	344.4
k star	0.176	99% KM (Chebyshev) UCL	490.3
Theta star	521.1		
Nu star	2.111	Potential UCLs to Use	
AppChi2	0.167	95% KM (t) UCL	177.7
95% Gamma Approximate UCL (Use when n >= 40)	1162	95% KM (Percentile Bootstrap) UCL	190.1
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor epoxide (µg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	4
Number of Distinct Detected Data	3	Number of Non-Detect Data	2
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	4.68	Minimum Detected	1.543
Maximum Detected	50	Maximum Detected	3.912
Mean of Detected	28.67	Mean of Detected	3.064
SD of Detected	18.57	SD of Detected	1.042
Minimum Non-Detect	3.8	Minimum Non-Detect	1.335
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	2
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.938	Shapiro Wilk Test Statistic	0.813
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	19.76	Mean	2.265
SD	19.93	SD	1.478
95% DL/2 (t) UCL	36.16	95% H-Stat (DL/2) UCL	1328

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	15.16	Mean in Log Scale	2.231
SD	24.33	SD in Log Scale	1.523
95% MLE (t) UCL	35.17	Mean in Original Scale	19.7
95% MLE (Tiku) UCL	36.9	SD in Original Scale	20
		95% t UCL	36.15
		95% Percentile Bootstrap UCL	31.96
		95% BCA Bootstrap UCL	31.96
		95% H UCL	1720

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.633	Data appear Normal at 5% Significance Level
Theta Star	45.3	
nu star	5.064	

		Nonparametric Statistics	
A-D Test Statistic	0.486		
5% A-D Critical Value	0.661	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.661	Mean	20.67
5% K-S Critical Value	0.398	SD	17.33
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	8.168
		95% KM (t) UCL	37.13
Assuming Gamma Distribution		95% KM (z) UCL	34.11
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	39.66
Minimum	0.000001	95% KM (bootstrap t) UCL	31.64
Maximum	50	95% KM (BCA) UCL	40
Mean	19.11	95% KM (Percentile Bootstrap) UCL	36.67
Median	17.34	95% KM (Chebyshev) UCL	56.28
SD	20.64	97.5% KM (Chebyshev) UCL	71.68
k star	0.181	99% KM (Chebyshev) UCL	101.9
Theta star	105.3		
Nu star	2.178	Potential UCLs to Use	
AppChi2	0.177	95% KM (t) UCL	37.13
95% Gamma Approximate UCL (Use when n >= 40)	234.7	95% KM (Percentile Bootstrap) UCL	36.67
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum (mg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	1
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3.5	Minimum Detected	1.253
Maximum Detected	92	Maximum Detected	4.522
Mean of Detected	21.88	Mean of Detected	2.052
SD of Detected	39.22	SD of Detected	1.404
Minimum Non-Detect	2.6	Minimum Non-Detect	0.956
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.576	Shapiro Wilk Test Statistic	0.68
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	18.45	Mean	1.754
SD	36.07	SD	1.453
95% DL/2 (t) UCL	48.12	95% H-Stat (DL/2) UCL	677.1

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	14.39	Mean in Log Scale	1.535
SD	37.08	SD in Log Scale	1.784
95% MLE (t) UCL	44.89	Mean in Original Scale	18.29
95% MLE (Tiku) UCL	43.7	SD in Original Scale	36.16
		95% t UCL	48.04
		95% Percentile Bootstrap UCL	46.17
		95% BCA Bootstrap UCL	48.75
		95% H UCL	5662

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.373	Data do not follow a Discernable Distribution (0.05)
Theta Star	58.71	
nu star	3.727	

		Nonparametric Statistics	
A-D Test Statistic	1.055		
5% A-D Critical Value	0.706	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.706	Mean	18.82
5% K-S Critical Value	0.37	SD	32.75
Data not Gamma Distributed at 5% Significance Level		SE of Mean	14.95
		95% KM (t) UCL	48.93
Assuming Gamma Distribution		95% KM (z) UCL	43.4
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	48.32
Minimum	0.000001	95% KM (bootstrap t) UCL	4005
Maximum	92	95% KM (BCA) UCL	47.9
Mean	18.23	95% KM (Percentile Bootstrap) UCL	47.8
Median	3.7	95% KM (Chebyshev) UCL	83.97
SD	36.2	97.5% KM (Chebyshev) UCL	112.2
k star	0.216	99% KM (Chebyshev) UCL	167.5
Theta star	84.55		
Nu star	2.588	Potential UCLs to Use	
AppChi2	0.262	97.5% KM (Chebyshev) UCL	112.2
95% Gamma Approximate UCL (Use when n >= 40)	180.4		
95% Adjusted Gamma UCL (Use when n < 40)	391.7		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Copper (mg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.42	Minimum of Log Data	-0.868
Maximum	2.6	Maximum of Log Data	0.956
Mean	1.152	Mean of log Data	-0.0563
Geometric Mean	0.945	SD of log Data	0.689
Median	1.005		
SD	0.808		
Std. Error of Mean	0.33		
Coefficient of Variation	0.702		
Skewness	1.318		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.879	Shapiro Wilk Test Statistic	0.956
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.816	95% H-UCL	3.157
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2.546
95% Adjusted-CLT UCL (Chen-1995)	1.884	97.5% Chebyshev (MVUE) UCL	3.151
95% Modified-t UCL (Johnson-1978)	1.846	99% Chebyshev (MVUE) UCL	4.341

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.454	Data appear Normal at 5% Significance Level	
Theta Star	0.792		
MLE of Mean	1.152		
MLE of Standard Deviation	0.955		
nu star	17.45		
Approximate Chi Square Value (.05)	8.996	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	1.694
Adjusted Chi Square Value	6.916	95% Jackknife UCL	1.816
		95% Standard Bootstrap UCL	1.646
Anderson-Darling Test Statistic	0.249	95% Bootstrap-t UCL	2.272
Anderson-Darling 5% Critical Value	0.702	95% Hall's Bootstrap UCL	4.077
Kolmogorov-Smirnov Test Statistic	0.183	95% Percentile Bootstrap UCL	1.693
Kolmogorov-Smirnov 5% Critical Value	0.335	95% BCA Bootstrap UCL	1.767
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.59
		97.5% Chebyshev(Mean, Sd) UCL	3.212
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4.434
95% Approximate Gamma UCL (Use when n >= 40)	2.234		
95% Adjusted Gamma UCL (Use when n < 40)	2.906		

Potential UCL to Use	Use 95% Student's-t UCL	1.816

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury (mg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	5
Number of Distinct Detected Data	2	Number of Non-Detect Data	1
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.03	Minimum Detected	-3.507
Maximum Detected	0.05	Maximum Detected	-2.996
Mean of Detected	0.046	Mean of Detected	-3.098
SD of Detected	0.00894	SD of Detected	0.228
Minimum Non-Detect	0.0324	Minimum Non-Detect	-3.43
Maximum Non-Detect	0.0324	Maximum Non-Detect	-3.43

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.552	Shapiro Wilk Test Statistic	0.552
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.041	Mean	-3.269
SD	0.0146	SD	0.466
95% DL/2 (t) UCL	0.053	95% H-Stat (DL/2) UCL	0.0722
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0419	Mean in Log Scale	-3.144
SD	0.012	SD in Log Scale	0.234
95% MLE (t) UCL	0.0517	Mean in Original Scale	0.044
95% MLE (Tiku) UCL	0.0529	SD in Original Scale	0.00934
		95% t UCL	0.0517
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H UCL	0.0553

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	10.85	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.00424		
nu star	108.5		
A-D Test Statistic	1.333	Nonparametric Statistics	
5% A-D Critical Value	0.679	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.679	Mean	0.0433
5% K-S Critical Value	0.357	SD	0.00943
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0043
		95% KM (t) UCL	0.052
Assuming Gamma Distribution		95% KM (z) UCL	0.0504
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	N/A
Minimum	0.03	95% KM (bootstrap t) UCL	N/A
Maximum	0.05	95% KM (BCA) UCL	N/A
Mean	0.0438	95% KM (Percentile Bootstrap) UCL	N/A
Median	0.05	95% KM (Chebyshev) UCL	0.0621
SD	0.00961	97.5% KM (Chebyshev) UCL	0.0702
k star	11.14	99% KM (Chebyshev) UCL	0.0862
Theta star	0.00393		
Nu star	133.7	Potential UCLs to Use	
AppChi2	108	95% KM (Chebyshev) UCL	0.0621
95% Gamma Approximate UCL (Use when n >= 40)	0.0543		
95% Adjusted Gamma UCL (Use when n < 40)	0.0588		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Selenium (mg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.38	Minimum of Log Data	-0.968
Maximum	0.86	Maximum of Log Data	-0.151
Mean	0.587	Mean of log Data	-0.584
Geometric Mean	0.558	SD of log Data	0.348
Median	0.56		
SD	0.202		
Std. Error of Mean	0.0824		
Coefficient of Variation	0.344		
Skewness	0.316		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.896	Shapiro Wilk Test Statistic	0.895
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.753	95% H-UCL	0.85
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.95
95% Adjusted-CLT UCL (Chen-1995)	0.734	97.5% Chebyshev (MVUE) UCL	1.107
95% Modified-t UCL (Johnson-1978)	0.754	99% Chebyshev (MVUE) UCL	1.416

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.17	Data appear Normal at 5% Significance Level	
Theta Star	0.113		
MLE of Mean	0.587		
MLE of Standard Deviation	0.258		
nu star	62.04		
Approximate Chi Square Value (.05)	44.92	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	0.722
Adjusted Chi Square Value	39.72	95% Jackknife UCL	0.753
		95% Standard Bootstrap UCL	0.714
Anderson-Darling Test Statistic	0.397	95% Bootstrap-t UCL	0.759
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	0.688
Kolmogorov-Smirnov Test Statistic	0.238	95% Percentile Bootstrap UCL	0.717
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	0.727
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.946
		97.5% Chebyshev(Mean, Sd) UCL	1.101
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.407
95% Approximate Gamma UCL (Use when n >= 40)	0.81		
95% Adjusted Gamma UCL (Use when n < 40)	0.916		

Potential UCL to Use	Use 95% Student's-t UCL	0.753

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

4,4'-DDD (µg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	2
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.995	Minimum Detected	0.691
Maximum Detected	7.56	Maximum Detected	2.023
Mean of Detected	4.539	Mean of Detected	1.378
SD of Detected	2.577	SD of Detected	0.615
Minimum Non-Detect	3.96	Minimum Non-Detect	1.376
Maximum Non-Detect	3.99	Maximum Non-Detect	1.384

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	66.67%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.933	Shapiro Wilk Test Statistic	0.94
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.688	Mean	1.147
SD	2.391	SD	0.595
95% DL/2 (t) UCL	5.656	95% H-Stat (DL/2) UCL	8.092
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	1.217
		SD in Log Scale	0.538
		Mean in Original Scale	3.842
		SD in Original Scale	2.269
		95% t UCL	5.708
		95% Percentile Bootstrap UCL	5.32
		95% BCA Bootstrap UCL	5.621
		95% H-UCL	7.522

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.131	Data appear Normal at 5% Significance Level	
Theta Star	4.012		
nu star	9.05		
A-D Test Statistic	0.303	Nonparametric Statistics	
5% A-D Critical Value	0.659	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.659	Mean	3.833
5% K-S Critical Value	0.396	SD	2.092
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1
		95% KM (t) UCL	5.848
Assuming Gamma Distribution		95% KM (z) UCL	5.478
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.808
Minimum	1.995	95% KM (bootstrap t) UCL	5.671
Maximum	7.56	95% KM (BCA) UCL	6.353
Mean	3.856	95% KM (Percentile Bootstrap) UCL	6.052
Median	2.67	95% KM (Chebyshev) UCL	8.191
SD	2.259	97.5% KM (Chebyshev) UCL	10.08
k star	2.157	99% KM (Chebyshev) UCL	13.78
Theta star	1.788		
Nu star	25.88	Potential UCLs to Use	
AppChi2	15.29	95% KM (t) UCL	5.848
95% Gamma Approximate UCL (Use when n >= 40)	6.528	95% KM (Percentile Bootstrap) UCL	6.052
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

4,4'-DDE (µg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	1
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	5.04	Minimum Detected	1.617
Maximum Detected	48.3	Maximum Detected	3.877
Mean of Detected	23.41	Mean of Detected	2.817
SD of Detected	19.34	SD of Detected	0.962
Minimum Non-Detect	3.99	Minimum Non-Detect	1.384
Maximum Non-Detect	3.99	Maximum Non-Detect	1.384

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.873	Shapiro Wilk Test Statistic	0.934
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	19.84	Mean	2.462
SD	19.38	SD	1.222
95% DL/2 (t) UCL	35.78	95% H-Stat (DL/2) UCL	360.2

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	18.21	Mean in Log Scale	2.405
SD	20	SD in Log Scale	1.326
95% MLE (t) UCL	34.67	Mean in Original Scale	19.74
95% MLE (Tiku) UCL	34.61	SD in Original Scale	19.49
		95% t UCL	35.77
		95% Percentile Bootstrap UCL	32.48
		95% BCA Bootstrap UCL	33.74
		95% H UCL	601.8

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.787	Data appear Normal at 5% Significance Level
Theta Star	29.75	
nu star	7.868	

		Nonparametric Statistics	
A-D Test Statistic	0.325		
5% A-D Critical Value	0.686	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.686	Mean	20.35
5% K-S Critical Value	0.361	SD	17.21
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	7.856
		95% KM (t) UCL	36.18
Assuming Gamma Distribution		95% KM (z) UCL	33.27
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	35.77
Minimum	0.000001	95% KM (bootstrap t) UCL	64.47
Maximum	48.3	95% KM (BCA) UCL	34.77
Mean	19.51	95% KM (Percentile Bootstrap) UCL	33.09
Median	12.05	95% KM (Chebyshev) UCL	54.59
SD	19.76	97.5% KM (Chebyshev) UCL	69.41
k star	0.233	99% KM (Chebyshev) UCL	98.51
Theta star	83.72		
Nu star	2.796	Potential UCLs to Use	
AppChi2	0.315	95% KM (t) UCL	36.18
95% Gamma Approximate UCL (Use when n >= 40)	173.3	95% KM (Percentile Bootstrap) UCL	33.09
95% Adjusted Gamma UCL (Use when n < 40)	384.7		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

alpha-Chlordane (µg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	2
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	10.92	Minimum Detected	2.391
Maximum Detected	77.7	Maximum Detected	4.353
Mean of Detected	34.82	Mean of Detected	3.267
SD of Detected	30.32	SD of Detected	0.867
Minimum Non-Detect	3.96	Minimum Non-Detect	1.376
Maximum Non-Detect	3.99	Maximum Non-Detect	1.384

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	2
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	33.33%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.869	Shapiro Wilk Test Statistic	0.965
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	23.87	Mean	2.407
SD	28.97	SD	1.492
95% DL/2 (t) UCL	47.7	95% H-Stat (DL/2) UCL	1676

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	16.48	Mean in Log Scale	2.455
SD	35.42	SD in Log Scale	1.425
95% MLE (t) UCL	45.62	Mean in Original Scale	23.98
95% MLE (Tiku) UCL	47.87	SD in Original Scale	28.87
		95% t UCL	47.73
		95% Percentile Bootstrap UCL	42.78
		95% BCA Bootstrap UCL	50.73
		95% H UCL	1151

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.645	Data appear Normal at 5% Significance Level
Theta Star	53.98	
nu star	5.16	

		Nonparametric Statistics	
A-D Test Statistic	0.287		
5% A-D Critical Value	0.661	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.661	Mean	26.85
5% K-S Critical Value	0.398	SD	24.22
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	11.42
		95% KM (t) UCL	49.86
Assuming Gamma Distribution		95% KM (z) UCL	45.63
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	48.21
Minimum	0.000001	95% KM (bootstrap t) UCL	59.93
Maximum	77.7	95% KM (BCA) UCL	48.9
Mean	23.21	95% KM (Percentile Bootstrap) UCL	48.9
Median	13.54	95% KM (Chebyshev) UCL	76.62
SD	29.58	97.5% KM (Chebyshev) UCL	98.16
k star	0.181	99% KM (Chebyshev) UCL	140.5
Theta star	128.4		
Nu star	2.17	Potential UCLs to Use	
AppChi2	0.176	95% KM (t) UCL	49.86
95% Gamma Approximate UCL (Use when n >= 40)	286.1	95% KM (Percentile Bootstrap) UCL	48.9
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum (mg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	2.7	Minimum of Log Data	0.993
Maximum	9	Maximum of Log Data	2.197
Mean	5.133	Mean of log Data	1.563
Geometric Mean	4.773	SD of log Data	0.415
Median	4.65		
SD	2.211		
Std. Error of Mean	0.903		
Coefficient of Variation	0.431		
Skewness	1.136		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.93	Shapiro Wilk Test Statistic	0.994
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	6.953	95% H-UCL	8.184
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8.901
95% Adjusted-CLT UCL (Chen-1995)	7.066	97.5% Chebyshev (MVUE) UCL	10.54
95% Modified-t UCL (Johnson-1978)	7.022	99% Chebyshev (MVUE) UCL	13.75

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.628	Data appear Normal at 5% Significance Level	
Theta Star	1.415		
MLE of Mean	5.133		
MLE of Standard Deviation	2.695		
nu star	43.54		
Approximate Chi Square Value (.05)	29.41	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	6.618
Adjusted Chi Square Value	25.29	95% Jackknife UCL	6.953
		95% Standard Bootstrap UCL	6.501
Anderson-Darling Test Statistic	0.186	95% Bootstrap-t UCL	8.291
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	16.34
Kolmogorov-Smirnov Test Statistic	0.165	95% Percentile Bootstrap UCL	6.583
Kolmogorov-Smirnov 5% Critical Value	0.333	95% BCA Bootstrap UCL	6.867
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9.069
		97.5% Chebyshev(Mean, Sd) UCL	10.77
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	14.12
95% Approximate Gamma UCL (Use when n >= 40)	7.6		
95% Adjusted Gamma UCL (Use when n < 40)	8.838		

Potential UCL to Use	Use 95% Student's-t UCL	6.953

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	13	Number of Distinct Observations	13
Raw Statistics		Log-transformed Statistics	
Minimum	44.9	Minimum of Log Data	3.804
Maximum	6300	Maximum of Log Data	8.748
Mean	1049	Mean of log Data	5.752
Geometric Mean	314.8	SD of log Data	1.517
Median	226.3		
SD	1857		
Std. Error of Mean	515.1		
Coefficient of Variation	1.77		
Skewness	2.295		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.601	Shapiro Wilk Test Statistic	0.883
Shapiro Wilk Critical Value	0.866	Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1967	95% H-UCL	5284
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2583
95% Adjusted-CLT UCL (Chen-1995)	2247	97.5% Chebyshev (MVUE) UCL	3332
95% Modified-t UCL (Johnson-1978)	2022	99% Chebyshev (MVUE) UCL	4805
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.454	Data appear Lognormal at 5% Significance Level	
Theta Star	2310		
MLE of Mean	1049		
MLE of Standard Deviation	1557		
nu star	11.81		
Approximate Chi Square Value (.05)	5.101	Nonparametric Statistics	
Adjusted Level of Significance	0.0301	95% CLT UCL	1897
Adjusted Chi Square Value	4.489	95% Jackknife UCL	1967
		95% Standard Bootstrap UCL	1849
Anderson-Darling Test Statistic	1.356	95% Bootstrap-t UCL	3078
Anderson-Darling 5% Critical Value	0.788	95% Hall's Bootstrap UCL	2287
Kolmogorov-Smirnov Test Statistic	0.332	95% Percentile Bootstrap UCL	1946
Kolmogorov-Smirnov 5% Critical Value	0.249	95% BCA Bootstrap UCL	2303
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3295
		97.5% Chebyshev(Mean, Sd) UCL	4266
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	6175
95% Approximate Gamma UCL (Use when n >= 40)	2429		
95% Adjusted Gamma UCL (Use when n < 40)	2760		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	6175

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper (mg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.23	Minimum of Log Data	-1.47
Maximum	3.1	Maximum of Log Data	1.131
Mean	1.262	Mean of log Data	-0.0877
Geometric Mean	0.916	SD of log Data	0.927
Median	1.07		
SD	1.042		
Std. Error of Mean	0.425		
Coefficient of Variation	0.826		
Skewness	1.212		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.901	Shapiro Wilk Test Statistic	0.982
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.119	95% H-UCL	6.979
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.389
95% Adjusted-CLT UCL (Chen-1995)	2.186	97.5% Chebyshev (MVUE) UCL	4.298
95% Modified-t UCL (Johnson-1978)	2.154	99% Chebyshev (MVUE) UCL	6.082

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.966	Data appear Normal at 5% Significance Level	
Theta Star	1.306		
MLE of Mean	1.262		
MLE of Standard Deviation	1.284		
nu star	11.59		
Approximate Chi Square Value (.05)	4.959	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	1.961
Adjusted Chi Square Value	3.517	95% Jackknife UCL	2.119
		95% Standard Bootstrap UCL	1.887
Anderson-Darling Test Statistic	0.18	95% Bootstrap-t UCL	2.569
Anderson-Darling 5% Critical Value	0.706	95% Hall's Bootstrap UCL	2.722
Kolmogorov-Smirnov Test Statistic	0.153	95% Percentile Bootstrap UCL	1.945
Kolmogorov-Smirnov 5% Critical Value	0.337	95% BCA Bootstrap UCL	2.088
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.116
		97.5% Chebyshev(Mean, Sd) UCL	3.918
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.495
95% Approximate Gamma UCL (Use when n >= 40)	2.949		
95% Adjusted Gamma UCL (Use when n < 40)	4.159		

Potential UCL to Use	Use 95% Student's-t UCL	2.119

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

gamma-chlordane (µg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	2
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	5.46	Minimum Detected	1.697
Maximum Detected	27.3	Maximum Detected	3.307
Mean of Detected	14.96	Mean of Detected	2.508
SD of Detected	10.14	SD of Detected	0.747
Minimum Non-Detect	3.96	Minimum Non-Detect	1.376
Maximum Non-Detect	3.99	Maximum Non-Detect	1.384

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	2
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.923	Shapiro Wilk Test Statistic	0.936
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	10.63	Mean	1.901
SD	10.32	SD	1.104
95% DL/2 (t) UCL	19.12	95% H-Stat (DL/2) UCL	113.1

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	8.572	Mean in Log Scale	1.822
SD	12.13	SD in Log Scale	1.209
95% MLE (t) UCL	18.55	Mean in Original Scale	10.5
95% MLE (Tiku) UCL	19.34	SD in Original Scale	10.46
		95% t UCL	19.1
		95% Percentile Bootstrap UCL	17.06
		95% BCA Bootstrap UCL	18.42
		95% H UCL	177.3

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.838	Data appear Normal at 5% Significance Level
Theta Star	17.85	
nu star	6.704	

		Nonparametric Statistics	
A-D Test Statistic	0.311		
5% A-D Critical Value	0.66	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.66	Mean	11.79
5% K-S Critical Value	0.397	SD	8.452
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	3.984
		95% KM (t) UCL	19.82
Assuming Gamma Distribution		95% KM (z) UCL	18.34
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	19.29
Minimum	0.000001	95% KM (bootstrap t) UCL	18.17
Maximum	27.3	95% KM (BCA) UCL	21.83
Mean	9.972	95% KM (Percentile Bootstrap) UCL	20.86
Median	6.72	95% KM (Chebyshev) UCL	29.16
SD	11.01	97.5% KM (Chebyshev) UCL	36.67
k star	0.185	99% KM (Chebyshev) UCL	51.43
Theta star	53.98		
Nu star	2.217	Potential UCLs to Use	
AppChi2	0.184	95% KM (t) UCL	19.82
95% Gamma Approximate UCL (Use when n >= 40)	120.1	95% KM (Percentile Bootstrap) UCL	20.86
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor epoxide (µg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	1.425	Minimum of Log Data	0.354
Maximum	21	Maximum of Log Data	3.045
Mean	7.576	Mean of log Data	1.491
Geometric Mean	4.443	SD of log Data	1.125
Median	3.165		
SD	8.317		
Std. Error of Mean	3.395		
Coefficient of Variation	1.098		
Skewness	1.155		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.775	Shapiro Wilk Test Statistic	0.877
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	14.42	95% H-UCL	83.18
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	21.48
95% Adjusted-CLT UCL (Chen-1995)	14.87	97.5% Chebyshev (MVUE) UCL	27.62
95% Modified-t UCL (Johnson-1978)	14.68	99% Chebyshev (MVUE) UCL	39.7

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.647	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	11.7		
MLE of Mean	7.576		
MLE of Standard Deviation	9.416		
nu star	7.769		
Approximate Chi Square Value (.05)	2.602	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	13.16
Adjusted Chi Square Value	1.653	95% Jackknife UCL	14.42
		95% Standard Bootstrap UCL	12.81
Anderson-Darling Test Statistic	0.56	95% Bootstrap-t UCL	55.54
Anderson-Darling 5% Critical Value	0.714	95% Hall's Bootstrap UCL	65.41
Kolmogorov-Smirnov Test Statistic	0.304	95% Percentile Bootstrap UCL	12.82
Kolmogorov-Smirnov 5% Critical Value	0.34	95% BCA Bootstrap UCL	13.93
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	22.38
		97.5% Chebyshev(Mean, Sd) UCL	28.78
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	41.36
95% Approximate Gamma UCL (Use when n >= 40)	22.62		
95% Adjusted Gamma UCL (Use when n < 40)	35.6		

Potential UCL to Use	Use 95% Approximate Gamma UCL	22.62
Recommended UCL exceeds the maximum observation		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury (mg/kg)

General Statistics

Number of Valid Data	6	Number of Detected Data	3
Number of Distinct Detected Data	2	Number of Non-Detect Data	3
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.04	Minimum Detected	-3.219
Maximum Detected	0.1	Maximum Detected	-2.303
Mean of Detected	0.06	Mean of Detected	-2.913
SD of Detected	0.0346	SD of Detected	0.529
Minimum Non-Detect	0.0391	Minimum Non-Detect	-3.242
Maximum Non-Detect	0.0441	Maximum Non-Detect	-3.121

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	5
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	83.33%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.75	Shapiro Wilk Test Statistic	0.75
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0406	Mean	-3.386
SD	0.0306	SD	0.617
95% DL/2 (t) UCL	0.0657	95% H-Stat (DL/2) UCL	0.0922

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.266
		SD in Log Scale	0.554
		Mean in Original Scale	0.0439
		SD in Original Scale	0.0286
		95% t UCL	0.0674
		95% Percentile Bootstrap UCL	0.0651
		95% BCA Bootstrap UCL	0.0675
		95% H-UCL	0.0883

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)	
Theta Star	N/A		
nu star	N/A		
A-D Test Statistic	N/A	Nonparametric Statistics	
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.05
5% K-S Critical Value	N/A	SD	0.0224
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0112
		95% KM (t) UCL	0.0725
Assuming Gamma Distribution		95% KM (z) UCL	0.0684
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0702
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	0.06
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.1
Median	N/A	95% KM (Chebyshev) UCL	0.0987
SD	N/A	97.5% KM (Chebyshev) UCL	0.12
k star	N/A	99% KM (Chebyshev) UCL	0.161
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.0725
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.1
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Selenium (mg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	1
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.27	Minimum Detected	-1.309
Maximum Detected	0.38	Maximum Detected	-0.968
Mean of Detected	0.328	Mean of Detected	-1.121
SD of Detected	0.0396	SD of Detected	0.124
Minimum Non-Detect	0.209	Minimum Non-Detect	-1.564
Maximum Non-Detect	0.209	Maximum Non-Detect	-1.564

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.967	Shapiro Wilk Test Statistic	0.954
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.291	Mean	-1.31
SD	0.0978	SD	0.477
95% DL/2 (t) UCL	0.371	95% H-Stat (DL/2) UCL	0.524

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.303	Mean in Log Scale	-1.172
SD	0.0646	SD in Log Scale	0.168
95% MLE (t) UCL	0.357	Mean in Original Scale	0.313
95% MLE (Tiku) UCL	0.36	SD in Original Scale	0.0506
		95% t UCL	0.355
		95% Percentile Bootstrap UCL	0.343
		95% BCA Bootstrap UCL	0.34
		95% H UCL	0.366

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	33.41	Data appear Normal at 5% Significance Level
Theta Star	0.00982	
nu star	334.1	

		Nonparametric Statistics	
A-D Test Statistic	0.272		
5% A-D Critical Value	0.678	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.678	Mean	0.318
5% K-S Critical Value	0.357	SD	0.0389
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0178
		95% KM (t) UCL	0.354
Assuming Gamma Distribution		95% KM (z) UCL	0.348
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.357
Minimum	0.187	95% KM (bootstrap t) UCL	0.349
Maximum	0.38	95% KM (BCA) UCL	0.35
Mean	0.304	95% KM (Percentile Bootstrap) UCL	0.35
Median	0.325	95% KM (Chebyshev) UCL	0.396
SD	0.0677	97.5% KM (Chebyshev) UCL	0.429
k star	10.41	99% KM (Chebyshev) UCL	0.495
Theta star	0.0293		
Nu star	124.9	Potential UCLs to Use	
AppChi2	100.1	95% KM (t) UCL	0.354
95% Gamma Approximate UCL (Use when n >= 40)	0.38	95% KM (Percentile Bootstrap) UCL	0.35
95% Adjusted Gamma UCL (Use when n < 40)	0.413		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

4,4'-DDD (µg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	3
Number of Distinct Detected Data	2	Number of Non-Detect Data	3
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	40	Minimum Detected	3.689
Maximum Detected	100	Maximum Detected	4.605
Mean of Detected	60	Mean of Detected	3.994
SD of Detected	34.64	SD of Detected	0.529
Minimum Non-Detect	3.8	Minimum Non-Detect	1.335
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	50.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.75	Shapiro Wilk Test Statistic	0.75
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	30.97	Mean	2.327
SD	38.62	SD	1.857
95% DL/2 (t) UCL	62.74	95% H-Stat (DL/2) UCL	22325

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	61.18	Mean in Log Scale	3.189
SD	28.28	SD in Log Scale	0.964
95% MLE (t) UCL	84.45	Mean in Original Scale	35.59
95% MLE (Tiku) UCL	93.77	SD in Original Scale	34.64
		95% t UCL	64.08
		95% Percentile Bootstrap UCL	59.82
		95% BCA Bootstrap UCL	65.17
		95% H UCL	215.5

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	50
5% K-S Critical Value	N/A	SD	22.36
Data not Gamma Distributed at 5% Significance Level		SE of Mean	11.18
		95% KM (t) UCL	72.53
Assuming Gamma Distribution		95% KM (z) UCL	68.39
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	70.15
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	60
Mean	N/A	95% KM (Percentile Bootstrap) UCL	100
Median	N/A	95% KM (Chebyshev) UCL	98.73
SD	N/A	97.5% KM (Chebyshev) UCL	119.8
k star	N/A	99% KM (Chebyshev) UCL	161.2
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	72.53
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	100
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

4,4'-DDE (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	6	Number of Distinct Observations	4
Raw Statistics		Log-transformed Statistics	
Minimum	30	Minimum of Log Data	3.401
Maximum	110	Maximum of Log Data	4.7
Mean	48.33	Mean of log Data	3.751
Geometric Mean	42.56	SD of log Data	0.51
Median	35		
SD	31.25		
Std. Error of Mean	12.76		
Coefficient of Variation	0.647		
Skewness	2.118		

Warning: There are only 4 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.687	Shapiro Wilk Test Statistic	0.776
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	74.04	95% H-UCL	88.86
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	90.21
95% Adjusted-CLT UCL (Chen-1995)	81.1	97.5% Chebyshev (MVUE) UCL	108.8
95% Modified-t UCL (Johnson-1978)	75.88	99% Chebyshev (MVUE) UCL	145.2
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.155	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	22.43		
MLE of Mean	48.33		
MLE of Standard Deviation	32.93		
nu star	25.86		
Approximate Chi Square Value (.05)	15.27	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	69.32
Adjusted Chi Square Value	12.43	95% Jackknife UCL	74.04
		95% Standard Bootstrap UCL	66.95
Anderson-Darling Test Statistic	0.775	95% Bootstrap-t UCL	139.1
Anderson-Darling 5% Critical Value	0.7	95% Hall's Bootstrap UCL	143.8
Kolmogorov-Smirnov Test Statistic	0.265	95% Percentile Bootstrap UCL	70
Kolmogorov-Smirnov 5% Critical Value	0.333	95% BCA Bootstrap UCL	75
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	103.9
		97.5% Chebyshev(Mean, Sd) UCL	128
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	175.3
95% Approximate Gamma UCL (Use when n >= 40)	81.85		
95% Adjusted Gamma UCL (Use when n < 40)	100.5		
Potential UCL to Use		Use 95% Approximate Gamma UCL	81.85

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

alpha-Chlordane (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	6	Number of Distinct Observations	4
Raw Statistics		Log-transformed Statistics	
Minimum	60	Minimum of Log Data	4.094
Maximum	250	Maximum of Log Data	5.521
Mean	101.7	Mean of log Data	4.477
Geometric Mean	87.96	SD of log Data	0.528
Median	70		
SD	73.33		
Std. Error of Mean	29.94		
Coefficient of Variation	0.721		
Skewness	2.355		

Warning: There are only 4 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.608	Shapiro Wilk Test Statistic	0.7
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	162	95% H-UCL	191.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	191.1
95% Adjusted-CLT UCL (Chen-1995)	181.7	97.5% Chebyshev (MVUE) UCL	231.2
95% Modified-t UCL (Johnson-1978)	166.8	99% Chebyshev (MVUE) UCL	309.8
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.916	Data do not follow a Discernable Distribution (0.05)	
Theta Star	53.06		
MLE of Mean	101.7		
MLE of Standard Deviation	73.45		
nu star	22.99		
Approximate Chi Square Value (.05)	13.09	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	150.9
Adjusted Chi Square Value	10.49	95% Jackknife UCL	162
		95% Standard Bootstrap UCL	146.7
Anderson-Darling Test Statistic	1.096	95% Bootstrap-t UCL	598.6
Anderson-Darling 5% Critical Value	0.701	95% Hall's Bootstrap UCL	590
Kolmogorov-Smirnov Test Statistic	0.353	95% Percentile Bootstrap UCL	158.3
Kolmogorov-Smirnov 5% Critical Value	0.334	95% BCA Bootstrap UCL	163.3
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	232.2
		97.5% Chebyshev(Mean, Sd) UCL	288.6
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	399.5
95% Approximate Gamma UCL (Use when n >= 40)	178.6		
95% Adjusted Gamma UCL (Use when n < 40)	222.8		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	232.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics			
Number of Valid Observations	17	Number of Distinct Observations	17
Raw Statistics		Log-transformed Statistics	
Minimum	237.7	Minimum of Log Data	5.471
Maximum	17400	Maximum of Log Data	9.764
Mean	2175	Mean of log Data	7.039
Geometric Mean	1140	SD of log Data	1.019
Median	1030		
SD	3998		
Std. Error of Mean	969.7		
Coefficient of Variation	1.839		
Skewness	3.869		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.434	Shapiro Wilk Test Statistic	0.933
Shapiro Wilk Critical Value	0.892	Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	3868	95% H-UCL	3810
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4026
95% Adjusted-CLT UCL (Chen-1995)	4742	97.5% Chebyshev (MVUE) UCL	4973
95% Modified-t UCL (Johnson-1978)	4019	99% Chebyshev (MVUE) UCL	6835
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.785	Data appear Lognormal at 5% Significance Level	
Theta Star	2772		
MLE of Mean	2175		
MLE of Standard Deviation	2455		
nu star	26.67		
Approximate Chi Square Value (.05)	15.9	Nonparametric Statistics	
Adjusted Level of Significance	0.0346	95% CLT UCL	3770
Adjusted Chi Square Value	15.03	95% Jackknife UCL	3868
		95% Standard Bootstrap UCL	3653
Anderson-Darling Test Statistic	1.187	95% Bootstrap-t UCL	8715
Anderson-Darling 5% Critical Value	0.77	95% Hall's Bootstrap UCL	9935
Kolmogorov-Smirnov Test Statistic	0.252	95% Percentile Bootstrap UCL	4036
Kolmogorov-Smirnov 5% Critical Value	0.216	95% BCA Bootstrap UCL	5142
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	6402
		97.5% Chebyshev(Mean, Sd) UCL	8231
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	11823
95% Approximate Gamma UCL (Use when n >= 40)	3648		
95% Adjusted Gamma UCL (Use when n < 40)	3859		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	6402

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

gamma-Chlordane (µg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	4

Raw Statistics		Log-transformed Statistics	
Minimum	30	Minimum of Log Data	3.401
Maximum	160	Maximum of Log Data	5.075
Mean	60	Mean of log Data	3.909
Geometric Mean	49.86	SD of log Data	0.594
Median	40		
SD	49.4		
Std. Error of Mean	20.17		
Coefficient of Variation	0.823		
Skewness	2.36		

Warning: There are only 4 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.612	Shapiro Wilk Test Statistic	0.736
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	100.6	95% H-UCL	127.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	118.3
95% Adjusted-CLT UCL (Chen-1995)	113.9	97.5% Chebyshev (MVUE) UCL	144.5
95% Modified-t UCL (Johnson-1978)	103.9	99% Chebyshev (MVUE) UCL	196.1

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.539	Data do not follow a Discernable Distribution (0.05)	
Theta Star	38.98		
MLE of Mean	60		
MLE of Standard Deviation	48.36		
nu star	18.47		
Approximate Chi Square Value (.05)	9.731	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	93.17
Adjusted Chi Square Value	7.552	95% Jackknife UCL	100.6
		95% Standard Bootstrap UCL	90.56
Anderson-Darling Test Statistic	1.042	95% Bootstrap-t UCL	283.2
Anderson-Darling 5% Critical Value	0.702	95% Hall's Bootstrap UCL	324.2
Kolmogorov-Smirnov Test Statistic	0.372	95% Percentile Bootstrap UCL	100
Kolmogorov-Smirnov 5% Critical Value	0.335	95% BCA Bootstrap UCL	98.33
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	147.9
		97.5% Chebyshev(Mean, Sd) UCL	185.9
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	260.6
95% Approximate Gamma UCL (Use when n >= 40)	113.9		
95% Adjusted Gamma UCL (Use when n < 40)	146.7		

Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	147.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cobalt (mg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	4
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.347	Minimum Detected	-1.058
Maximum Detected	0.403	Maximum Detected	-0.908
Mean of Detected	0.375	Mean of Detected	-0.983
SD of Detected	0.0399	SD of Detected	0.106
Minimum Non-Detect	0.276	Minimum Non-Detect	-1.287
Maximum Non-Detect	0.378	Maximum Non-Detect	-0.973

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	5
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	83.33%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.235	Mean	-1.537
SD	0.112	SD	0.447
95% DL/2 (t) UCL	0.327	95% H-Stat (DL/2) UCL	0.393

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.356
5% K-S Critical Value	N/A	SD	0.021
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0121
		95% KM (t) UCL	0.381
Assuming Gamma Distribution		95% KM (z) UCL	0.376
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.4
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.403
Median	N/A	95% KM (Chebyshev) UCL	0.409
SD	N/A	97.5% KM (Chebyshev) UCL	0.432
k star	N/A	99% KM (Chebyshev) UCL	0.477
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.381
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.403
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin (µg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	3
Number of Distinct Detected Data	2	Number of Non-Detect Data	3
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	10	Minimum Detected	2.303
Maximum Detected	60	Maximum Detected	4.094
Mean of Detected	26.67	Mean of Detected	2.9
SD of Detected	28.87	SD of Detected	1.034
Minimum Non-Detect	3.8	Minimum Non-Detect	1.335
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	50.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.75	Shapiro Wilk Test Statistic	0.75
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	14.31	Mean	1.784
SD	22.73	SD	1.386
95% DL/2 (t) UCL	33.01	95% H-Stat (DL/2) UCL	463.1
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.473	Mean in Log Scale	1.343
SD	33.56	SD in Log Scale	1.827
95% MLE (t) UCL	29.09	Mean in Original Scale	13.74
95% MLE (Tiku) UCL	35.62	SD in Original Scale	23.11
		95% t UCL	32.75
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H UCL	6544

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)	
Theta Star	N/A		
nu star	N/A		
A-D Test Statistic	N/A	Nonparametric Statistics	
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	18.33
5% K-S Critical Value	N/A	SD	18.63
Data not Gamma Distributed at 5% Significance Level		SE of Mean	9.317
		95% KM (t) UCL	37.11
Assuming Gamma Distribution		95% KM (z) UCL	33.66
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	35.13
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	26.67
Mean	N/A	95% KM (Percentile Bootstrap) UCL	60
Median	N/A	95% KM (Chebyshev) UCL	58.94
SD	N/A	97.5% KM (Chebyshev) UCL	76.52
k star	N/A	99% KM (Chebyshev) UCL	111
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (BCA) UCL	26.67
95% Gamma Approximate UCL (Use when n >= 40)	N/A		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor epoxide (µg/kg, wet weight)

General Statistics

Number of Valid Data	6	Number of Detected Data	3
Number of Distinct Detected Data	2	Number of Non-Detect Data	3
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	10	Minimum Detected	2.303
Maximum Detected	50	Maximum Detected	3.912
Mean of Detected	23.33	Mean of Detected	2.839
SD of Detected	23.09	SD of Detected	0.929
Minimum Non-Detect	3.8	Minimum Non-Detect	1.335
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	50.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.75	Shapiro Wilk Test Statistic	0.75
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	12.63	Mean	1.749
SD	18.73	SD	1.331
95% DL/2 (t) UCL	28.04	95% H-Stat (DL/2) UCL	322.1
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.357	Mean in Log Scale	1.424
SD	27.59	SD in Log Scale	1.693
95% MLE (t) UCL	25.05	Mean in Original Scale	12.22
95% MLE (Tiku) UCL	30.39	SD in Original Scale	19.02
		95% t UCL	27.86
		95% Percentile Bootstrap UCL	25.74
		95% BCA Bootstrap UCL	28.62
		95% H UCL	2534

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)	
Theta Star	N/A		
nu star	N/A		
A-D Test Statistic	N/A	Nonparametric Statistics	
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	16.67
5% K-S Critical Value	N/A	SD	14.91
Data not Gamma Distributed at 5% Significance Level		SE of Mean	7.454
		95% KM (t) UCL	31.69
Assuming Gamma Distribution		95% KM (z) UCL	28.93
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	30.1
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	23.33
Mean	N/A	95% KM (Percentile Bootstrap) UCL	50
Median	N/A	95% KM (Chebyshev) UCL	49.16
SD	N/A	97.5% KM (Chebyshev) UCL	63.21
k star	N/A	99% KM (Chebyshev) UCL	90.83
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	31.69
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	50
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Mercury (mg/kg, wet weight)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6
Raw Statistics		Log-transformed Statistics	
Minimum	0.0865	Minimum of Log Data	-2.448
Maximum	0.157	Maximum of Log Data	-1.85
Mean	0.118	Mean of log Data	-2.156
Geometric Mean	0.116	SD of log Data	0.216
Median	0.118		
SD	0.0255		
Std. Error of Mean	0.0104		
Coefficient of Variation	0.216		
Skewness	0.393		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.98	Shapiro Wilk Test Statistic	0.988
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.139	95% H-UCL	0.145
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.163
95% Adjusted-CLT UCL (Chen-1995)	0.137	97.5% Chebyshev (MVUE) UCL	0.183
95% Modified-t UCL (Johnson-1978)	0.139	99% Chebyshev (MVUE) UCL	0.222
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	13.07	Data appear Normal at 5% Significance Level	
Theta Star	0.00903		
MLE of Mean	0.118		
MLE of Standard Deviation	0.0327		
nu star	156.8		
Approximate Chi Square Value (.05)	128.9	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	0.135
Adjusted Chi Square Value	119.7	95% Jackknife UCL	0.139
		95% Standard Bootstrap UCL	0.133
Anderson-Darling Test Statistic	0.162	95% Bootstrap-t UCL	0.142
Anderson-Darling 5% Critical Value	0.697	95% Hall's Bootstrap UCL	0.14
Kolmogorov-Smirnov Test Statistic	0.154	95% Percentile Bootstrap UCL	0.135
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	0.134
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.163
		97.5% Chebyshev(Mean, Sd) UCL	0.183
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.222
95% Approximate Gamma UCL (Use when n >= 40)	0.144		
95% Adjusted Gamma UCL (Use when n < 40)	0.155		
Potential UCL to Use		Use 95% Student's-t UCL	0.139

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Shellfish

Total PCB Aroclors (ug/kg, wet weight)

General Statistics

Number of Valid Observations	12	Number of Distinct Observations	12

Raw Statistics		Log-transformed Statistics	
Minimum	1270	Minimum of Log Data	7.147
Maximum	2760	Maximum of Log Data	7.923
Mean	1813	Mean of log Data	7.476
Geometric Mean	1765	SD of log Data	0.24
Median	1654		
SD	446.9		
Std. Error of Mean	129		
Coefficient of Variation	0.246		
Skewness	0.737		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.928	Shapiro Wilk Test Statistic	0.95
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2045	95% H-UCL	2080
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2362
95% Adjusted-CLT UCL (Chen-1995)	2055	97.5% Chebyshev (MVUE) UCL	2600
95% Modified-t UCL (Johnson-1978)	2049	99% Chebyshev (MVUE) UCL	3067

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	14.21	Data appear Normal at 5% Significance Level	
Theta Star	127.6		
MLE of Mean	1813		
MLE of Standard Deviation	480.9		
nu star	341.1		
Approximate Chi Square Value (.05)	299.3	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	2025
Adjusted Chi Square Value	293.4	95% Jackknife UCL	2045
		95% Standard Bootstrap UCL	2017
Anderson-Darling Test Statistic	0.334	95% Bootstrap-t UCL	2082
Anderson-Darling 5% Critical Value	0.732	95% Hall's Bootstrap UCL	2089
Kolmogorov-Smirnov Test Statistic	0.201	95% Percentile Bootstrap UCL	2024
Kolmogorov-Smirnov 5% Critical Value	0.245	95% BCA Bootstrap UCL	2032
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2375
		97.5% Chebyshev(Mean, Sd) UCL	2619
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3097
95% Approximate Gamma UCL (Use when n >= 40)	2066		
95% Adjusted Gamma UCL (Use when n < 40)	2108		

Potential UCL to Use	Use 95% Student's-t UCL	2045

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg, wet weight)

General Statistics

Number of Valid Observations	28	Number of Distinct Observations	17

Raw Statistics		Log-transformed Statistics	
Minimum	400	Minimum of Log Data	5.991
Maximum	2400	Maximum of Log Data	7.783
Mean	1308	Mean of log Data	7.098
Geometric Mean	1210	SD of log Data	0.418
Median	1100		
SD	498.3		
Std. Error of Mean	94.18		
Coefficient of Variation	0.381		
Skewness	0.376		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.961	Shapiro Wilk Test Statistic	0.952
Shapiro Wilk Critical Value	0.924	Shapiro Wilk Critical Value	0.924
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1468	95% H-UCL	1536
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1784
95% Adjusted-CLT UCL (Chen-1995)	1470	97.5% Chebyshev (MVUE) UCL	1986
95% Modified-t UCL (Johnson-1978)	1469	99% Chebyshev (MVUE) UCL	2383

Gamma Distribution Test		Data Distribution
k star (bias corrected)	5.925	Data appear Normal at 5% Significance Level
Theta Star	220.7	
MLE of Mean	1308	
MLE of Standard Deviation	537.1	
nu star	331.8	
Approximate Chi Square Value (.05)	290.6	Nonparametric Statistics
Adjusted Level of Significance	0.0404	95% CLT UCL 1462
Adjusted Chi Square Value	288.2	95% Jackknife UCL 1468
		95% Standard Bootstrap UCL 1462
Anderson-Darling Test Statistic	0.399	95% Bootstrap-t UCL 1480
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL 1474
Kolmogorov-Smirnov Test Statistic	0.154	95% Percentile Bootstrap UCL 1458
Kolmogorov-Smirnov 5% Critical Value	0.166	95% BCA Bootstrap UCL 1472
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 1718
		97.5% Chebyshev(Mean, Sd) UCL 1896
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 2245
95% Approximate Gamma UCL (Use when n >= 40)	1493	
95% Adjusted Gamma UCL (Use when n < 40)	1505	

Potential UCL to Use		
	Use 95% Student's-t UCL	1468

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

APPENDIX D

Exposure Assessment Modeling
Equations and Assumptions

APPENDIX D

EXPOSURE ASSESSMENT MODELING EQUATIONS AND ASSUMPTIONS

- **Volatile Chemical and Respirable Particulate Release to Outdoor Air**
- **Volatile Chemical and Respirable Particulate Release to Outdoor Air During Excavation Activities**
- **Dermal Exposure Assessment Worksheets**
- **RAGS Part D Adult Lead Model Worksheets**
- **RAGS Part D IEUBK Model Worksheets**

VOLATILE CHEMICAL AND RESPIRABLE PARTICULATE RELEASE TO OUTDOOR AIR

The baseline human health risk assessment (BHHRA) evaluated the potential inhalation exposure of current/future recreationists/sportsmen/anglers, outdoor workers, residents, and commercial/industrial workers to volatile and non-volatile chemicals of potential concern (COPC) that migrate to or are emitted from floodplain soil to outdoor air. It was assumed volatile COPCs passively migrate from All Soil to outdoor air and non-volatile COPCs are released as or on particulates due to action of the wind on soil exposed at the surface (Surface Soil or All Soil, depending on the data set used for each receptor population). These exposure scenarios are different from the current/future construction/utility worker scenario, which considers COPC emissions from All Soil during excavation of a trench for utility installation, maintenance, or repair and is based on related but different methodology described in the next section.

The methodology to evaluate inhalation exposure pathways for current/future recreationists/sportsmen/anglers, outdoor workers, residents, and commercial/industrial workers required determination of chemical- and receptor-specific volatilization factors (VF) for the volatile COPCs in All Soil and a semi-site-specific particulate emission factor (PEF) for the non-volatile COPCs in Surface Soil and All Soil, and concentrations in outdoor air at the presumed points of exposure for each receptor. The following describes the equations and input parameter values used to calculate these factors and resultant concentrations in outdoor air.

Emissions of Volatile COPCs

The only volatile organic chemical (VOC) identified as a COPC in floodplain soil was cis-1,2-dichloroethene in Surface Soil and All Soil of exposure unit (EU) BB5. However, volatile chemicals are technically defined by the U.S. Environmental Protection Agency (USEPA) (1991) as a chemical with a Henry's Law Constant (HLC) of 1×10^{-5} atm-m^3/mole or greater <u>and</u> a molecular weight less than 200 g/mole. Based on this definition, additional COPCs in All Soil were evaluated to determine whether they may be considered sufficiently volatile to be included in these analyses, even though they were analyzed with the semi-volatile fraction of the floodplain soil samples.

Acenaphthylene and phenanthrene were identified as COPCs in one or more All Soil data sets and have HLC greater than 1×10^{-5} atm-m^3/mole and molecular weights less than 200 g/mole (USDOE, 2012). However, inhalation toxicity values are not available for cis-1,2-dichloroethene or either of these two SVOCs; therefore, chemical-specific VFs were not calculated for this BHHRA.

Emissions of COPCs Associated with Respirable Particulates

Soil exposed at the surface (Surface Soil or All Soil, depending on the particular receptor population) has the potential to emit fugitive dust due to action of the wind. Dust particles with an aerodynamic diameter less than 10 µm (*i.e.*, PM_{10}) may be inhaled.

As recommended by the USEPA (2002), the following equation was used to calculate a semi-site-specific PEF (m^3/kg):

$$PEF = Q/C_{wind} \times \frac{3{,}600 s/h}{0.036 \times (1 - V) \times (U_m/U_t)^3 \times F(x)}$$

Where:

Q/C_{wind}	=	Inverse of the ratio of the geometric mean air concentration to the emission flux at the center of a square source (g/m^2-s per kg/m^3)
V	=	Fraction of vegetative cover (unitless)
U_m	=	Mean annual wind speed (m/s)
U_t	=	Equivalent threshold value of windspeed at 7m (m/s)
F(x)	=	Function dependent on U_m/U_t cover (unitless)

The USEPA (2002) default value of 93.77 for Q/C_{wind} assumes a 0.5-acre emission source. The default site area was retained for this BHHRA, but a semi-site specific Q/C_{wind} value was calculated using constant values specific to Philadelphia, PA.

Wind-generated particulate emissions were calculated assuming the following parameter values:

- The soil surface was assumed to be 50% vegetated (V=0.5).
- A mean annual wind speed (U_m) of 4.56 m/s was obtained from local climatological data from Newark International Airport.
- The USEPA (2002) default value of 11.32 m/s for U_t was used.
- The USEPA (2002) default value of 0.194 for F(x) was used.

Table D-1 presents the PEF calculation. The same PEF value was used for all EUs and for all receptor populations, as it is based on climatic data and site characteristics and not receptor-specific exposure parameters.

Outdoor Air Concentrations of Particulate COPCs

Ambient air concentrations at each receptor location were estimated by multiplying the semi-site-specific PEF by EPCs for the non-volatile COPCs in Surface Soil or All Soil, according to the following equation:

For non-volatile COPCs, $C_a = EPC \times 1/PEF \times (10^3\ \mu g/mg)$

Where:

C_a = Exposure concentration in outdoor air ($\mu g/m^3$)
EPC = Exposure point concentration in floodplain soil (mg/kg)
VF = Volatilization factor (m^3/kg)
PEF = Particulate emission factor (m^3/kg)

References

U.S. Department of Energy. 2012. Risk Assessment Information System. Oak Ridge National Laboratory, Oak Ridge, TN. Access online: http://risk.lsd.ornl.gov/index.shtml

U.S. Environmental Protection Agency. 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. OSWER 9355.4-24. Office of Solid Waste and Emergency Response, Washington, DC. (December 2002)

U.S. Environmental Protection Agency. 1991. Risk Assessment Guidance for Superfund: Volume I – Human Health Evaluation Manual (Part B, Development of Risk-based Preliminary Remediation Goals). Interim. EPA/540/R-92/003. Office of Emergency and Remedial Response, Washington, DC. (December 1991)

VOLATILE CHEMICAL AND RESPIRABLE PARTICULATE RELEASE TO OUTDOOR AIR DURING CONSTRUCTION/UTILITY WORKER EXCAVATION ACTIVITES

The BHHRA evaluated the potential exposure of current/future construction/utility workers to volatile and non-volatile COPCs in All Soil during the course of excavating and working in the vicinity of an excavation for underground utility installation, maintenance, or repair. The evaluation required determination of COPC emission fluxes (for volatile COPCs) or emission rates (for non-volatile COPCs released from soil as or on particulates) and chemical concentrations in outdoor air above the excavation.

The following describes the equations and parameter values used to complete the analysis for each EU in the Study Area.

Emissions of Volatile COPCs

The only VOC identified as a COPC in floodplain soil was cis-1,2-dichloroethene in Surface Soil and All Soil of exposure unit (EU) BB5. However, volatile chemicals are technically defined by the U.S. Environmental Protection Agency (USEPA) (1991) as chemicals with a Henry's Law Constant of 1×10^{-5} atm-m^3/mole or greater <u>and</u> a molecular weight less than 200 g/mole. Based on this definition, additional COPCs in All Soil were evaluated to determine whether they may be considered sufficiently volatile to be included in these analyses, even though they were analyzed with the semi-volatile fraction of the floodplain soil samples.

Acenaphthylene and phenanthrene were identified as COPCs in one or more All Soil data sets and have HLC greater than 1×10^{-5} atm-m^3/mole and molecular weights less than 200 g/mole (USDOE, 2012). However, inhalation toxicity values are not available for cis-1,2-dichloroethene or either of these two SVOCs. Modeling of volatile COPC emissions from All Soil was therefore not performed for this BHHRA.

Emissions of COPCs Associated with Respirable Particulates

All non-volatile COPCs in All Soil were included in the evaluation of particulate emissions for each EU.

The emission rate calculation considered the digging of an excavation by a backhoe. Assuming a backhoe digs a 1.5 m wide x 5.0 m long x 3.0 m deep excavation for underground utility installation, maintenance or repair, the total volume of excavated soil equals 22.5 m^3. The bucket of the backhoe was assumed to hold 2 m^3 (USEPA, 1992), taking 11.25 scoops to dig the excavation. The backhoe was assumed to operate (dig and

dump) at a rate of 75 scoops per hour (USEPA, 1992). At this rate, the excavation would be dug in 9 minutes or 540 seconds.

The excavating and dumping processes are assumed to be uncontrolled, but it was assumed that the pile was covered to prevent wind erosion. It was assumed that a construction/utility worker downwind of the excavation is exposed to respirable particulates from emissions due to the soil handling (excavating and dumping).

For the inhalation of non-volatile COPCs in soil adsorbed to respirable particulates released during the digging of the excavation, particulate emissions are estimated from the following equation (USEPA, 1993):

$$E = \frac{k\,x\,(0.0016)\,x\,(M)\,x\,(U/2.2)^{1.3}}{\left(X_{H2O}/2\right)^{1.4}}$$

Where:

E	=	PM emissions (g)
k	=	Particle size multiplier (dimensionless)
0.0016	=	Empirical constant (g/kg)
M	=	Mass of soil handled (kg)
U	=	Mean wind speed (m/s)
2.2	=	Empirical constant (m/s)
X_{H2O}	=	Percent moisture (%)

The following parameters were assumed or calculated:

- A particle size multiplier (k) of 0.35 was used to evaluate particulate matter less than 10 µ mean aerodynamic diameter (PM_{10}) (USEPA, 1993).
- Based on the volume of soil excavated (22.5 m^3) and the assumed dry soil bulk density (1.5 g/cm^3), the mass of soil handled (M) is 33,750 kg.
- A mean annual wind speed (U) of 4.56 m/s was obtained from local climatological data from Newark International Airport.
- A default soil moisture content (X_{H2O}) of 10% (USEPA, 1995a) was used.

The determination of a PM_{10} emission rate requires the calculation of the fraction (X_i) of the chemical associated with to PM_{10}. For the non-volatile COPCs in soil, the fraction associated with PM_{10} is calculated by simply converting the COPC concentration in soil

into a dimensionless factor. A PM_{10} emission rate (ER) for each COPC is then calculated from the following equation:

$$ER = \frac{(X_i)\,x\,(E)}{t_{Vsoil}}$$

Where:

ER	=	Emission rate of PM_{10} (g/s)
Xi	=	Fraction of chemical in PM_{10} (mg/mg)
t_{Vsoil}	=	Time to excavate (s)

Air Concentrations of COPCs Associated with Respirable Particulates

Outdoor air concentrations of respirable particulate emissions, released during excavation of the soil and subsequent dumping onto temporary storage piles, were modeled as a volume source using the USEPA-approved model, SCREEN3, version 96043 (USEPA, 1995b). In the SCREEN3 model, the size of the volume source was set equal to the entire volume of the excavated soil (22.5 m^3 or a 2.82-meter cube). The height of the volume source was set equal to one-half the source height, 1.4 meters (2.82m/2 = 1.4 m). The initial lateral and vertical dimensions of the volume source was set at 0.66 meters, following USEPA guidance. The height of the receptor was set at 1.8 m (breathing height for a construction/utility worker). The source was modeled using the array of screening level meteorology hardwired in SCREEN3 (54 combinations of wind speed and stability). Other parameters were as described above. This results in predicting the worst-case impact. The emission rate was set at 1 g/s. Output was then in the form of $\mu g/m^3$ per g/s.

The modeling analysis predicted a maximum 1-hour average unitized impact of 1.45E+05 $\mu g/m^3$ per g/s. The maximum 1-hour average concentrations of the COPCs in soil associated with respirable particulates (in mg/m^3) in the ambient air was calculated from the following equation:

$$C = ER \times \text{Maximum 1-hour average unitized impact} \times 10^{-3}\ mg/\mu g$$

Where:

ER	=	Emission rate of PM_{10} (g/s)
C	=	Maximum 1-hour average PM_{10} concentration (mg/m^3)

Tables D-2 through D-8 present the PM_{10} emission rate and air concentration calculations for the non-volatile COPCs in each EU.

References

U.S. Department of Energy. 2012. Risk Assessment Information System. Oak Ridge National Laboratory, Oak Ridge, TN. Access online: http://risk.lsd.ornl.gov/index.shtml

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U.S. Environmental Protection Agency. 1995b. SCREEN3 Model User's Guide. EPA-454/B-95-004. Office of Air Quality Planning and Standards, Emissions, Monitoring, and Analysis Division, Research Triangle Park, NC. (September 1995)

U.S. Environmental Protection Agency. 1993. Estimation of Air Impacts from Area Sources of Particulate Matter Emissions at Superfund Sites. EPA-451/R-93-004. Air/Superfund National Technical Guidance Study Series. Office of Air Quality Planning and Standards, Research Triangle Park, NC. (April 1993).

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U.S. Environmental Protection Agency. 1991. Risk Assessment Guidance for Superfund: Volume I – Human Health Evaluation Manual (Part B, Development of Risk-based Preliminary Remediation Goals). Interim. EPA/540/R-92/003. Office of Emergency and Remedial Response, Washington, DC. (December 1991)

TABLE D-1: DERIVATION OF PARTICULATE EMISSION FACTOR
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Exposure Medium:	Floodplain Soil, Surface Soil or All Soil
Exposure Unit:	Not-specific
Receptor Population:	Not-specific

A_{site} (acres)	Q/C_{wind} (g/m^2-s per kg/m^3)	V (unitless)	U_m (m/s)	U_t (m/s)	F(x) (unitless)	PEF (m^3/kg)
0.5	87.4	0.5	4.56	11.32	0.194	1.38E+09

Equations

PEF (m^3/kg) = Q/C_{wind} x 3,600 / [0.036 x (1-V) x $(Um/Ut)^3$ x F(x)] (Equation 4-5; USEPA, 2002)

Q/C_{wind} (g/m^2-s per kg/m^3) = A x e^[(ln A_{site} - B)^2 / C] (Equation D-1; USEPA, 2002)

Where, values for constants for calculating Q/C_{wind}:

A =	14.0111	(Exhibit D-2; USEPA, 2002)
B =	19.6154	Factors for Zone 8, Philadelphia, PA
C =	225.3397	

Definitions

A_{site}	Site acreage, USEPA default
F(x)	Function dependent on U_m/U_t
Q/C_{wind}	Inverse of the ratio of the geometric mean air concentration to the emission flux at the center of a square source
U_m	Mean annual wind speed (Newark International Airport)
U_t	Equivalent threshold value of windspeed at 7 meters anemometer height
V	Fraction of site covered by vegetation

TABLE D-2: RESPIRABLE PARTICULATE EMISSIONS DURING EXCAVATION OF A UTILITY TRENCH
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Exposure Medium:	Floodplain Soil, All Soil
Exposure Unit:	Green Brook (GB)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Objective: Determination of outdoor concentrations of chemicals adsorbed to respirable particulates associated with the excavation of 1.5 m-wide x 5 m-long x 3 m-deep trench.

Chemical of Potential Concern	C_i Soil Concentration mg/kg	X_i Soil Concentration mg/mg	E PM Emissions g	ER PM_{10} Emission Rate g/s	C Maximum 1-Hour Average PM_{10} Concentration mg/m^3
Acenaphthylene	2.0E-01	2.0E-07	5.1E+00	1.9E-09	--
Benzo(a)anthracene	7.5E-01	7.5E-07	5.1E+00	7.1E-09	1.0E-06
Benzo(a)pyrene	7.8E-01	7.8E-07	5.1E+00	7.4E-09	1.1E-06
Benzo(b)fluroanthene	1.1E+00	1.1E-06	5.1E+00	1.0E-08	1.5E-06
Benzo(g,h,i)perylene	4.5E-01	4.5E-07	5.1E+00	4.3E-09	6.2E-07
Carbazole	2.9E-01	2.9E-07	5.1E+00	2.8E-09	4.0E-07
Dibenzo(a,h)anthracene	3.2E-01	3.2E-07	5.1E+00	3.0E-09	4.4E-07
Indeno(1,2,3-cd)pyrene	4.8E-01	4.8E-07	5.1E+00	4.6E-09	6.6E-07
Phenanthrene	8.6E-01	8.6E-07	5.1E+00	8.2E-09	--
Total PCB Aroclors	5.3E-02	5.3E-08	5.1E+00	5.0E-10	7.3E-08
Aluminum	2.2E+04	2.2E-02	5.1E+00	2.1E-04	3.0E-02
Arsenic	5.7E+00	5.7E-06	5.1E+00	5.4E-08	7.8E-06
Cobalt	1.2E+01	1.2E-05	5.1E+00	1.1E-07	1.7E-05
Iron	3.0E+04	3.0E-02	5.1E+00	2.9E-04	4.1E-02
Manganese	6.4E+02	6.4E-04	5.1E+00	6.1E-06	8.8E-04
Mercury	2.2E+00	2.2E-06	5.1E+00	2.1E-08	3.0E-06
Vanadium	4.8E+01	4.8E-05	5.1E+00	4.6E-07	6.6E-05

Parameter	Value	Source
(1) Particle size multiplier (k, unitless) =	0.35	Default for PM_{10}
(2) Empirical constant (0.0016, g/kg) =	0.0016	
(3) Mass of soil handled (M, kg) =	33,750	Based on the volume of soil excavated (22.5 m^3) and default soil bulk density (1.5 g/cm^3), which is applicable to silt loam
(4) Mean wind speed (U, m/s) =	4.56	Newark International Airport
(5) Empirical constant (2.2, g/kg) =	2.2	
(6) Percent moisture (X_{H2O}, %) =	10	Default (USEPA, 1995b)
(7) Fraction of chemical in PM_{10} (X_i, unitless) =	chemical-specific	Concentration in soil converted to mg/mg
(8) Time to excavate (t_{vsoil}, s)	540	Calculated
(9) Maximum 1-hour unitized impact ($\mu g/m^3$ per g/s) =	1.45E+05	Predicted from SCREEN3, for urban land use

TABLE D-3: RESPIRABLE PARTICULATE EMISSIONS DURING EXCAVATION OF A UTILITY TRENCH
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Exposure Medium:	Floodplain Soil, All Soil
Exposure Unit:	Bound Brook 1 (BB1)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Objective: Determination of outdoor concentrations of chemicals adsorbed to respirable particulates associated with the excavation of 1.5 m-wide x 5 m-long x 3 m-deep trench.

Chemical of Potential Concern	C_i Soil Concentration mg/kg	X_i Soil Concentration mg/mg	E PM Emissions g	ER PM_{10} Emission Rate g/s	C Maximum 1-Hour Average PM_{10} Concentration mg/m^3
Acenaphthylene	3.7E-02	3.7E-08	5.1E+00	3.5E-10	--
Benzo(a)anthracene	1.0E+00	1.0E-06	5.1E+00	9.5E-09	1.4E-06
Benzo(a)pyrene	1.1E+00	1.1E-06	5.1E+00	1.0E-08	1.5E-06
Benzo(b)fluroanthene	1.2E+00	1.2E-06	5.1E+00	1.1E-08	1.7E-06
Benzo(g,h,i)perylene	6.1E-01	6.1E-07	5.1E+00	5.8E-09	8.4E-07
Benzo(k)fluroanthene	1.1E+00	1.1E-06	5.1E+00	1.0E-08	1.5E-06
Carbazole	4.6E-02	4.6E-08	5.1E+00	4.4E-10	6.3E-08
Dibenzo(a,h)anthracene	2.2E-01	2.2E-07	5.1E+00	2.1E-09	3.0E-07
Dimethyl phthalate	9.2E+00	9.2E-06	5.1E+00	8.7E-08	1.3E-05
di-n-Octyl phthalate	1.2E-01	1.2E-07	5.1E+00	1.1E-09	1.7E-07
Indeno(1,2,3-cd)pyrene	5.7E-01	5.7E-07	5.1E+00	5.4E-09	7.8E-07
Phenanthrene	8.9E-01	8.9E-07	5.1E+00	8.4E-09	--
Endrin aldehyde	6.1E-03	6.1E-09	5.1E+00	5.8E-11	8.4E-09
Total PCB Aroclors	5.5E-01	5.5E-07	5.1E+00	5.2E-09	7.6E-07
Aluminum	1.3E+04	1.3E-02	5.1E+00	1.3E-04	1.8E-02
Arsenic	8.6E+00	8.6E-06	5.1E+00	8.2E-08	1.2E-05
Cobalt	1.2E+01	1.2E-05	5.1E+00	1.1E-07	1.7E-05
Iron	2.2E+04	2.2E-02	5.1E+00	2.1E-04	3.1E-02
Manganese	5.5E+02	5.5E-04	5.1E+00	5.3E-06	7.6E-04
Vanadium	4.3E+01	4.3E-05	5.1E+00	4.1E-07	5.9E-05

Parameter	Value	Source
(1) Particle size multiplier (k, unitless) =	0.35	Default for PM_{10}
(2) Empirical constant (0.0016, g/kg) =	0.0016	
(3) Mass of soil handled (M, kg) =	33,750	Based on the volume of soil excavated (22.5 m^3) and default soil bulk density (1.5 g/cm^3), which is applicable to silt loam
(4) Mean wind speed (U, m/s) =	4.56	Newark International Airport
(5) Empirical constant (2.2, g/kg) =	2.2	
(6) Percent moisture (X_{H2O}, %) =	10	Default (USEPA, 1995b)
(7) Fraction of chemical in PM_{10} (X_i, unitless) =	chemical-specific	Concentration in soil converted to mg/mg
(8) Time to excavate (t_{vsoil}, s)	540	Calculated
(9) Maximum 1-hour unitized impact ($\mu g/m^3$ per g/s) =	1.45E+05	Predicted from SCREEN3, for urban land use

TABLE D-4: RESPIRABLE PARTICULATE EMISSIONS DURING EXCAVATION OF A UTILITY TRENCH
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Exposure Medium:	Floodplain Soil, All Soil
Exposure Unit:	Bound Brook 2 (BB2)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Objective: Determination of outdoor concentrations of chemicals adsorbed to respirable particulates associated with the excavation of 1.5 m-wide x 5 m-long x 3 m-deep trench.

Chemical of Potential Concern	**C_i** Soil Concentration mg/kg	**X_i** Soil Concentration mg/mg	**E** PM Emissions g	**ER** PM_{10} Emission Rate g/s	**C** Maximum 1-Hour Average PM_{10} Concentration mg/m^3
Acenaphthylene	2.4E-02	2.4E-08	5.1E+00	2.3E-10	--
Benzo(a)anthracene	2.9E-01	2.9E-07	5.1E+00	2.8E-09	4.0E-07
Benzo(a)pyrene	3.3E-01	3.3E-07	5.1E+00	3.1E-09	4.5E-07
Benzo(b)fluroanthene	4.1E-01	4.1E-07	5.1E+00	3.9E-09	5.6E-07
Benzo(g,h,i)perylene	2.5E-01	2.5E-07	5.1E+00	2.4E-09	3.4E-07
Carbazole	2.5E-02	2.5E-08	5.1E+00	2.4E-10	3.4E-08
Dibenzo(a,h)anthracene	7.7E-02	7.7E-08	5.1E+00	7.3E-10	1.1E-07
Indeno(1,2,3-cd)pyrene	2.3E-01	2.3E-07	5.1E+00	2.2E-09	3.2E-07
Phenanthrene	2.9E-01	2.9E-07	5.1E+00	2.8E-09	--
Endosulfan sulfate	5.5E-03	5.5E-09	5.1E+00	5.2E-11	7.6E-09
Total PCB Aroclors	7.5E-01	7.5E-07	5.1E+00	7.1E-09	1.0E-06
Aluminum	1.3E+04	1.3E-02	5.1E+00	1.2E-04	1.8E-02
Arsenic	1.2E+01	1.2E-05	5.1E+00	1.1E-07	1.7E-05
Cobalt	5.6E+00	5.6E-06	5.1E+00	5.3E-08	7.7E-06
Iron	1.6E+04	1.6E-02	5.1E+00	1.5E-04	2.2E-02
Manganese	4.9E+02	4.9E-04	5.1E+00	4.7E-06	6.8E-04

Parameter	Value	Source
(1) Particle size multiplier (k, unitless) =	0.35	Default for PM_{10}
(2) Empirical constant (0.0016, g/kg) =	0.0016	
(3) Mass of soil handled (M, kg) =	33,750	Based on the volume of soil excavated (22.5 m^3) and default soil bulk density (1.5 g/cm^3), which is applicable to silt loam
(4) Mean wind speed (U, m/s) =	4.56	Newark International Airport
(5) Empirical constant (2.2, g/kg) =	2.2	
(6) Percent moisture (X_{H2O}, %) =	10	Default (USEPA, 1995b)
(7) Fraction of chemical in PM_{10} (X_i, unitless) =	chemical-specific	Concentration in soil converted to mg/mg
(8) Time to excavate (t_{vsoil}, s)	540	Calculated
(9) Maximum 1-hour unitized impact ($\mu g/m^3$ per g/s) =	1.45E+05	Predicted from SCREEN3, for urban land use

TABLE D-5: RESPIRABLE PARTICULATE EMISSIONS DURING EXCAVATION OF A UTILITY TRENCH
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Exposure Medium:	Floodplain Soil, All Soil
Exposure Unit:	Bound Brook 3 (BB3)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Objective: Determination of outdoor concentrations of chemicals adsorbed to respirable particulates associated with the excavation of 1.5 m-wide x 5 m-long x 3 m-deep trench.

Chemical of Potential Concern	**C_i** Soil Concentration mg/kg	**X_i** Soil Concentration mg/mg	**E** PM Emissions g	**ER** PM_{10} Emission Rate g/s	**C** Maximum 1-Hour Average PM_{10} Concentration mg/m^3
Acenaphthylene	1.2E-01	1.2E-07	5.1E+00	1.1E-09	--
Benzo(a)anthracene	2.6E+00	2.6E-06	5.1E+00	2.5E-08	3.6E-06
Benzo(a)pyrene	3.3E+00	3.3E-06	5.1E+00	3.1E-08	4.5E-06
Benzo(b)fluroanthene	3.5E+00	3.5E-06	5.1E+00	3.3E-08	4.8E-06
Benzo(g,h,i)perylene	1.9E+00	1.9E-06	5.1E+00	1.8E-08	2.6E-06
Benzo(k)fluroanthene	3.1E+00	3.1E-06	5.1E+00	2.9E-08	4.3E-06
bis(2-Ethylhexyl)phthalate	8.8E+02	8.8E-04	5.1E+00	8.3E-06	1.2E-03
Carbazole	3.7E-01	3.7E-07	5.1E+00	3.5E-09	5.1E-07
Dibenzo(a,h)anthracene	6.6E-01	6.6E-07	5.1E+00	6.3E-09	9.1E-07
di-n-Octyl phthalate	5.5E-01	5.5E-07	5.1E+00	5.2E-09	7.6E-07
Indeno(1,2,3-cd)pyrene	1.8E+00	1.8E-06	5.1E+00	1.7E-08	2.5E-06
Phenanthrene	2.7E+00	2.7E-06	5.1E+00	2.6E-08	--
Endrin aldehyde	9.8E-03	9.8E-09	5.1E+00	9.3E-11	1.3E-08
Endrin ketone	5.8E-03	5.8E-09	5.1E+00	5.5E-11	8.0E-09
Total PCB Aroclors	5.0E+00	5.0E-06	5.1E+00	4.7E-08	6.9E-06
Aluminum	1.1E+04	1.1E-02	5.1E+00	1.1E-04	1.6E-02
Antimony	1.1E+02	1.1E-04	5.1E+00	1.0E-06	1.5E-04
Arsenic	1.7E+01	1.7E-05	5.1E+00	1.6E-07	2.3E-05
Cadmium	5.0E+00	5.0E-06	5.1E+00	4.7E-08	6.9E-06
Cobalt	1.2E+01	1.2E-05	5.1E+00	1.1E-07	1.7E-05
Copper	1.7E+03	1.7E-03	5.1E+00	1.7E-05	2.4E-03
Iron	9.6E+04	9.6E-02	5.1E+00	9.1E-04	1.3E-01
Lead	4.9E+03	4.9E-03	5.1E+00	4.6E-05	6.7E-03
Manganese	7.1E+02	7.1E-04	5.1E+00	6.7E-06	9.7E-04
Mercury	2.4E+00	2.4E-06	5.1E+00	2.3E-08	3.3E-06
Nickel	1.1E+02	1.1E-04	5.1E+00	1.0E-06	1.5E-04
Thallium	4.0E+00	4.0E-06	5.1E+00	3.8E-08	5.5E-06
Vanadium	2.8E+01	2.8E-05	5.1E+00	2.7E-07	3.9E-05
Zinc	1.3E+03	1.3E-03	5.1E+00	1.2E-05	1.8E-03

Parameter	Value	Source
(1) Particle size multiplier (k, unitless) =	0.35	Default for PM_{10}
(2) Empirical constant (0.0016, g/kg) =	0.0016	
(3) Mass of soil handled (M, kg) =	33,750	Based on the volume of soil excavated (22.5 m^3) and default soil bulk density (1.5 g/cm^3), which is applicable to silt loam
(4) Mean wind speed (U, m/s) =	4.56	Newark International Airport
(5) Empirical constant (2.2, g/kg) =	2.2	
(6) Percent moisture (X_{H2O}, %) =	10	Default (USEPA, 1995b)
(7) Fraction of chemical in PM_{10} (X_i, unitless) =	chemical-specific	Concentration in soil converted to mg/mg
(8) Time to excavate (t_{vsoil}, s)	540	Calculated
(9) Maximum 1-hour unitized impact ($\mu g/m^3$ per g/s) =	1.45E+05	Predicted from SCREEN3, for urban land use

TABLE D-6: RESPIRABLE PARTICULATE EMISSIONS DURING EXCAVATION OF A UTILITY TRENCH
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Exposure Medium:	Floodplain Soil, All Soil
Exposure Unit:	Bound Brook 4 (BB4)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Objective: Determination of outdoor concentrations of chemicals adsorbed to respirable particulates associated with the excavation of 1.5 m-wide x 5 m-long x 3 m-deep trench.

Chemical of Potential Concern	**C_i** Soil Concentration mg/kg	**X_i** Soil Concentration mg/mg	**E** PM Emissions g	**ER** PM_{10} Emission Rate g/s	**C** Maximum 1-Hour Average PM_{10} Concentration mg/m^3
Acenaphthylene	6.7E-01	6.7E-07	5.1E+00	6.4E-09	--
Benzo(a)anthracene	5.4E-01	5.4E-07	5.1E+00	5.1E-09	7.4E-07
Benzo(a)pyrene	6.0E-01	6.0E-07	5.1E+00	5.7E-09	8.3E-07
Benzo(b)fluoranthene	9.3E-01	9.3E-07	5.1E+00	8.8E-09	1.3E-06
Benzo(g,h,i)perylene	4.6E-01	4.6E-07	5.1E+00	4.4E-09	6.3E-07
Benzo(k)fluoranthene	4.8E-01	4.8E-07	5.1E+00	4.6E-09	6.6E-07
Carbazole	2.5E-01	2.5E-07	5.1E+00	2.4E-09	3.4E-07
Dibenzo(a,h)anthracene	1.6E+00	1.6E-06	5.1E+00	1.5E-08	2.2E-06
di-n-Octyl phthalate	1.2E+00	1.2E-06	5.1E+00	1.1E-08	1.7E-06
Indeno(1,2,3-cd)pyrene	4.5E-01	4.5E-07	5.1E+00	4.3E-09	6.2E-07
Phenanthrene	7.8E-01	7.8E-07	5.1E+00	7.4E-09	--
Aldrin	1.3E-02	1.3E-08	5.1E+00	1.2E-10	1.8E-08
delta-BHC	5.6E-02	5.6E-08	5.1E+00	5.3E-10	7.7E-08
Dieldrin	2.2E-01	2.2E-07	5.1E+00	2.1E-09	3.0E-07
4,4'-DDT	2.3E-01	2.3E-07	5.1E+00	2.2E-09	3.2E-07
Endosulfan sulfate	2.2E-02	2.2E-08	5.1E+00	2.1E-10	3.0E-08
Endrin aldehyde	1.0E-02	1.0E-08	5.1E+00	9.5E-11	1.4E-08
Total PCB Aroclors	2.1E+01	2.1E-05	5.1E+00	2.0E-07	2.9E-05
Aluminum	9.4E+03	9.4E-03	5.1E+00	8.9E-05	1.3E-02
Antimony	1.1E+01	1.1E-05	5.1E+00	1.0E-07	1.5E-05
Arsenic	1.5E+01	1.5E-05	5.1E+00	1.4E-07	2.1E-05
Cadmium	5.4E+00	5.4E-06	5.1E+00	5.1E-08	7.4E-06
Cobalt	7.0E+00	7.0E-06	5.1E+00	6.6E-08	9.6E-06
Copper	9.5E+01	9.5E-05	5.1E+00	9.0E-07	1.3E-04
Iron	1.6E+04	1.6E-02	5.1E+00	1.5E-04	2.2E-02
Lead	1.3E+02	1.3E-04	5.1E+00	1.2E-06	1.8E-04
Manganese	5.1E+02	5.1E-04	5.1E+00	4.9E-06	7.1E-04
Silver	4.4E+00	4.4E-06	5.1E+00	4.2E-08	6.1E-06
Vanadium	3.3E+01	3.3E-05	5.1E+00	3.1E-07	4.5E-05
Zinc	2.6E+02	2.6E-04	5.1E+00	2.4E-06	3.5E-04

Parameter	Value	Source
(1) Particle size multiplier (k, unitless) =	0.35	Default for PM_{10}
(2) Empirical constant (0.0016, g/kg) =	0.0016	
(3) Mass of soil handled (M, kg) =	33,750	Based on the volume of soil excavated (22.5 m^3) and default soil bulk density (1.5 g/cm^3), which is applicable to silt loam
(4) Mean wind speed (U, m/s) =	4.56	Newark International Airport
(5) Empirical constant (2.2, g/kg) =	2.2	
(6) Percent moisture (X_{H2O}, %) =	10	Default (USEPA, 1995b)
(7) Fraction of chemical in PM_{10} (X_i, unitless) =	chemical-specific	Concentration in soil converted to mg/mg
(8) Time to excavate (t_{vsoil}, s)	540	Calculated
(9) Maximum 1-hour unitized impact ($\mu g/m^3$ per g/s) =	1.45E+05	Predicted from SCREEN3, for urban land use

TABLE D-7: RESPIRABLE PARTICULATE EMISSIONS DURING EXCAVATION OF A UTILITY TRENCH
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Exposure Medium:	Floodplain Soil, All Soil
Exposure Unit:	Bound Brook 5 (BB5)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Objective: Determination of outdoor concentrations of chemicals adsorbed to respirable particulates associated with the excavation of 1.5 m-wide x 5 m-long x 3 m-deep trench.

Chemical of Potential Concern	**C_i** Soil Concentration mg/kg	**X_i** Soil Concentration mg/mg	**E** PM Emissions g	**ER** PM_{10} Emission Rate g/s	**C** Maximum 1-Hour Average PM_{10} Concentration mg/m^3
Acenaphthylene	2.1E-01	2.1E-07	5.1E+00	2.0E-09	--
Benzo(a)anthracene	1.8E+00	1.8E-06	5.1E+00	1.7E-08	2.5E-06
Benzo(a)pyrene	2.7E+00	2.7E-06	5.1E+00	2.6E-08	3.7E-06
Benzo(b)fluroanthene	4.0E+00	4.0E-06	5.1E+00	3.8E-08	5.5E-06
Benzo(g,h,i)perylene	1.3E+00	1.3E-06	5.1E+00	1.2E-08	1.8E-06
Benzo(k)fluroanthene	1.0E+00	1.0E-06	5.1E+00	9.5E-09	1.4E-06
bis(2-Ethylhexyl)phthalate	5.3E+01	5.3E-05	5.1E+00	5.0E-07	7.3E-05
Carbazole	1.0E-01	1.0E-07	5.1E+00	9.6E-10	1.4E-07
Dibenzo(a,h)anthracene	2.7E-01	2.7E-07	5.1E+00	2.6E-09	3.7E-07
Dimethyl phthalate	3.6E+00	3.6E-06	5.1E+00	3.4E-08	5.0E-06
di-n-Octyl phthalate	7.8E+00	7.8E-06	5.1E+00	7.4E-08	1.1E-05
Indeno(1,2,3-cd)pyrene	1.2E+00	1.2E-06	5.1E+00	1.1E-08	1.7E-06
Phenanthrene	2.2E+00	2.2E-06	5.1E+00	2.1E-08	--
Dieldrin	7.4E+00	7.4E-06	5.1E+00	7.0E-08	1.0E-05
4,4'-DDE	5.6E+01	5.6E-05	5.1E+00	5.3E-07	7.7E-05
Endosulfan sulfate	2.4E-03	2.4E-09	5.1E+00	2.3E-11	3.3E-09
Endrin aldehyde	5.2E+00	5.2E-06	5.1E+00	4.9E-08	7.2E-06
Heptachlor epoxide	1.3E+00	1.3E-06	5.1E+00	1.2E-08	1.8E-06
Total PCB Aroclors	3.3E+01	3.3E-05	5.1E+00	3.1E-07	4.5E-05
Aluminum	1.6E+04	1.6E-02	5.1E+00	1.5E-04	2.2E-02
Antimony	2.9E+00	2.9E-06	5.1E+00	2.8E-08	4.0E-06
Arsenic	1.5E+01	1.5E-05	5.1E+00	1.4E-07	2.1E-05
Cadmium	1.2E+01	1.2E-05	5.1E+00	1.1E-07	1.7E-05
Cobalt	1.3E+01	1.3E-05	5.1E+00	1.2E-07	1.8E-05
Copper	1.7E+02	1.7E-04	5.1E+00	1.6E-06	2.3E-04
Iron	2.8E+04	2.8E-02	5.1E+00	2.7E-04	3.9E-02
Lead	1.9E+02	1.9E-04	5.1E+00	1.8E-06	2.7E-04
Manganese	5.3E+02	5.3E-04	5.1E+00	5.1E-06	7.3E-04
Vanadium	4.4E+01	4.4E-05	5.1E+00	4.2E-07	6.1E-05

Parameter	Value	Source
(1) Particle size multiplier (k, unitless) =	0.35	Default for PM_{10}
(2) Empirical constant (0.0016, g/kg) =	0.0016	
(3) Mass of soil handled (M, kg) =	33,750	Based on the volume of soil excavated (22.5 m^3) and default soil bulk density (1.5 g/cm^3), which is applicable to silt loam
(4) Mean wind speed (U, m/s) =	4.56	Newark International Airport
(5) Empirical constant (2.2, g/kg) =	2.2	
(6) Percent moisture (X_{H2O}, %) =	10	Default (USEPA, 1995b)
(7) Fraction of chemical in PM_{10} (X_i, unitless) =	chemical-specific	Concentration in soil converted to mg/mg
(8) Time to excavate (t_{vsoil}, s)	540	Calculated
(9) Maximum 1-hour unitized impact ($\mu g/m^3$ per g/s) =	1.45E+05	Predicted from SCREEN3, for urban land use

TABLE D-8: RESPIRABLE PARTICULATE EMISSIONS DURING EXCAVATION OF A UTILITY TRENCH
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Exposure Medium:	Floodplain Soil, All Soil
Exposure Unit:	Bound Brook 6 (BB6)
Receptor Population:	Construction/Utility Worker
Receptor Age:	Adult

Objective: Determination of outdoor concentrations of chemicals adsorbed to respirable particulates associated with the excavation of 1.5 m-wide x 5 m-long x 3 m-deep trench.

Chemical of Potential Concern	**C_i** Soil Concentration mg/kg	**X_i** Soil Concentration mg/mg	**E** PM Emissions g	**ER** PM_{10} Emission Rate g/s	**C** Maximum 1-Hour Average PM_{10} Concentration mg/m^3
Acenaphthylene	2.9E-02	2.9E-08	5.1E+00	2.8E-10	--
Benzo(a)anthracene	2.2E+00	2.2E-06	5.1E+00	2.1E-08	3.0E-06
Benzo(a)pyrene	1.6E+00	1.6E-06	5.1E+00	1.5E-08	2.2E-06
Benzo(b)fluroanthene	2.5E+00	2.5E-06	5.1E+00	2.4E-08	3.4E-06
Benzo(g,h,i)perylene	6.6E-01	6.6E-07	5.1E+00	6.3E-09	9.1E-07
Benzo(k)fluroanthene	2.0E+00	2.0E-06	5.1E+00	1.9E-08	2.8E-06
Carbazole	1.2E-01	1.2E-07	5.1E+00	1.1E-09	1.7E-07
Dibenzo(a,h)anthracene	2.1E-01	2.1E-07	5.1E+00	2.0E-09	2.9E-07
Dimethyl phthalate	8.6E-01	8.6E-07	5.1E+00	8.2E-09	1.2E-06
di-n-Octyl phthalate	5.9E-02	5.9E-08	5.1E+00	5.6E-10	8.1E-08
Indeno(1,2,3-cd)pyrene	1.2E+00	1.2E-06	5.1E+00	1.1E-08	1.7E-06
Phenanthrene	3.5E+00	3.5E-06	5.1E+00	3.3E-08	--
Endrin ketone	4.0E-03	4.0E-09	5.1E+00	3.8E-11	5.5E-09
Total PCB Aroclors	6.2E+01	6.2E-05	5.1E+00	5.9E-07	8.5E-05
Aluminum	1.5E+04	1.5E-02	5.1E+00	1.4E-04	2.0E-02
Arsenic	2.9E+00	2.9E-06	5.1E+00	2.8E-08	4.0E-06
Cadmium	4.0E+00	4.0E-06	5.1E+00	3.8E-08	5.5E-06
Cobalt	7.3E+00	7.3E-06	5.1E+00	6.9E-08	1.0E-05
Cyanide	1.7E+00	1.7E-06	5.1E+00	1.6E-08	2.3E-06
Iron	2.8E+04	2.8E-02	5.1E+00	2.7E-04	3.9E-02
Lead	1.7E+02	1.7E-04	5.1E+00	1.6E-06	2.4E-04
Manganese	5.6E+02	5.6E-04	5.1E+00	5.3E-06	7.6E-04

Parameter	Value	Source
(1) Particle size multiplier (k, unitless) =	0.35	Default for PM_{10}
(2) Empirical constant (0.0016, g/kg) =	0.0016	
(3) Mass of soil handled (M, kg) =	33,750	Based on the volume of soil excavated (22.5 m^3) and default soil bulk density (1.5 g/cm^3), which is applicable to silt loam
(4) Mean wind speed (U, m/s) =	4.56	Newark International Airport
(5) Empirical constant (2.2, g/kg) =	2.2	
(6) Percent moisture (X_{H2O}, %) =	10	Default (USEPA, 1995b)
(7) Fraction of chemical in PM_{10} (X_i, unitless) =	chemical-specific	Concentration in soil converted to mg/mg
(8) Time to excavate (t_{vsoil}, s)	540	Calculated
(9) Maximum 1-hour unitized impact ($\mu g/m^3$ per g/s) =	1.45E+05	Predicted from SCREEN3, for urban land use

TABLE D-9: INTERMEDIATE VARIABLES FOR CALCULATING DA_{EVENT}
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Exposure Medium:	Surface Water
Exposure Unit:	OU4 Bound Brook Study Area
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adult

Chemical of	FA	Kp		t-event		Tau (event)		t*		B
Potential Concern	Value	Value	Units	Value	Units	Value	Units	Value	Units	Value
cis-1,2-Dichloroethene	1	7.7E-03	cm/hr	2	hr/event	0.37	hr/event	0.89	hr	0.029
Trichloroethene	1	1.2E-02	cm/hr	2	hr/event	0.58	hr/event	1.39	hr	0.051
Total PCBs (as Aroclor 1254)	0.5	7.6E-01	cm/hr	2	hr/event	7.18	hr/event	31.57	hr	5.244
Arsenic	1	1.0E-03	cm/hr	2	hr/event	--	hr/event	--	hr	--
Cyanide	1	1.0E-03	cm/hr	2	hr/event	--	hr/event	--	hr	--
Manganese	1	1.0E-03	cm/hr	2	hr/event	--	hr/event	--	hr	--

Notes

FA = Fraction Absorbed Water; default value = 1 (USEPA, 2004b)
Kp = Dermal Permeability Coefficient of chemical in water (USEPA, 1996b and USDOE, 2012)
T(event) = Event Duration
Tau = Lag Time
T* = Time to Reach Steady-State
B = Dimensionless Ratio of the Permeability Coefficient of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis

TABLE D-10: INTERMEDIATE VARIABLES FOR CALCULATING DA_{EVENT}
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Exposure Medium:	Surface Water
Exposure Unit:	OU4 Bound Brook Study Area
Receptor Population:	Recreationist / Sportsman / Angler
Receptor Age:	Adolescent

Chemical of Potential Concern	FA	Kp		t-event		Tau (event)		t*		B
	Value	Value	Units	Value	Units	Value	Units	Value	Units	Value
cis-1,2-Dichloroethene	1	7.7E-03	cm/hr	2	hr/event	0.37	hr/event	0.89	hr	0.029
Trichloroethene	1	1.2E-02	cm/hr	2	hr/event	0.58	hr/event	1.39	hr	0.051
Total PCBs (as Aroclor 1254)	0.5	7.6E-01	cm/hr	2	hr/event	7.18	hr/event	31.57	hr	5.244
Arsenic	1	1.0E-03	cm/hr	2	hr/event	--	hr/event	--	hr	--
Cyanide	1	1.0E-03	cm/hr	2	hr/event	--	hr/event	--	hr	--
Manganese	1	1.0E-03	cm/hr	2	hr/event	--	hr/event	--	hr	--

Notes

FA = Fraction Absorbed Water; default value = 1 (USEPA, 2004b)
Kp = Dermal Permeability Coefficient of chemical in water (USEPA, 1996b and USDOE, 2012)
T(event) = Event Duration
Tau = Lag Time
T* = Time to Reach Steady-State
B = Dimensionless Ratio of the Permeability Coefficient of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis

TABLE D-11: INTERMEDIATE VARIABLES FOR CALCULATING DA_{EVENT}
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Exposure Medium:	Surface Water
Exposure Unit:	OU4 Bound Brook Study Area
Receptor Population:	Outdoor Worker
Receptor Age:	Adult

Chemical of	FA	Kp		t-event		Tau (event)		t*		B
Potential Concern	Value	Value	Units	Value	Units	Value	Units	Value	Units	Value
cis-1,2-Dichloroethene	1	7.7E-03	cm/hr	8	hr/event	0.37	hr/event	0.89	hr	0.029
Trichloroethene	1	1.2E-02	cm/hr	8	hr/event	0.58	hr/event	1.39	hr	0.051
Total PCBs (as Aroclor 1254)	0.5	7.6E-01	cm/hr	8	hr/event	7.18	hr/event	31.57	hr	5.244
Arsenic	1	1.0E-03	cm/hr	8	hr/event	--	hr/event	--	hr	--
Cyanide	1	1.0E-03	cm/hr	8	hr/event	--	hr/event	--	hr	--
Manganese	1	1.0E-03	cm/hr	8	hr/event	--	hr/event	--	hr	--

Notes

FA = Fraction Absorbed Water; default value = 1 (USEPA, 2004b)
Kp = Dermal Permeability Coefficient of chemical in water (USEPA, 1996b and USDOE, 2012)
T(event) = Event Duration
Tau = Lag Time
T* = Time to Reach Steady-State
B = Dimensionless Ratio of the Permeability Coefficient of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis

TABLE D-12: INTERMEDIATE VARIABLES FOR CALCULATING DA_{EVENT}
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE: OU4 BOUND BROOK

Chemical of Potential Concern in Sediment and/or Floodplain Soil	Dermal Absorption Fraction from Soil [a]
Acenaphthylene	0.13
Benzidine	0.1
Benzo(a)anthracene	0.13
Benzo(a)pyrene	0.13
Benzo(b)fluoranthene	0.13
Benzo(g,h,i)perylene	0.13
Benzo(k)fluoranthene	0.13
bis(2-Ethylhexyl)phthalate	0.1
Carbazole	0.1
Dibenz(a,h)anthracene	0.13
1,3-Dichlorobenzene	0.1
Dimethyl phthalate	0.1
di-n-Octyl phthalate	0.1
Indeno(1,2,3-cd)pyrene	0.13
p-Isopropyltoluene	0.1
Phenanthrene	0.13
4,4'-DDE	0.03
4,4'-DDT	0.03
Total PCB Aroclors	0.14
Arsenic	0.03
Cadmium	0.001

Notes
a = USEPA, 2004b

APPENDIX D, TABLE D-13

RAGS D ADULT LEAD WORKSHEET

Site Name: Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Receptor: Outdoor Worker and Construction/Utility Worker

Medium	Lead Concentration used in Model Run		Basis for Lead Concentration Used For Model Run	Lead Screening Concentration		Basis for Lead Screening Level
	Value	Units		Value	Units	
All Sediment and All Floodplain Soil	All Sediment: EU BB6 = 78 All Floodplain Soil: EU BB3 = 1,370 EU BB4 = 129 EU BB5 = 194 EU BB6 = 171	mg/kg	Arithmetic average	400	mg/kg	Regional Screening Level – Resident Soil

2. Lead Model Questions

Question	Response
What lead model was used? Provide reference and version	EPA Adult Lead Model, Version date 06/21/09
If the EPA Adult Lead Model (ALM) was not used provide rationale for model selected.	Not applicable.
Where are the input values located in the risk assessment report?	RAGS Part D Table 4.4 for outdoor worker exposure to all sediment, RAGS Part D Table 4.7 for outdoor worker exposure to all soil, and RAGS Part D Table 4.13 for construction/utility worker exposure to all soil, provided in Appendix A.
What statistics were used to represent the exposure concentration terms and where are the data on concentrations in the risk assessment that support use of these statistics?	Arithmetic average concentration is shown in RAGS Part D Table 3.9 for all sediment at EU BB6 and RAGS Part D Tables 3.24, 3.26, 3.28, and 3.30 for all floodplain soil at EU BB3, EU BB4, EU BB5, and EU BB6, respectively, provided in Appendix A.

Question	Response
What was the point of exposure and location?	All sediment at EU BB6 and all floodplain soil at EU BB3, EU BB4, EU BB5, and EU BB6.
Where are the output values located in the risk assessment report?	The ALM output files are located in Appendix D.
What GSD value was used? If this is outside the recommended range of 1.8-2.1), provide rationale in Appendix X.	1.8 is the most current recommended GSD based on national dataset of 4,589 women 17-45 years of age (USEPA, 2009a and 2009c).
What baseline blood lead concentration (PbB_0) value was used? If this is outside the default range of 1.7 to 2.2 provide rationale in Appendix X.	1.0 µg/dL is the most current recommended PbB_0 representing the national average (USEPA, 2009a and 2009c).
Was the default exposure frequency (EF; 219 days/year) used?	No. An EF of 60 days/year was used for outdoor workers and construction/utility workers over the course of a 3-month period (i.e., 90 days/year); used for both outdoor workers and construction/utility workers.
Was the default BKSF used (0.4 ug/dL per ug/day) used?	Yes.
Was the default absorption fraction (AF; 0.12) used?	Yes.
Was the default soil ingestion rate (IR-S; 50 mg/day) used?	No, IR-S or sediment ingestion rate (IR-Sed) of 330 mg/day was used for both outdoor workers and construction/utility workers.
If non-default values were used for any of the parameters listed above, where is the rationale for the values located in the risk assessment report?	The rationales for the exposure parameters are provided in Section 4 of the risk assessment report.

3. Final Result

Medium	Result	Comment/RBRG
All Sediment and All Floodplain Soil	EU BB3 – The arithmetic average lead concentration of 1,370 mg/kg in all floodplain soil results in a predicted adult PbB of 15.5 µg/dL, a predicted 95th percentile PbB among fetuses of 36.6 µg/dL, and a probability of 71.3% that the fetal PbB is greater than 10 µg/dL. EU BB4 – The arithmetic average lead concentration of 129 mg/kg in all floodplain soil results in a predicted adult PbB of 2.4 µg/dL, a predicted 95th percentile PbB among fetuses of 5.6 µg/dL, and a probability of 0.4% that the fetal PbB is greater than 10 µg/dL.	Not applicable.

Medium	Result	Comment/RBRG
	EU BB5 – The arithmetic average lead concentration of 194 mg/kg in all floodplain soil results in a predicted adult PbB of 3.0 µg/dL, a predicted 95th percentile PbB among fetuses of 7.2 µg/dL, and a probability of 1.4% that the fetal PbB is greater than 10 µg/dL. EU BB6 – The arithmetic average lead concentration of 78 mg/kg in all sediment results in a predicted adult PbB of 1.8 µg/dL, a predicted 95th percentile PbB among fetuses of 4.3 µg/dL, and a probability of 0.1% that the fetal PbB is greater than 10 µg/dL. The arithmetic average lead concentration of 171 mg/kg in all floodplain soil results in a predicted adult PbB of 2.8 µg/dL, a predicted 95th percentile PbB among fetuses of 6.6 µg/dL, and a probability of 1.0% that the fetal PbB is greater than 10 µg/dL.	

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Outdoor Worker - All Sediment EU BB6

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	78
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-Sed	Sediment ingestion rate (including soil-derived indoor dust)	g/day	0.330
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	60
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**1.8**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	4.3
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.1%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Outdoor Worker - All Soil EU BB3

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	1,370
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.330
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	60
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**15.5**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	36.6
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**71.3%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Outdoor Worker - All Soil EU BB4

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	129
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.330
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	60
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**2.4**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	5.6
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.4%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Outdoor Worker - All Soil EU BB5

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	194
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.330
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	60
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**3.0**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	7.2
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**1.4%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Outdoor Worker - All Soil EU BB6

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	171
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.330
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	60
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**2.8**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	6.6
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**1.0%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Construction/Utility Worker - All Soil EU BB3

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	1,370
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.330
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	60
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**15.5**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	36.6
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**71.3%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Construction/Utility Worker - All Soil EU BB4

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	129
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.330
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	60
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**2.4**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	5.6
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.4%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Construction/Utility Worker - All Soil EU BB5

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	194
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.330
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	60
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**3.0**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	7.2
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**1.4%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Construction/Utility Worker - All Soil EU BB6

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	171
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.330
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	60
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**2.8**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	6.6
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**1.0%**

APPENDIX D, TABLE D-14

RAGS D ADULT LEAD WORKSHEET

Site Name: Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Receptor: Adult Recreationist/Sportsman/Angler and Commercial/Industrial Worker

Medium	Lead Concentration used in Model Run		Basis for Lead Concentration Used For Model Run	Lead Screening Concentration		Basis for Lead Screening Level
	Value	Units		Value	Units	
Surface Sediment and Surface Floodplain Soil	Surface Sediment: EU BB6 = 122 Surface Floodplain Soil: EU BB3 = 1,180 EU BB4 = 198 EU BB5 = 257	mg/kg	Arithmetic average	400	mg/kg	Regional Screening Level – Resident Soil

2. Lead Model Questions

Question	Response
What lead model was used? Provide reference and version	EPA Adult Lead Model, Version date 06/21/09
If the EPA Adult Lead Model (ALM) was not used provide rationale for model selected.	Not applicable.
Where are the input values located in the risk assessment report?	RAGS Part D Tables 4.3 and 4.5 for recreationist/sportsman/angler exposure to surface sediment and surface floodplain soil, respectively, and RAGS Part D Table 4.11 for commercial/industrial worker exposure to surface floodplain soil; provided in Appendix A.
What statistics were used to represent the exposure concentration terms and where are the data on concentrations in the risk assessment that support use of these statistics?	Arithmetic average concentration is shown in RAGS Part D Table 3.8 for surface sediment at EU BB6 and RAGS Part D Tables 3.23, 3.25, 3.27 for surface floodplain soil at EU BB3, EU BB4, and EU BB5, respectively, provided in Appendix A.

Question	Response
What was the point of exposure and location?	Surface sediment at EU BB6 and surface floodplain soil at EU BB3, EU BB4, and EU BB5.
Where are the output values located in the risk assessment report?	The ALM output files are located in Appendix D.
What GSD value was used? If this is outside the recommended range of 1.8-2.1), provide rationale in Appendix X.	1.8 is the most current recommended GSD based on the national dataset of 4,589 women 17-45 years of age
What baseline blood lead concentration (PbB_0) value was used? If this is outside the default range of 1.7 to 2.2 provide rationale	1.0 µg/dL is the most current recommended PbB_0 representing the national average (USEPA, 2009a and
Was the default exposure frequency (EF; 219 days/year) used?	No. An EF of 50 days/year over the course of a 3-month period (i.e., 90 days/year) was used for adult recreationist/sportsman/anglers. An EF of 225 days/year over a 365 days/year averaging time was used for commercial/industrial workers.
Was the default BKSF used (0.4 ug/dL per ug/day) used?	Yes.
Was the default absorption fraction (AF; 0.12) used?	Yes.
Was the default soil ingestion rate (IR-S; 50 mg/day) used?	No, IR-S or sediment ingestion rate (IR-Sed) of 100 mg/day was used for both adult recreationist/ sportsman/anglers and commercial/industrial workers.
If non-default values were used for any of the parameters listed above, where is the rationale for the values located in the risk	The rationales for the exposure parameters are provided in Section 4 of the risk assessment report.

3. Final Result

Medium	Result	Comment/RBRG
Surface Sediment and Surface Floodplain Soil	Adult Recreation/Sportsman/Anglers – The arithmetic average lead concentration in surface sediment at EU BB6 of 122 mg/kg results in a predicted adult PbB of 1.3 µg/dL, a predicted 95th percentile PbB among fetuses of 3.1 µg/dL, and a probability of 0.01% that the fetal PbB is greater than 10 µg/dL. Adult Recreation/Sportsman/Anglers – The arithmetic average lead concentration in surface floodplain soil at EU BB3 of 1,180 mg/kg results in a predicted adult PbB of 4.1 µg/dL, a predicted 95th percentile PbB among fetuses of 9.8 µg/dL, and a probability of 4.7% that the fetal PbB is greater than 10 µg/dL.	Not applicable.

Medium	Result	Comment/RBRG
	Adult Recreation/Sportsman/Anglers – The arithmetic average lead concentration in surface floodplain soil at EU BB4 of 198 mg/kg results in a predicted adult PbB of 1.5 µg/dL, a predicted 95th percentile PbB among fetuses of 3.6 µg/dL, and a probability of 0.04% that the fetal PbB is greater than 10 µg/dL. Adult Recreation/Sportsman/Anglers – The arithmetic average lead concentration in surface floodplain soil at EU BB5 of 257 mg/kg results in a predicted adult PbB of 1.7 µg/dL, a predicted 95th percentile PbB among fetuses of 4.0 µg/dL, and a probability of 0.1% that the fetal PbB is greater than 10 µg/dL. Commercial/Industrial Workers – The arithmetic average lead concentration in surface floodplain soil at EU BB3 of 1,180 mg/kg results in a predicted adult PbB of 4.5 µg/dL, a predicted 95th percentile PbB among fetuses of 10.6 µg/dL, and a probability of 6.2% that the fetal PbB is greater than 10 µg/dL. Commercial/Industrial Workers – The arithmetic average lead concentration in surface floodplain soil at EU BB4 of 198 mg/kg results in a predicted adult PbB of 1.6 µg/dL, a predicted 95th percentile PbB among fetuses of 3.8 µg/dL, and a probability of 0.05% that the fetal PbB is greater than 10 µg/dL. Commercial/Industrial Workers – The arithmetic average lead concentration in surface floodplain soil at EU BB5 of 257 mg/kg results in a predicted adult PbB of 1.8 µg/dL, a predicted 95th percentile PbB among fetuses of 4.2 µg/dL, and a probability of 0.1% that the fetal PbB is greater than 10 µg/dL.	

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Adult Recreationist/Sportsman/Angler - Surface Sediment EU BB6

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	122
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-Sed	Sediment ingestion rate (including soil-derived indoor dust)	g/day	0.100
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	50
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**1.3**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	3.1
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.01%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Adult Recreationist/Sportsman/Angler - Surface Soil EU BB3

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	1,180
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	50
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**4.1**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	9.8
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**4.7%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Adult Recreationist/Sportsman/Angler - Surface Soil EU BB4

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	198
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	50
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**1.5**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	3.6
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.04%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Adult Recreationist/Sportsman/Angler - Surface Soil EU BB5

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	257
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	50
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	90
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**1.7**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	4.0
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.1%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Commercial/Industrial Worker - Surface Soil EU BB3

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	1,180
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	225
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	365
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**4.5**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	10.6
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**6.2%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Commercial/Industrial Worker - Surface Soil EU BB4

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	198
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	225
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	365
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**1.6**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	3.8
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.05%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Commercial/Industrial Worker - Surface Soil EU BB5

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	257
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	225
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	365
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**1.8**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	4.2
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.1%**

APPENDIX D, TABLE D-15

RAGS D ADULT LEAD WORKSHEET

Site Name: Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Receptor: Adult Angler

1. Lead Screening Questions

Medium	Lead Concentration used in Model Run		Basis for Lead Concentration Used For Model Run	Lead Screening Concentration		Basis for Lead Screening Level
	Value	Units		Value	Units	
Fish Fillet	Predatory Fish: EUs BB1, GB = 0.19 EU BB2 = 0.13 EU SL = 0.20 Bottom-Feeding Fish: EU SL = 0.18	mg/kg, wet weight	Arithmetic average	NA		
Shellfish	EUs BB5, BB4, BB3, BB2, BB1, GB, and SL = 0.79 EU BB6 = 1.5	mg/kg, wet weight	Arithmetic average	NA		

2. Lead Model Questions

Question	Response
What lead model was used? Provide reference and version	EPA Adult Lead Model, Version date 06/21/09
If the EPA Adult Lead Model (ALM) was not used provide rationale for model selected.	Not applicable.
Where are the input values located in the risk assessment report?	RAGS Part D Table 4.15 for fish fillet and RAGS Part D Table 4.16 for crayfish provided in Appendix A.

Question	Response
What statistics were used to represent the exposure concentration terms and where are the data on concentrations in the risk assessment that support use of these statistics?	Arithmetic average concentration in fish or crayfish tissue, as shown in RAGS Part D Tables 3.31D, 3.31E, 3.32 for predatory fish fillet, RAGS Part D Table 3.34 for bottom-feeding fish fillet, and RAGS Part D Tables 3.36A and 3.36B for crayfish.
What was the point of exposure and location?	Fish and shellfish within each EU.
Where are the output values located in the risk assessment report?	The ALM output files are located in Appendix D.
What GSD value was used? If this is outside the recommended range of 1.8-2.1), provide rationale in Appendix X.	1.8 is the most current recommended GSD based on national dataset of 4,589 women 17-45 years of age (USEPA, 2009a and 2009c).
What baseline blood lead concentration (PbB_0) value was used? If this is outside the default range of 1.7 to 2.2 provide rationale in Appendix X.	1.0 µg/dL is the most current recommended PbB_0 representing the national average (USEPA, 2009a and 2009c).
Was the default exposure frequency (EF; 219 days/year) used?	No. An EF of 350 days/year was used for anglers.
Was the default BKSF used (0.4 ug/dL per ug/day) used?	Yes.
Was the default absorption fraction (AF; 0.12) used?	Yes.
Was the default soil ingestion rate (IR-S; 50 mg/day) used?	No. IR-S was instead set to the total ingestion rate for fish fillet (IR-F; 23.2 g/d) or shellfish (IR-Inv; 1.9 g/day).
If non-default values were used for any of the parameters listed above, where is the rationale for the values located in the risk assessment	The rationales for the exposure parameters are provided in Section 4 of the risk assessment report.

3. Final Result

Medium	Result	Comment/RBRG
Fish Fillet	EUs BB1 and GB - The arithmetic average lead concentration of 0.19 mg/kg for predatory fish fillet results in a predicted adult PbB of 1.2 µg/dL, a predicted 95th percentile PbB among fetuses of 2.8 µg/dL, and a probability of 0.008% that the fetal PbB is greater than 10 µg/dL. EU BB2 - The arithmetic average lead concentration of 0.13 mg/kg for predatory fish fillet results in a predicted adult PbB of 1.1 µg/dL, a predicted 95th percentile PbB among fetuses of 2.7 µg/dL, and a	Not applicable.

Medium	Result	Comment/RBRG
	probability of 0.005% that the fetal PbB is greater than 10 µg/dL. EU SL - The arithmetic average lead concentration of 0.20 mg/kg for predatory fish fillet results in a predicted adult PbB of 1.2 µg/dL, a predicted 95th percentile PbB among fetuses of 2.9 µg/dL, and a probability of 0.008% that the fetal PbB is greater than 10 µg/dL. The arithmetic average lead concentration of 0.18 mg/kg for bottom-feeding fish fillet results in a predicted adult PbB of 1.2 µg/dL, a predicted 95th percentile PbB among fetuses of 2.8 µg/dL, and a probability of 0.008% that the fetal PbB is greater than 10 µg/dL.	
Crayfish	EUs BB5, BB4, BB3, BB2, BB1, GB, and SL - The arithmetic average lead concentration of 0.79 mg/kg for crayfish results in a predicted adult PbB of 1.1 µg/dL, a predicted 95th percentile PbB among fetuses of 2.5 µg/dL, and a probability of 0.003% that the fetal PbB is greater than 10 µg/dL. EU BB6 - The arithmetic average lead concentration of 1.5 mg/kg for crayfish results in a predicted adult PbB of 1.1 µg/dL, a predicted 95th percentile PbB among fetuses of 2.7 µg/dL, and a probability of 0.005% that the fetal PbB is greater than 10 µg/dL.	Not applicable.

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Adult Angler - Predatory Fish Fillet, EUs BB1 and GB

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	0.19
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-F	Ingestion rate of fish fillet	g/day	23.2
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
EF	Exposure frequency	days/yr	350
AT	Averaging time	days/yr	365
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**1.2**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	2.8
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.008%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Adult Angler - Predatory Fish Fillet, EU BB2

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	0.13
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-F	Ingestion rate of fish fillet	g/day	23.2
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
EF	Exposure frequency	days/yr	350
AT	Averaging time	days/yr	365
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**1.1**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	2.7
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.005%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Adult Angler - Predatory Fish Fillet, EU SL

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	0.20
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-F	Ingestion rate of fish fillet	g/day	23.2
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
EF	Exposure frequency	days/yr	350
AT	Averaging time	days/yr	365
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**1.2**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	2.9
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.008%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Adult Angler - Bottom-Feeding Fish Fillet, EU SL

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	0.18
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-F	Ingestion rate of fish fillet	g/day	23.2
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
EF	Exposure frequency	days/yr	350
AT	Averaging time	days/yr	365
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**1.2**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	2.8
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.007%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Adult Angler - Crayfish, EUs BB5, BB4, BB3, BB2, BB1, GB, and SL

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	0.79
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-Inv	Ingestion rate of shellfish	g/day	1.9
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
EF	Exposure frequency	days/yr	350
AT	Averaging time	days/yr	365
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**1.1**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	2.5
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.003%**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09 **EDIT RED CELLS**

Adult Angler - Crayfish, EU BB6

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004
EPC_{Pb}	Soil lead concentration	µg/g or ppm	1.5
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	µg/dL per µg/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	µg/dL	1.0
IR-Inv	Ingestion rate of shellfish	g/day	1.9
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--
K_{SD}	Mass fraction of soil in dust	--	--
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
EF	Exposure frequency	days/yr	350
AT	Averaging time	days/yr	365
PbB_{adult}	**PbB of adult worker, geometric mean**	**µg/dL**	**1.1**
$PbB_{fetal, 0.95}$	95th percentile PbB among fetuses of adult workers	µg/dL	2.7
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	µg/dL	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.005%**

APPENDIX D, TABLE D-16

RAGS D IEUBK LEAD WORKSHEET

Site Name: Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Receptor: Child Resident (Age 0 to 84 Months)

1. Lead Screening Questions

Medium	Lead Concentration Used in Model Run		Basis for Lead Concentration Used For Model Run	Lead Screening Concentration		Basis for Lead Screening Level
	Value	Units		Value	Units	
All Floodplain Soil	EU BB3 = 1,370 EU BB4 = 129 EU BB5 = 194 EU BB6 = 171	mg/kg	Arithmetic average in all floodplain soil	400	mg/kg	Regional Screening Level for resident soil

2. Lead Model Questions

Question	Response for Residential Lead Model
What lead model (version and date) was used?	USEPA IEUBK Model Win32 Version 1.1, Build 11
Where are the input values located in the risk assessment report?	RAGS Part D Table 4.9, provided in Appendix A.
What range of media concentrations were used for the model?	Other than the all floodplain soil concentration listed above, default media concentrations were used (i.e., 0.1 mg/m^3 in outdoor air, indoor air 30% outdoor air, multiple source analysis for indoor dust, and 4 µg/L for drinking water).
What statistics were used to represent the exposure concentration terms and where are the data on concentrations in the risk assessment that support use of these statistics?	Arithmetic average concentration, as shown in RAGS Part D Tables 3.24, 3.26, 3.28, and 3.30 for all floodplain soil at EU BB3, EU BB4, EU BB5, and EU BB6, respectively.
Was soil sample taken from top 2 cm? If not, why?	No. Soil samples collected at all depths were used.
Was soil sample sieved? What size screen was used? If not sieved, provide rationale.	No. Soil samples were not sieved.

Question	Response for Residential Lead Model
What was the point of exposure/location?	Resident child within or in proximity to the OU4 Study Area and potentially contacting floodplain soil within EU BB3, EU BB4, EU BB5, and EU BB6.
Where are the output values located in the risk assessment report?	The IEUBK output files are located in Appendix D.
Was the model run using default values only?	Yes, with the exception of the surface soil concentration noted above.
Was the default soil bioavailability used?	Yes. Default media absorption fractions of 30% for soil and dust and 50% for water and diet were used. A default lung absorption of 32% was used for all age groups.
Was the default soil ingestion rate used?	Yes. Default total dust and soil intake values, in g/day, for the seven age groups are: 0.085, 0.135, 0.135, 0.135, 0.1, 0.09, and 0.085. Default ventilation rates, in m^3/day, for the seven age groups are: 2, 3, 5, 5, 5, 7, and 7. Default dietary intake values, in µg/day, for the seven age groups are: 2.26, 1.96, 2.13, 2.04, 1.95, 2.05, and 2.22. Default water consumption values, in L/day, for the seven age groups are: 0.2, 0.5, 0.52, 0.53, 0.55, 0.58, 0.59.
If non-default values were used, where is the rationale for the values located in the risk assessment report?	Not applicable.

3. Final Result

Medium	Result	Comment/PRG
All Floodplain Soil	EU BB3 – The arithmetic average concentration of lead in all floodplain soil from EU BB3 of 1,370 mg/kg results in an estimated geometric mean PbB of 11.28 µg/dL and a 60% probability that the target PbB of 10 µg/dL is exceeded. EU BB4 – The arithmetic average concentration of lead in all floodplain soil from EU BB4 of 129 mg/kg results in an estimated	Not applicable.

Medium	Result	Comment/PRG
	geometric mean PbB of 2.08 µg/dL and a 0.04% probability that the target PbB of 10 µg/dL is exceeded. EU BB5 – The arithmetic average concentration of lead in all floodplain soil from EU BB5 of 194 mg/kg results in an estimated geometric mean PbB of 2.68 µg/dL and a 0.25% probability that the target PbB of 10 µg/dL is exceeded. EU BB6 – The arithmetic average concentration of lead in all floodplain soil from EU BB6 of 171 mg/kg results in an estimated geometric mean PbB of 2.47 µg/dL and a 0.14% probability that the target PbB of 10 µg/dL is exceeded.	

1. Attach the IEUBK text output file and graph upon which the PRG was based as an appendix. For additional information, see **www.epa.gov/superfund/programs/lead**

LEAD MODEL FOR WINDOWS Version 1.1

==========
Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit: Child Resident - All Floodplain Soil EU BB3
Run Mode: Research
==========

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

****** Diet ******

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

****** Soil & Dust ******

Multiple Source Analysis Used
Average multiple source concentration: 969.000 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	1370.000	969.000
1-2	1370.000	969.000
2-3	1370.000	969.000
3-4	1370.000	969.000
4-5	1370.000	969.000
5-6	1370.000	969.000
6-7	1370.000	969.000

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

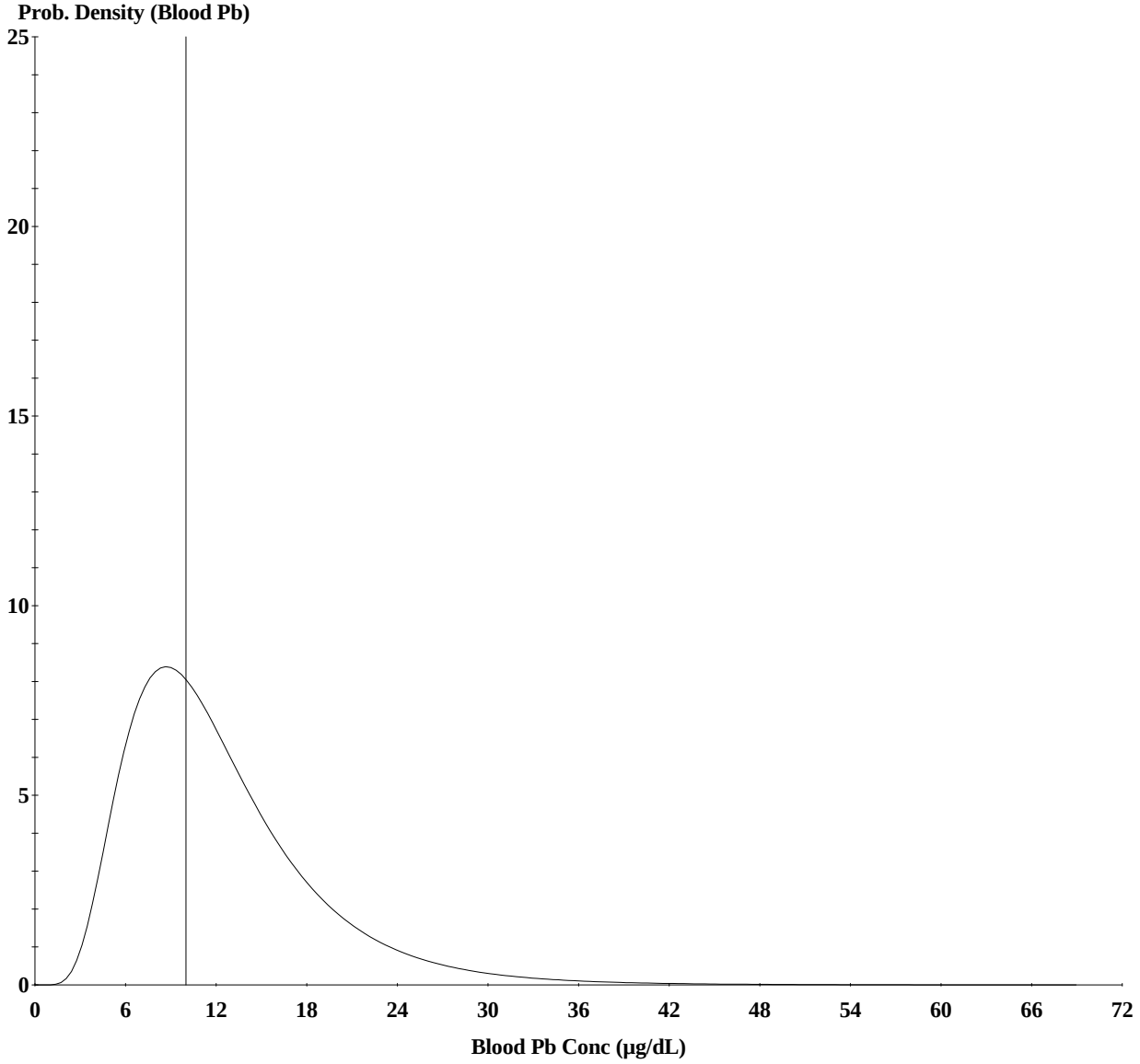
****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	0.857	0.000	0.304
1-2	0.034	0.711	0.000	0.725
2-3	0.062	0.802	0.000	0.783
3-4	0.067	0.795	0.000	0.826
4-5	0.067	0.820	0.000	0.925
5-6	0.093	0.889	0.000	1.006
6-7	0.093	0.978	0.000	1.040

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	22.242	23.424	12.2
1-2	33.758	35.228	14.2
2-3	35.061	36.709	13.4
3-4	36.274	37.961	12.9
4-5	29.010	30.823	10.8
5-6	26.903	28.891	9.1
6-7	25.831	27.942	8.0



Cutoff = 10.000 µg/dl
Geo Mean = 11.280
GSD = 1.600
% Above = 60.109
% Below = 39.891

Age Range = 0 to 84 months

Run Mode = Research

==========

Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit: Child Resident - All Floodplain Soil EU BB4
Run Mode: Research

==========

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

****** Diet ******

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

****** Soil & Dust ******

Multiple Source Analysis Used
Average multiple source concentration: 100.300 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	129.000	100.300
1-2	129.000	100.300
2-3	129.000	100.300
3-4	129.000	100.300
4-5	129.000	100.300
5-6	129.000	100.300
6-7	129.000	100.300

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

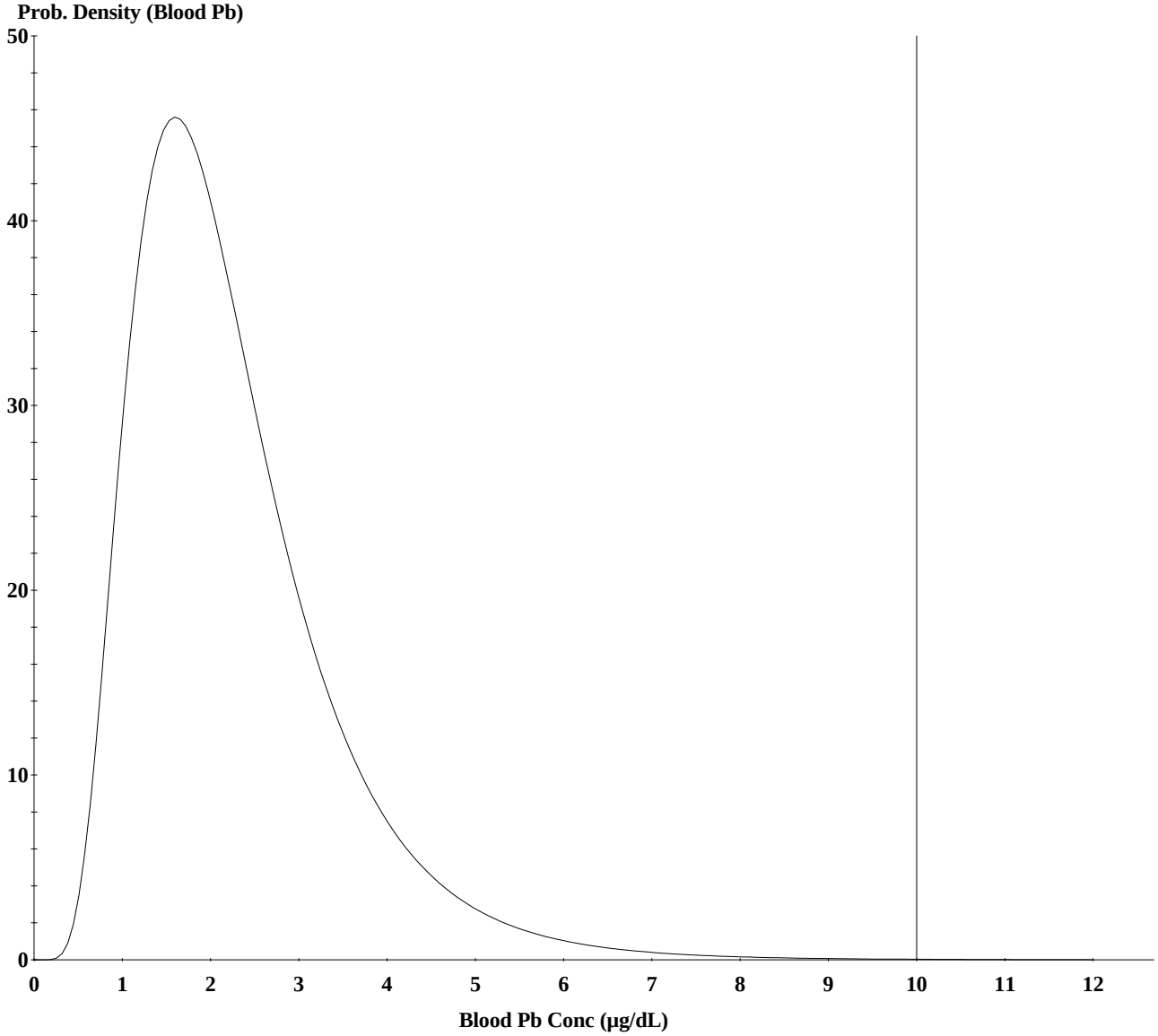
****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.077	0.000	0.381
1-2	0.034	0.928	0.000	0.947
2-3	0.062	1.016	0.000	0.992
3-4	0.067	0.979	0.000	1.018
4-5	0.067	0.947	0.000	1.069
5-6	0.093	1.000	0.000	1.132
6-7	0.093	1.085	0.000	1.154

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	2.752	4.232	2.3
1-2	4.342	6.252	2.6
2-3	4.373	6.443	2.4
3-4	4.403	6.467	2.3
4-5	3.299	5.382	1.9
5-6	2.982	5.207	1.7
6-7	2.823	5.155	1.5



Cutoff = 10.000 µg/dl
Geo Mean = 2.076
GSD = 1.600
% Above = 0.041
% Below = 99.959

Age Range = 0 to 84 months

Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

==========
Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit: Child Resident - All Floodplain Soil EU BB5
Run Mode: Research
==========

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

****** Diet ******

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

****** Soil & Dust ******

Multiple Source Analysis Used
Average multiple source concentration: 145.800 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	194.000	145.800
1-2	194.000	145.800
2-3	194.000	145.800
3-4	194.000	145.800
4-5	194.000	145.800
5-6	194.000	145.800
6-7	194.000	145.800

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

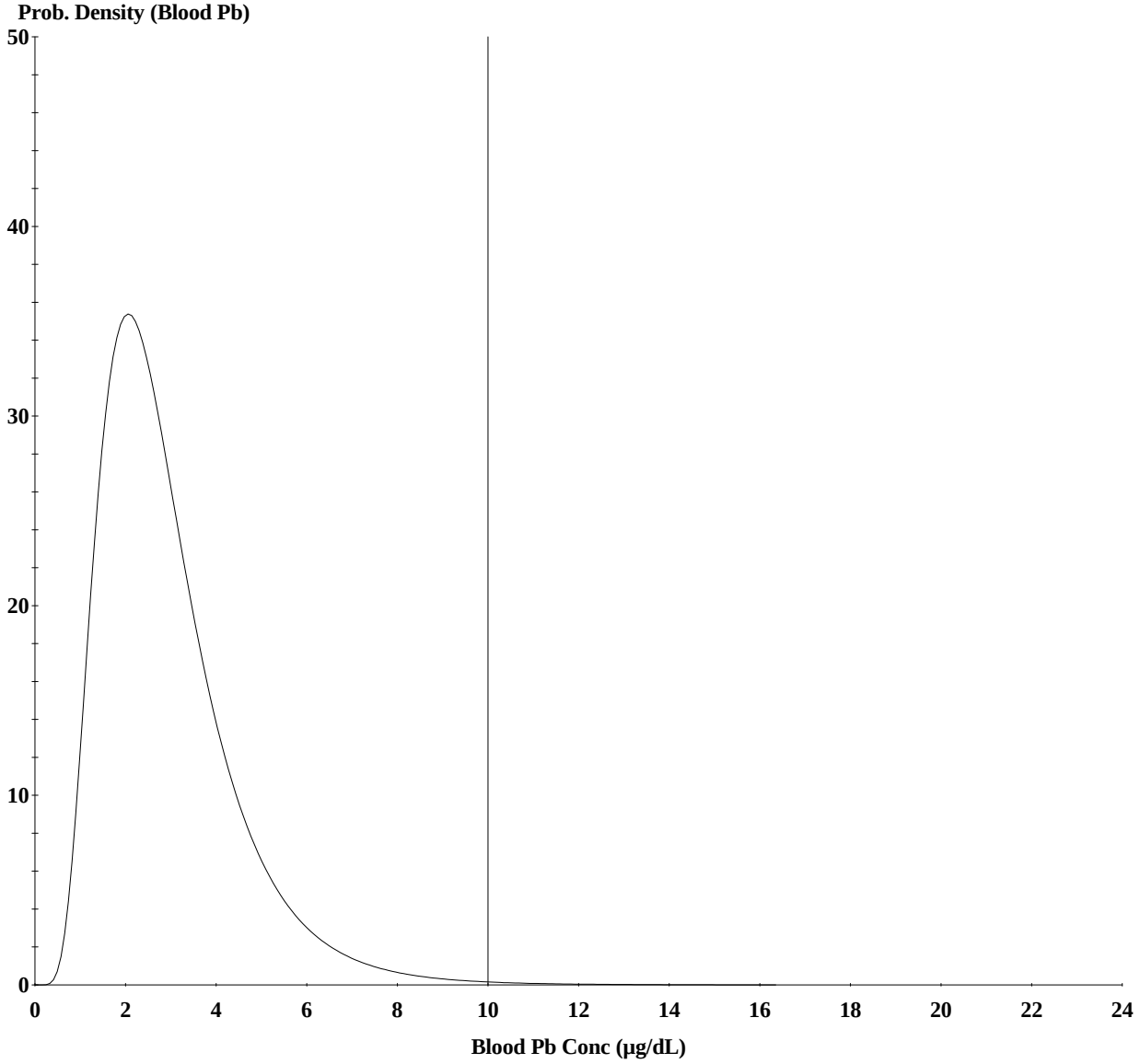
****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.062	0.000	0.376
1-2	0.034	0.912	0.000	0.931
2-3	0.062	1.001	0.000	0.977
3-4	0.067	0.967	0.000	1.005
4-5	0.067	0.939	0.000	1.060
5-6	0.093	0.993	0.000	1.124
6-7	0.093	1.079	0.000	1.147

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	4.014	5.473	3.0
1-2	6.314	8.192	3.4
2-3	6.374	8.414	3.1
3-4	6.431	8.469	3.0
4-5	4.840	6.906	2.5
5-6	4.382	6.593	2.1
6-7	4.152	6.471	1.9



Cutoff = 10.000 µg/dl
Geo Mean = 2.675
GSD = 1.600
% Above = 0.251
% Below = 99.749

Age Range = 0 to 84 months

Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

==========
Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit: Child Resident - All Floodplain Soil EU BB6
Run Mode: Research
==========

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

****** Diet ******

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

****** Soil & Dust ******

Multiple Source Analysis Used
Average multiple source concentration: 129.700 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	171.000	129.700
1-2	171.000	129.700
2-3	171.000	129.700
3-4	171.000	129.700
4-5	171.000	129.700
5-6	171.000	129.700
6-7	171.000	129.700

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

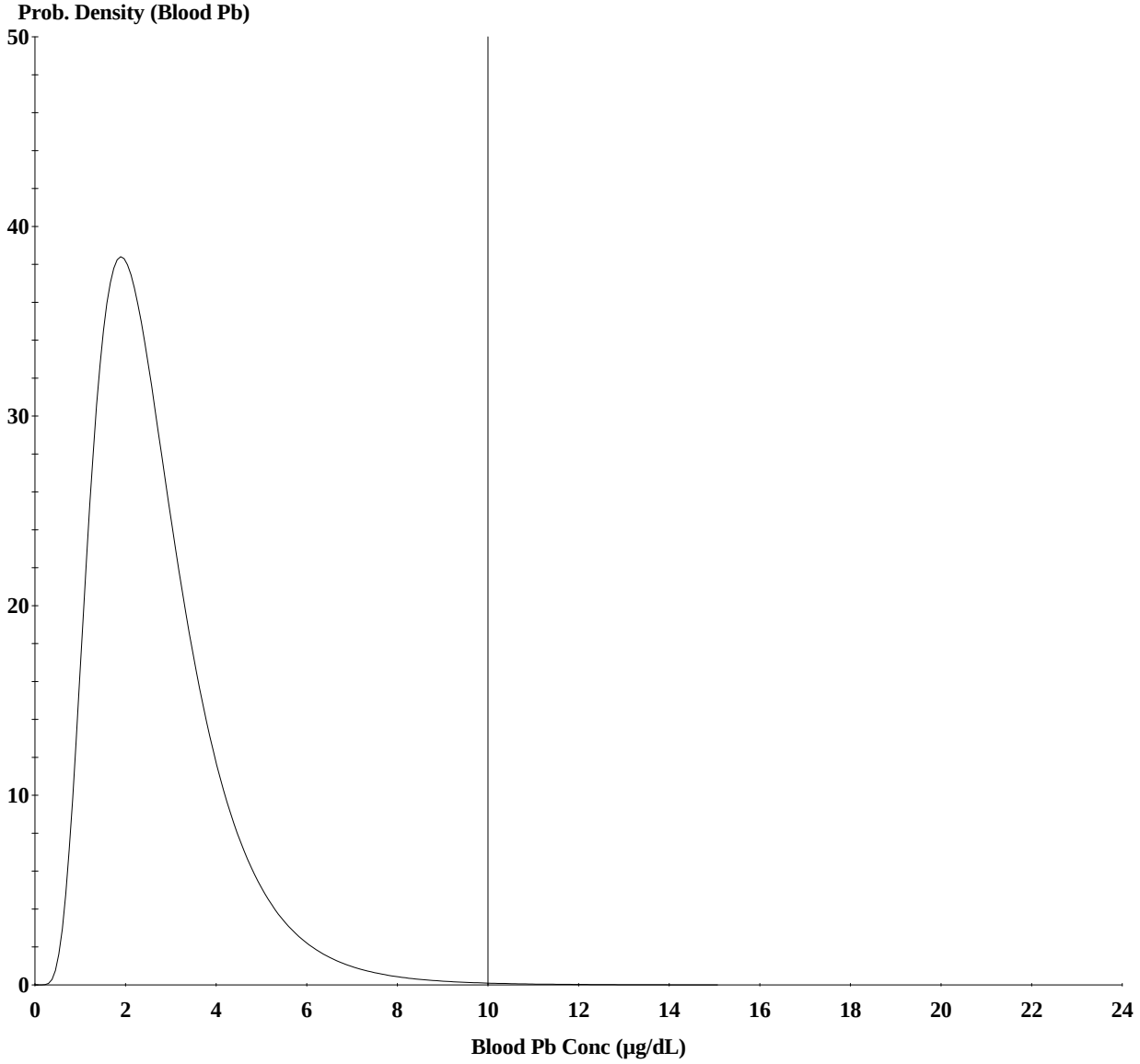
****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.067	0.000	0.378
1-2	0.034	0.918	0.000	0.937
2-3	0.062	1.006	0.000	0.982
3-4	0.067	0.971	0.000	1.009
4-5	0.067	0.942	0.000	1.063
5-6	0.093	0.996	0.000	1.127
6-7	0.093	1.081	0.000	1.149

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	3.571	5.038	2.7
1-2	5.624	7.513	3.1
2-3	5.673	7.723	2.9
3-4	5.719	7.767	2.7
4-5	4.298	6.369	2.3
5-6	3.889	6.104	1.9
6-7	3.683	6.007	1.7



Cutoff = 10.000 µg/dl
Geo Mean = 2.465
GSD = 1.600
% Above = 0.144
% Below = 99.856

Age Range = 0 to 84 months

Run Mode = Research

APPENDIX D, TABLE D-17

RAGS D IEUBK LEAD WORKSHEET

Site Name: Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Receptor: Child Angler (Age 0 to 84 Months)

1. Lead Screening Questions

Medium	Lead Concentration Used in Model Run		Basis for Lead Concentration Used For Model Run	Lead Screening Concentration		Basis for Lead Screening Level
	Value	Units		Value	Units	
Fish Fillet	Predatory Fish: EUs BB1, GB = 0.19 EU BB2 = 0.13 EU SL = 0.20 Bottom-Feeding Fish: EU SL = 0.18	mg/kg, wet weight	Arithmetic average	NA		
Shellfish	EUs BB5, BB4, BB3, BB2, BB1, GB, and SL = 0.79 EU BB6 = 1.5	mg/kg, wet weight	Arithmetic average	NA		

2. Lead Model Questions

Question	Response for Residential Lead Model
What lead model (version and date) was used?	USEPA IEUBK Model Win32, Version 1.1, Build 11
Where are the input values located in the risk assessment report?	RAGS Part D Table 4.15 for fish fillet and RAGS Part D Table 4.16 for shellfish provided in Appendix A.
What range of media concentrations were used for the model?	Other than the fish concentration listed above, default media concentrations were used (i.e., 200 µg/g for soil, 0.1 mg/m^3 in outdoor air, indoor air 30% outdoor air, multiple source analysis for indoor dust, and 4 µg/L for drinking water).

Question	Response for Residential Lead Model
What statistics were used to represent the exposure concentration terms and where are the data on concentrations in the risk assessment that support use of these statistics?	Arithmetic average concentration in fish or crayfish tissue, as shown in RAGS Part D Tables 3.31D, 3.31E, 3.32 for predatory fish fillet, RAGS Part D Table 3.34 for bottom-feeding fish fillet, and RAGS Part D Tables 3.36A and 3.36B for crayfish.
Was soil sample taken from top 2 cm? If not, why?	Not applicable.
Was soil sample sieved? What size screen was used? If not sieved, provide rationale.	Not applicable.
What was the point of exposure/location?	Residence.
Where are the output values located in the risk assessment report?	The IEUBK output files are provided in Appendix D.
Was the model run using default values only?	Yes, except for the fish or shellfish concentration. Also assumed 20% of all meat consumed consists of recreationally-caught fish fillet or 1.6% of all meat consumed consists of recreationally-caught crayfish, as applicable.
Was the default soil bioavailability used?	Yes. Default media absorption fractions of 30% for soil and dust and 50% for water and diet were used. A default lung absorption of 32% was used for all age groups.
Was the default soil ingestion rate used?	Yes. Default total dust and soil intake values, in g/day, for the seven age groups are: 0.085, 0.135, 0.135, 0.135, 0.1, 0.09, and 0.085. Default ventilation rates, in m^3/day, for the seven age groups are: 2, 3, 5, 5, 5, 7, and 7. Default dietary intake values, in µg/day, for the seven age groups are: 2.26, 1.96, 2.13, 2.04, 1.95, 2.05, and 2.22. Default water consumption values, in L/day, for the seven age groups are: 0.2, 0.5, 0.52, 0.53, 0.55, 0.58, 0.59.
If non-default values were used, where is the rationale for the values located in the risk assessment report?	The assumption of 20% of all meat consumed consists of recreationally-caught fish fillet was calculated as the angler child fish fillet ingestion rate of 7.75 g/d divided by the average default meat consumption rate in the IEUBK Model (38.1 g/d) multiplied by 100. The assumption of 1.6% of all meat consumed consists of recreationally-caught shellfish was calculated as the angler child shellfish ingestion rate of 0.625 g/d divided by 38.1 g/d, multiplied by 100.

3. Final Result

Medium	Result	Comment/PRG
Fish Fillet	EUs BB1 and GB – The arithmetic average lead concentration of 0.19 mg/kg for predatory fish fillet results in an estimated geometric mean PbB of 2.9 µg/dL and a 0.46% probability that the target PbB of 10 µg/dL is exceeded. EU BB2 – The arithmetic average lead concentration of 0.13 mg/kg for predatory fish fillet results in an estimated geometric mean PbB of 2.9 µg/dL and a 0.40% probability that the target PbB of 10 µg/dL is exceeded. EU SL – The arithmetic average lead concentration of 0.20 mg/kg for predatory fish fillet results in an estimated geometric mean PbB of 3.0 µg/dL and a 0.47% probability that the target PbB of 10 µg/dL is exceeded. The arithmetic average lead concentration of 0.18 mg/kg for bottom-feeding fish fillet results in an estimated geometric mean PbB of 2.9 µg/dL and a 0.45% probability that the target PbB of 10 µg/dL is exceeded.	Not applicable.
Crayfish	EUs BB5, BB4, BB3, BB2, BB1, GB, and SL – The arithmetic average lead concentration of 0.79 mg/kg for crayfish results in an estimated geometric mean PbB of 2.8 µg/dL and a 0.34% probability that the target PbB of 10 µg/dL is exceeded. EU BB6 – The arithmetic average lead concentration of 1.5 mg/kg for crayfish results in an estimated geometric mean PbB of 2.9 µg/dL and a 0.39% probability that the target PbB of 10 µg/dL is exceeded.	

LEAD MODEL FOR WINDOWS Version 1.1

==========
Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit: Predatory Fish Fillet, EU BB1 and GB
Run Mode: Research
==========

******** Air ********

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

******** Diet ********

Age	Diet Intake(µg/day)
.5-1	2.661
1-2	3.080
2-3	3.572
3-4	3.584
4-5	3.599
5-6	3.833
6-7	4.277

Alternative Dietary Values
Home grown fruits concentration: 0.000 µg/g
Home grown vegetables concentration: 0.000 µg/g
Fish from fishing concentration: 0.190 µg/g
Game animals from hunting concentration: 0.000 µg/g
Home grown fruits factor: 0.000 % of all fruits
Home grown vegetables factor: 0.000 % of all vegetables
Fish from fishing factor: 20.330 %of all meat
Game animals from hunting factor: 0.000 % of all meat

******** Drinking Water ********

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

******** Soil & Dust ********

Multiple Source Analysis Used
Average multiple source concentration: 150.000 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	200.000	150.000
1-2	200.000	150.000
2-3	200.000	150.000
3-4	200.000	150.000
4-5	200.000	150.000
5-6	200.000	150.000
6-7	200.000	150.000

******** Alternate Intake ********

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

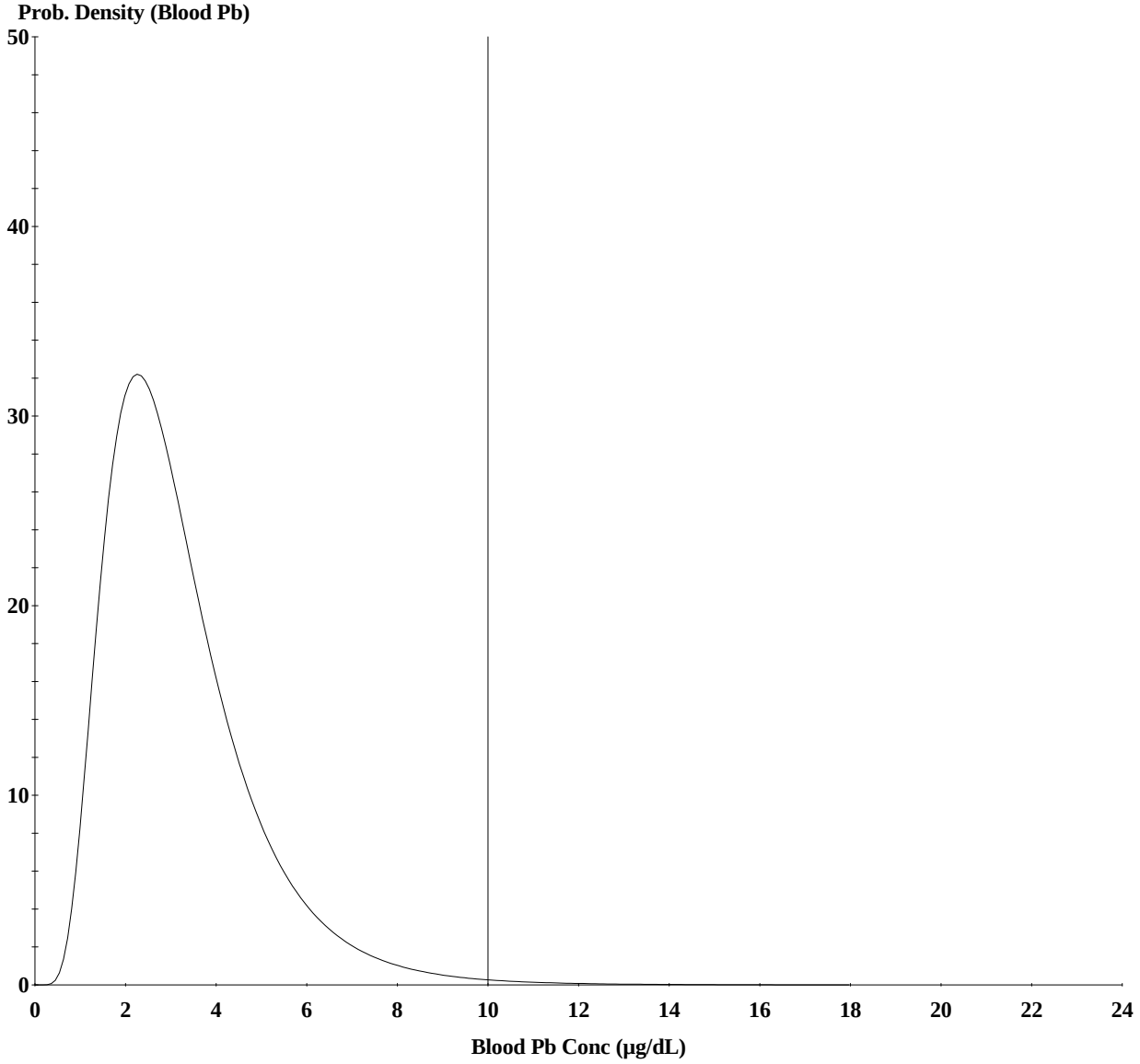
******** Maternal Contribution: Infant Model ********

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.246	0.000	0.375
1-2	0.034	1.425	0.000	0.925
2-3	0.062	1.668	0.000	0.971
3-4	0.067	1.690	0.000	0.999
4-5	0.067	1.725	0.000	1.054
5-6	0.093	1.848	0.000	1.119
6-7	0.093	2.069	0.000	1.141

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	4.120	5.762	3.1
1-2	6.465	8.850	3.6
2-3	6.525	9.226	3.4
3-4	6.586	9.341	3.3
4-5	4.960	7.806	2.8
5-6	4.492	7.552	2.4
6-7	4.255	7.559	2.2



Cutoff = 10.000 µg/dl
Geo Mean = 2.939
GSD = 1.600
% Above = 0.459
% Below = 99.541

Age Range = 0 to 84 months

Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

==========
Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit: Predatory Fish Fillet, EU BB2
Run Mode: Research
==========

******** Air ********

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

******** Diet ********

Age	Diet Intake(µg/day)
.5-1	2.532
1-2	2.719
2-3	3.107
3-4	3.085
4-5	3.066
5-6	3.255
6-7	3.612

Alternative Dietary Values
Home grown fruits concentration: 0.000 µg/g
Home grown vegetables concentration: 0.000 µg/g
Fish from fishing concentration: 0.130 µg/g
Game animals from hunting concentration: 0.000 µg/g
Home grown fruits factor: 0.000 % of all fruits
Home grown vegetables factor: 0.000 % of all vegetables
Fish from fishing factor: 20.330 %of all meat
Game animals from hunting factor: 0.000 % of all meat

******** Drinking Water ********

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

******** Soil & Dust ********

Multiple Source Analysis Used
Average multiple source concentration: 150.000 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	200.000	150.000
1-2	200.000	150.000
2-3	200.000	150.000
3-4	200.000	150.000
4-5	200.000	150.000
5-6	200.000	150.000
6-7	200.000	150.000

******** Alternate Intake ********

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

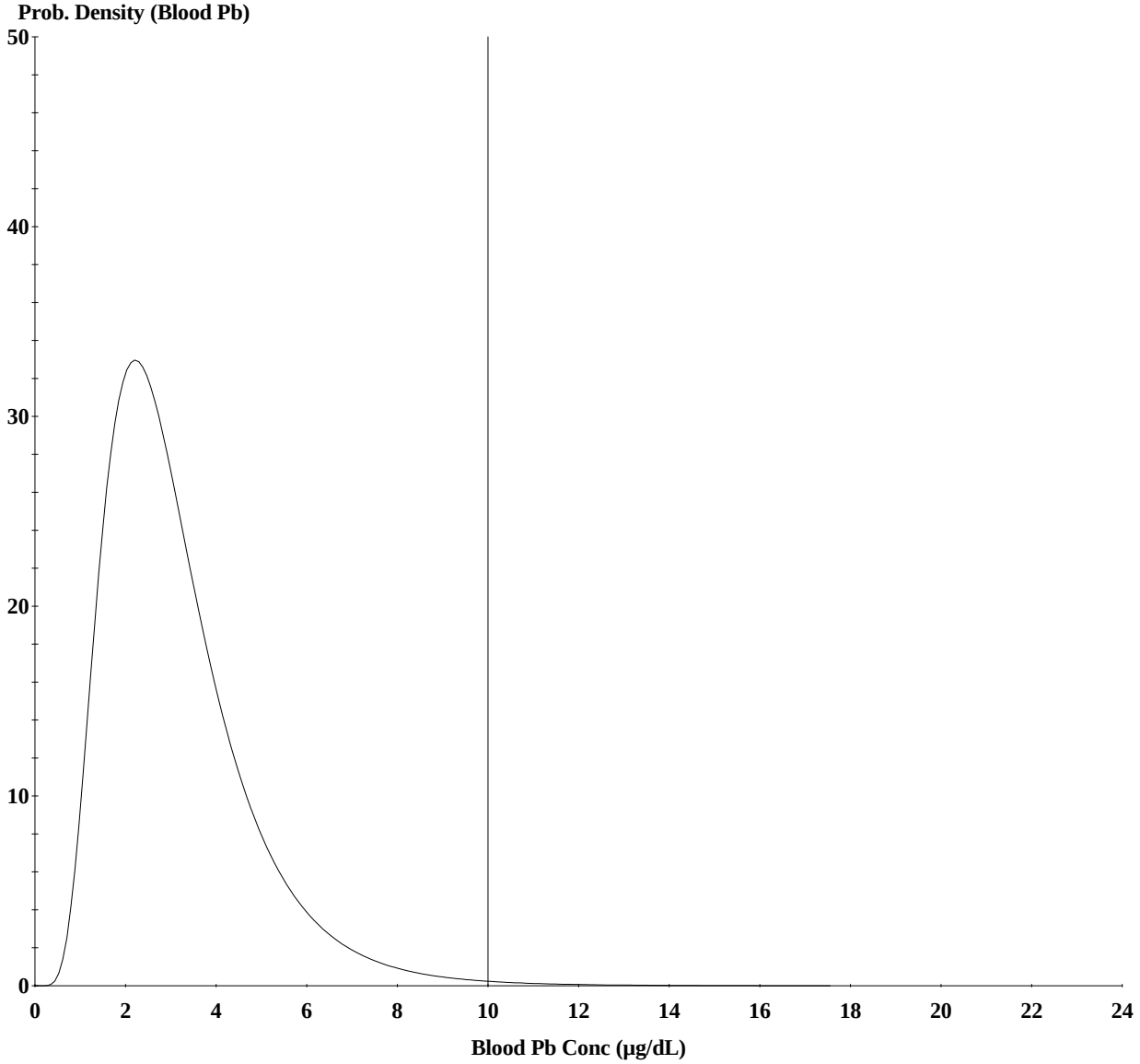
******** Maternal Contribution: Infant Model ********

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.186	0.000	0.375
1-2	0.034	1.260	0.000	0.927
2-3	0.062	1.453	0.000	0.973
3-4	0.067	1.456	0.000	1.001
4-5	0.067	1.471	0.000	1.056
5-6	0.093	1.572	0.000	1.120
6-7	0.093	1.749	0.000	1.143

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	4.123	5.705	3.1
1-2	6.474	8.695	3.6
2-3	6.535	9.022	3.4
3-4	6.595	9.119	3.2
4-5	4.967	7.561	2.7
5-6	4.498	7.283	2.3
6-7	4.261	7.247	2.1



Cutoff = 10.000 µg/dl
Geo Mean = 2.871
GSD = 1.600
% Above = 0.397
% Below = 99.603

Age Range = 0 to 84 months

Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

==========
Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit: Predatory Fish Fillet, EU SL
Run Mode: Research
==========

******** Air ********

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

******** Diet ********

Age	Diet Intake(µg/day)
.5-1	2.683
1-2	3.140
2-3	3.649
3-4	3.668
4-5	3.688
5-6	3.929
6-7	4.388

Alternative Dietary Values
Home grown fruits concentration: 0.000 µg/g
Home grown vegetables concentration: 0.000 µg/g
Fish from fishing concentration: 0.200 µg/g
Game animals from hunting concentration: 0.000 µg/g
Home grown fruits factor: 0.000 % of all fruits
Home grown vegetables factor: 0.000 % of all vegetables
Fish from fishing factor: 20.330 %of all meat
Game animals from hunting factor: 0.000 % of all meat

******** Drinking Water ********

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

******** Soil & Dust ********

Multiple Source Analysis Used
Average multiple source concentration: 150.000 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	200.000	150.000
1-2	200.000	150.000
2-3	200.000	150.000
3-4	200.000	150.000
4-5	200.000	150.000
5-6	200.000	150.000
6-7	200.000	150.000

******** Alternate Intake ********

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

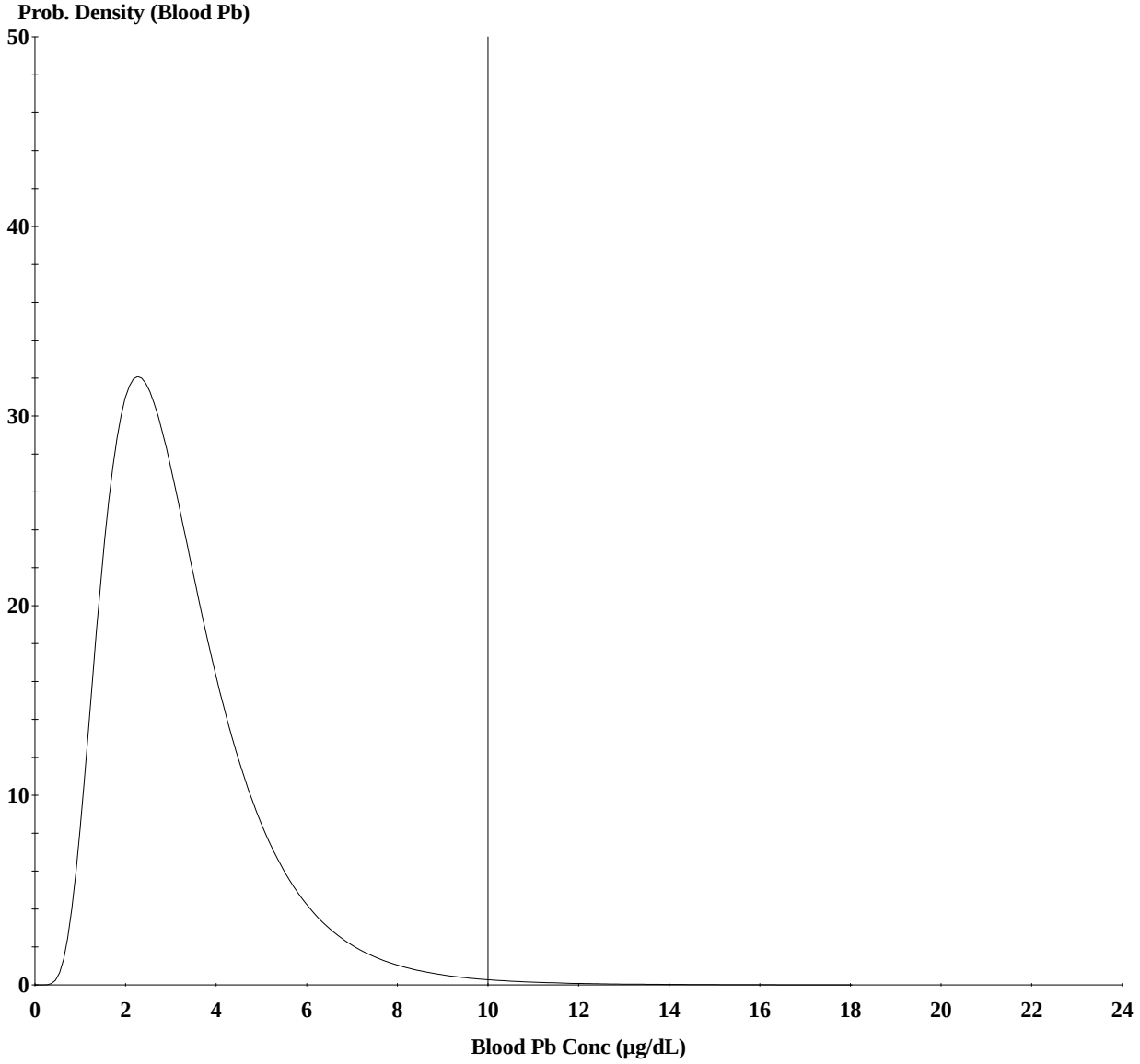
******** Maternal Contribution: Infant Model ********

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.256	0.000	0.375
1-2	0.034	1.453	0.000	0.925
2-3	0.062	1.704	0.000	0.971
3-4	0.067	1.728	0.000	0.999
4-5	0.067	1.767	0.000	1.054
5-6	0.093	1.894	0.000	1.119
6-7	0.093	2.122	0.000	1.141

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	4.120	5.772	3.1
1-2	6.464	8.876	3.7
2-3	6.523	9.260	3.4
3-4	6.584	9.378	3.3
4-5	4.959	7.847	2.8
5-6	4.491	7.597	2.4
6-7	4.254	7.611	2.2



Cutoff = 10.000 µg/dl
Geo Mean = 2.950
GSD = 1.600
% Above = 0.470
% Below = 99.530

Age Range = 0 to 84 months

Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

==========
Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit: Bottom-Feeding Fish Fillet, EU SL
Run Mode: Research
==========

******** Air ********

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

******** Diet ********

Age	Diet Intake(µg/day)
.5-1	2.640
1-2	3.020
2-3	3.494
3-4	3.501
4-5	3.510
5-6	3.737
6-7	4.166

Alternative Dietary Values
Home grown fruits concentration: 0.000 µg/g
Home grown vegetables concentration: 0.000 µg/g
Fish from fishing concentration: 0.180 µg/g
Game animals from hunting concentration: 0.000 µg/g
Home grown fruits factor: 0.000 % of all fruits
Home grown vegetables factor: 0.000 % of all vegetables
Fish from fishing factor: 20.330 %of all meat
Game animals from hunting factor: 0.000 % of all meat

******** Drinking Water ********

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

******** Soil & Dust ********

Multiple Source Analysis Used
Average multiple source concentration: 150.000 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	200.000	150.000
1-2	200.000	150.000
2-3	200.000	150.000
3-4	200.000	150.000
4-5	200.000	150.000
5-6	200.000	150.000
6-7	200.000	150.000

******** Alternate Intake ********

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

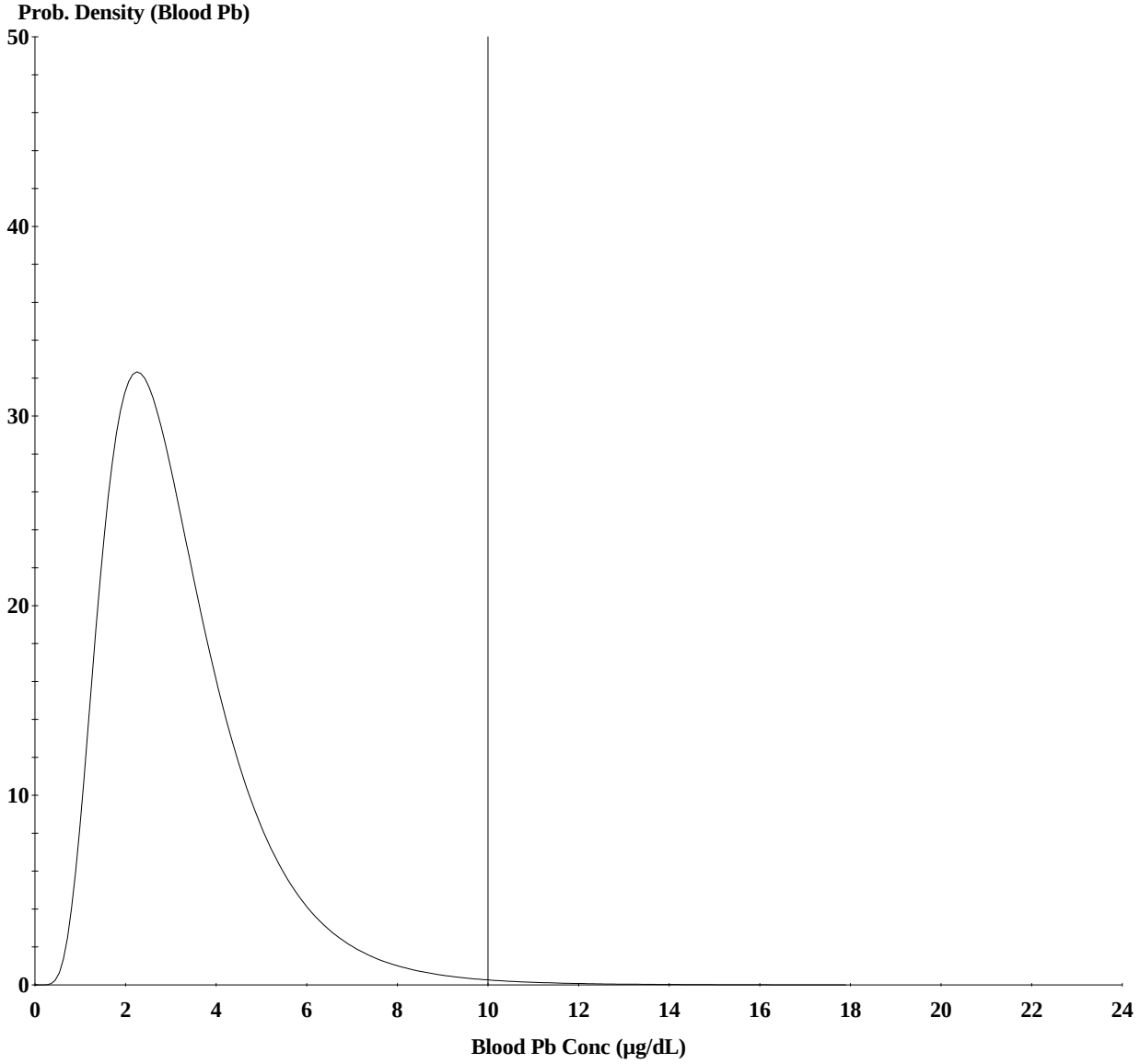
******** Maternal Contribution: Infant Model ********

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.236	0.000	0.375
1-2	0.034	1.398	0.000	0.926
2-3	0.062	1.632	0.000	0.972
3-4	0.067	1.651	0.000	1.000
4-5	0.067	1.683	0.000	1.055
5-6	0.093	1.802	0.000	1.119
6-7	0.093	2.016	0.000	1.142

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	4.121	5.753	3.1
1-2	6.467	8.824	3.6
2-3	6.526	9.192	3.4
3-4	6.588	9.304	3.3
4-5	4.961	7.766	2.7
5-6	4.493	7.508	2.4
6-7	4.256	7.507	2.2



Cutoff = 10.000 µg/dl
Geo Mean = 2.928
GSD = 1.600
% Above = 0.448
% Below = 99.552

Age Range = 0 to 84 months

Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

==========
Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit: Crayfish, EUs BB5, BB4, BB3, BB2, BB1, GB, and SL
Run Mode: Research
==========

******** Air ********

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

******** Diet ********

Age	Diet Intake(µg/day)
.5-1	2.398
1-2	2.345
2-3	2.625
3-4	2.568
4-5	2.513
5-6	2.657
6-7	2.922

Alternative Dietary Values
Home grown fruits concentration: 0.000 µg/g
Home grown vegetables concentration: 0.000 µg/g
Fish from fishing concentration: 0.790 µg/g
Game animals from hunting concentration: 0.000 µg/g
Home grown fruits factor: 0.000 % of all fruits
Home grown vegetables factor: 0.000 % of all vegetables
Fish from fishing factor: 1.640 %of all meat
Game animals from hunting factor: 0.000 % of all meat

******** Drinking Water ********

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

******** Soil & Dust ********

Multiple Source Analysis Used
Average multiple source concentration: 150.000 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	200.000	150.000
1-2	200.000	150.000
2-3	200.000	150.000
3-4	200.000	150.000
4-5	200.000	150.000
5-6	200.000	150.000
6-7	200.000	150.000

******** Alternate Intake ********

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

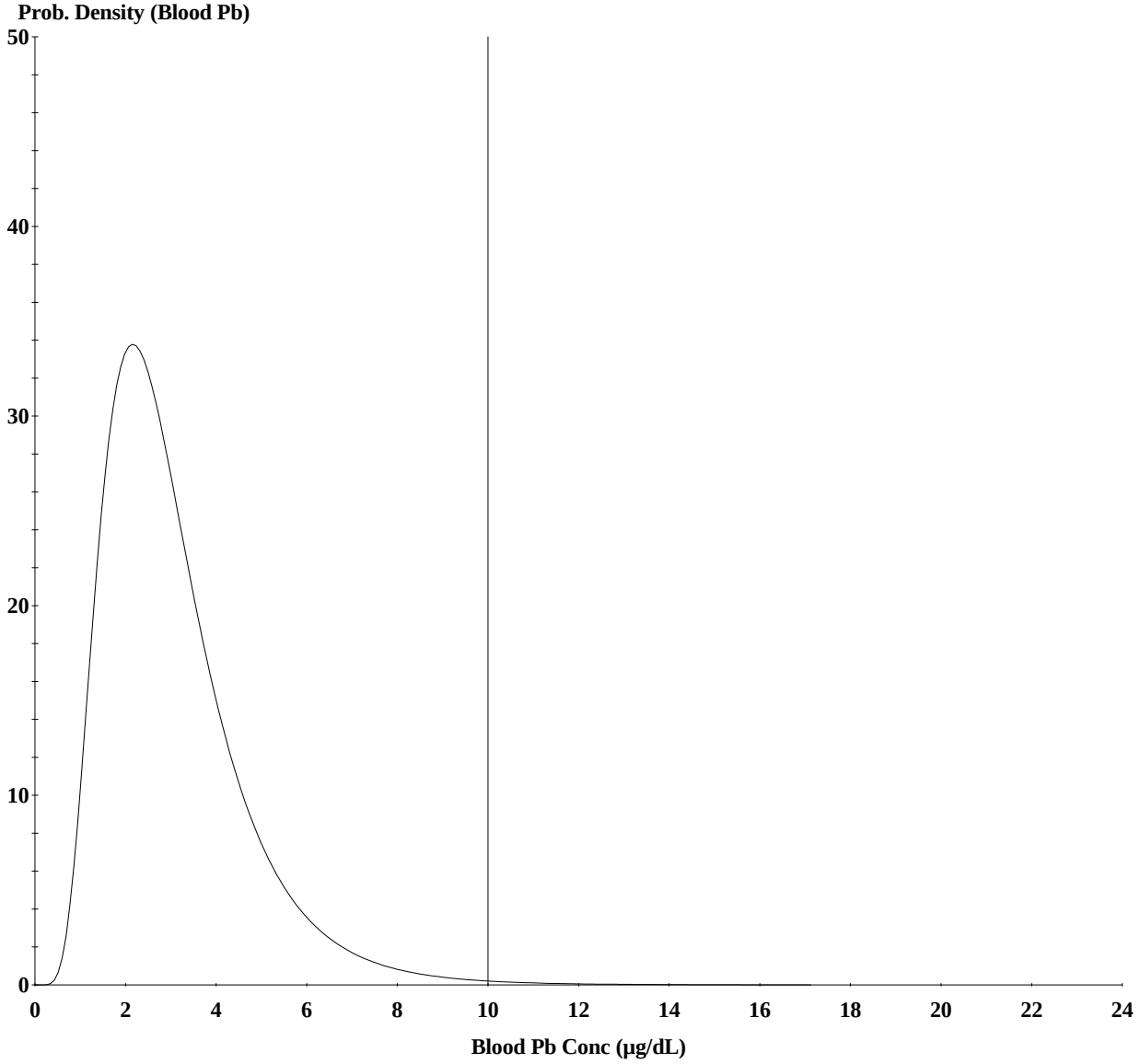
******** Maternal Contribution: Infant Model ********

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.124	0.000	0.375
1-2	0.034	1.088	0.000	0.928
2-3	0.062	1.230	0.000	0.974
3-4	0.067	1.214	0.000	1.002
4-5	0.067	1.208	0.000	1.057
5-6	0.093	1.285	0.000	1.122
6-7	0.093	1.418	0.000	1.145

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	4.126	5.646	3.1
1-2	6.484	8.534	3.5
2-3	6.545	8.811	3.3
3-4	6.605	8.888	3.1
4-5	4.974	7.306	2.6
5-6	4.504	7.004	2.2
6-7	4.267	6.923	2.0



Cutoff = 10.000 µg/dl
Geo Mean = 2.801
GSD = 1.600
% Above = 0.339
% Below = 99.661

Age Range = 0 to 84 months

Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

==========
Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit: Crayfish, EU BB6
Run Mode: Research
==========

******** Air ********

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

******** Diet ********

Age	Diet Intake(µg/day)
.5-1	2.521
1-2	2.689
2-3	3.069
3-4	3.045
4-5	3.022
5-6	3.208
6-7	3.558

Alternative Dietary Values
Home grown fruits concentration: 0.000 µg/g
Home grown vegetables concentration: 0.000 µg/g
Fish from fishing concentration: 1.500 µg/g
Game animals from hunting concentration: 0.000 µg/g
Home grown fruits factor: 0.000 % of all fruits
Home grown vegetables factor: 0.000 % of all vegetables
Fish from fishing factor: 1.640 %of all meat
Game animals from hunting factor: 0.000 % of all meat

******** Drinking Water ********

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

******** Soil & Dust ********

Multiple Source Analysis Used
Average multiple source concentration: 150.000 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	200.000	150.000
1-2	200.000	150.000
2-3	200.000	150.000
3-4	200.000	150.000
4-5	200.000	150.000
5-6	200.000	150.000
6-7	200.000	150.000

******** Alternate Intake ********

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

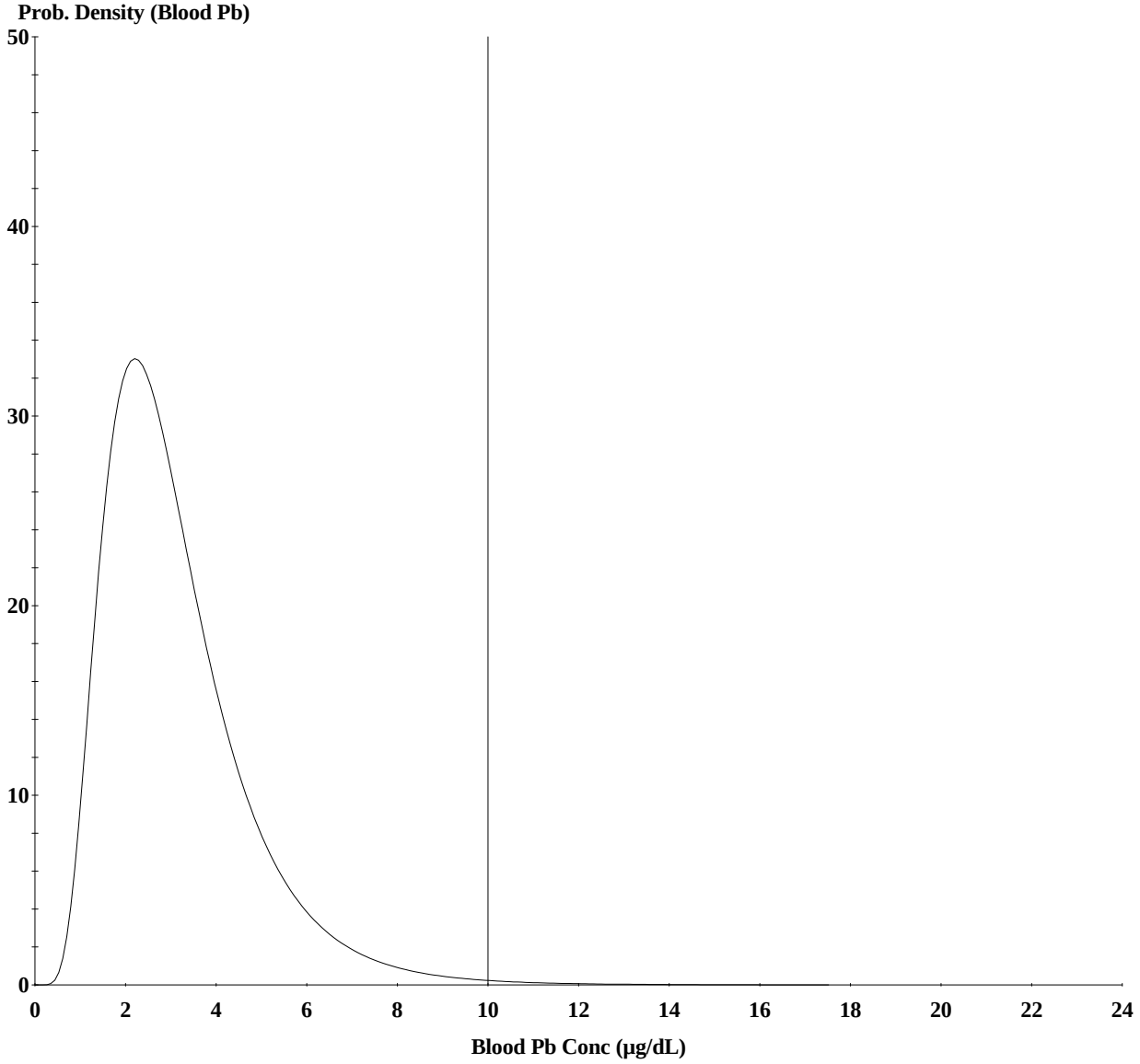
******** Maternal Contribution: Infant Model ********

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.182	0.000	0.375
1-2	0.034	1.246	0.000	0.927
2-3	0.062	1.435	0.000	0.973
3-4	0.067	1.437	0.000	1.001
4-5	0.067	1.451	0.000	1.056
5-6	0.093	1.549	0.000	1.120
6-7	0.093	1.723	0.000	1.143

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	4.123	5.701	3.1
1-2	6.475	8.682	3.6
2-3	6.536	9.006	3.4
3-4	6.596	9.101	3.2
4-5	4.968	7.541	2.7
5-6	4.498	7.261	2.3
6-7	4.262	7.221	2.1



Cutoff = 10.000 µg/dl
Geo Mean = 2.866
GSD = 1.600
% Above = 0.392
% Below = 99.608

Age Range = 0 to 84 months

Run Mode = Research

APPENDIX E

Statistical Analysis of Biota Data

Summary

The Analysis of Covariance (ANCOVA) was used to understand the differences in total polychlorinated biphenyl (Total PCB) concentrations in fish, crayfish, Asiatic clams, and small mammals, between sampling events (1997 vs. 2008) and among sampling stations. The results of the analysis provided the information needed to aggregate the biota data spatially for risk assessment purposes.

Purpose of Analysis

The main purpose of this analysis is to evaluate temporal and spatial changes in Total PCB concentrations in several species of bottom-feeding and predatory fish, crayfish, Asiatic clams, and small mammals obtained from one or two sampling events (1997 and/or 2008) and multiple sampling locations.

The following conventions were used to facilitate the statistical analysis for bottom-feeding and predatory fish, crayfish, and Asiatic clams: As shown in the following table, different station names were used in the 1997 and 2008 sampling events although most of the corresponding stations were located at approximately the same river mile in Bound Brook. Since more stations were sampled in 1997, the 1997 station names were given to the corresponding 2008 stations. In New Market pond, two stations were sampled in 1997 (A5 and A6) and one station was sampled in 2008 (S6); all of these data were labeled A5. Since fish fillet data for Station A4 is represented by only three data points from 1997, the fish fillet data for A4 were combined with the data for A5 and labeled A4_A5. Data for Station 3, which was only sampled in 2008, were labeled S3.

1997 Sampling Event		2008 Sampling Event		Statistical Analysis "Name"	Exposure Unit
Station Name	River Mile	Station Name	River Mile		
A9	6.98	1	7.32	A9	BB6
A1	6.54	2 3	6.5 6.32	A1	BB5
A2	5.64	4	5.66	A2	BB4
A3 A4	5.17 4.62	5	5.19	A3 A4	BB3
A5 A6	4.15 3.52	6	3.71	A5	BB2
A7 A11 A12 A13	-- 3.41 3.26 2.05			A7 A11 A12 A13	BB1

The original station names for the small mammal samples collected from terrestrial locations in 1997 (*e.g.*, T1) were retained.

Tables 1 through 5 present the Total PCB data for fish fillet, whole body fish, crayfish, Asiatic clams, and small mammals, respectively, used in the ANCOVA analysis. The results of the analysis are provided below. Details of the sampling events and stations, biota sampling and analysis for PCBs and percent lipid, and data handlings are provided in Sections 2, 4, and 5 of the Risk Assessment Report.

Approach

The concentrations of PCBs and other lipophilic organic contaminants in samples collected during the different sampling events or at different stations can differ with respect to variables that influence PCB uptake (e.g., river age and organism size, sex, and lipid content). Differences among samples with respect to these variables could produce statistically significant sampling event or station effects that are not caused by differences in PCB exposure. At the opposite extreme, differences with respect to these variables could mask the effects of real differences in PCB exposure. It is therefore desirable to account for the effects of these confounding variables when they are statistically significant.

Typically, the correlation between PCB concentration and lipid content of biota tissue is accomplished by dividing PCB concentration by percent lipid to produce lipid-normalized data. This normalization approach does not account for the impact of other confounding factors. This method also assumes that PCB concentrations in biota tissue from a given area are expected to be proportional to lipid content, and that lipid-normalized PCB concentrations are expected to have lower variability. Hebert and Keenleyside (1994) found that neither of these assumptions held for their sample data, and proposed an alternative procedure based on the Analysis of Covariance (ANCOVA).

The ANCOVA approach was used in this analysis, and was implemented using the General Linear Model (GLM) function in JMP®. Sampling event (1997 vs. 2008), and station were incorporated in ANCOVA models as discrete effects for all biota tested, and fish type (*i.e.* bottom-feeding vs. predatory) was included as an additional discrete effect for the fish fillet and whole-body fish analyses. The only covariate incorporated was log-transformed lipid content. River age and organism sex were not available, and organism size was not consistently observed. The statistical significance of effects and covariates and their interactions were assessed by the p-value associated with the F-value of the corresponding Type III sum of squares[1] in JMP®. An alpha level of 0.05 was used to determine statistical significance (Sokal and Rohlf, 2012). Total PCB concentrations were also log-transformed prior to statistical analysis. The purpose of this transformation is to produce variables whose variance is independent of the mean (*i.e.*,

[1] Using the Type III sums of squares assesses the contribution of each effect after all other effects in the model have been incorporated.

homogeneous variance) and whose variation about the mean is approximately normally distributed (*i.e.*, Gaussian residuals). These properties are important in ensuring the validity of standard statistical methods such as ANCOVA.

When probability levels generated from an ANCOVA analysis indicated a significant station or sampling event effect, pairwise multiple comparisons were used to identify significant differences between pairs of least-squares means using the Tukey unequal sample size HSD (honest significant difference) criterion or the Student's t-Test. Thus, any differences detected by these tests represented differences in Total PCB concentration after accounting for the effects of lipid content.

Results

Tables 6 through 10 present the results of the ANCOVA analysis of the Total PCB data for fish fillet, whole body fish, crayfish, Asiatic clams, and small mammals, respectively. The alignment of the sampling stations for each biota type with the exposure units (EU) evaluated in the risk assessment is shown in Table 11. Based on the result of the ANCOVA analysis, the Total PCB data for each biota type were used to develop exposure point concentrations to represent one or more EUs.

Fish Fillet Analysis

Total PCB fish fillet data were available for different sampling events and stations (see Table 1). Only five stations (A1, A2, A3, A5, and A9) were sampled in both 1997 and 2008. Therefore three different ANCOVA analyses were performed. The first ANCOVA analysis included only the five stations with both 1997 and 2008 data, and event, station, and fish type were the main effects. The second analysis included only the 1997 data[2] with station and fish type specified as the main effects. The third analysis included only the 2008 data with station and fish type specified as the main effects.

The results for the ANCOVA analysis for data at the five stations containing both 1997 and 2008 data (Figure 1a and Table 6a) can be summarized as follows:

- The ANCOVA model explained 66 percent of the variability in the Total PCB data.
- ANCOVA detected no statistically significant differences between Total PCB concentrations in 1997 and those in 2008.
- Total PCB concentrations in bottom feeders were higher than corresponding concentrations in predatory fish.
- When stations were tested separately for difference, the results indicated that Total PCB concentrations at Station A9 were significantly lower than concentrations at the other

[2] Fish fillet data from Station A14, which were only collected in 1997, were excluded from the analysis since Station A14, located on Green Brook at the confluence with the Raritan River, is outside the OU 4Study Area boundaries.

stations. Station A9 is located upstream of the former Cornell-Dubilier Electronics (CDE) facility.

- The estimate of the model coefficient for natural log of percent lipid is less than 1. Therefore, the relationship between Total PCB and lipid is not a simple linear one.

The results for the ANCOVA analysis on only the 1997 data (Figure 1b and Table 6b) can be summarized as follows:

- The ANCOVA model explained 67 percent of the variability in the Total PCB data.
- The ANCOVA detected no statistically significant differences between Total PCB concentrations in bottom feeders and predatory fish.
- When stations were tested separately for difference, the results indicated that Total PCB concentrations at Stations A9 and A13 were significantly lower than concentrations at the other stations. Station A9 is located upstream of the former CDE facility and Station A13 is the most downstream station in Bound Brook. The results also indicated that the Total PCB concentrations at Station A4_A5 were higher than concentrations at the rest of the stations, though close to those observed at stations A2 and A3. Station A4 is located at the New Brunswick Ave. Bridge and A5 is located in the eastern portion of New Market Pond.
- The estimate of the model coefficient for natural log of percent lipid is equal to 1, suggesting that, in this case, the relationship between Total PCB and lipid is linear.

The results for the ANCOVA analysis for only the 2008 data (Figure 1c and Table 6c) can be summarized as follows:

- The ANCOVA model explained 77 percent of the variability in the Total PCB data.
- Total PCB concentrations in bottom feeders were higher than corresponding concentrations in predatory fish.
- When stations were tested separately for difference, the results indicated that Total PCB concentrations at Station A9 were significantly lower than concentrations at the other stations. Station A9 is located upstream of the former CDE facility. The results also indicated that the Total PCB concentrations at Stations A1 and S3were significantly higher than concentrations at the rest of the stations. Station A1 is adjacent to the former CDE facility, and Station S3 is downstream of the former CDE facility between the railroad culverts.
- The estimate of the model coefficient for natural log of percent lipid is less than 1. Therefore, the relationship between Total PCB and lipid is not a simple linear one.

Therefore, for the fish fillet data:

- Data for the 1997 and 2008 sampling events will be combined.
- Data for bottom feeders and predatory fish will be evaluated separately.

- Data for Station A9 (located upstream of the CDE facility) will be evaluated separately and applied to EU Bound Brook (BB) 6.
- Data for Stations A1 and S3 will be combined and applied to EU BB5.
- Data for Stations A2 and A3 will be combined and applied to EU BB4 and EU BB3.
- Data for Stations A4 and A5 will be combined and applied to EU BB2.
- Data for Stations A11, A12, and A13 will be combined and applied to EU BB1 and EU GB.

Whole Body Fish Analysis

Total PCB whole body fish data were available for different sampling events and for different stations (see Table 2). Only five stations (A1, A2, A3, A5, and A9) were sampled in both 1997 and 2008. Therefore three different ANCOVA analyses were performed. The first ANCOVA analysis included only the five stations with both 1997 and 2008 data, and event, station, and fish type were the main effects. The second analysis included only the 1997 data with station and fish type specified as the main effects. The third analysis included only the 2008 data with station and fish type specified as the main effects.

The results for the ANCOVA analysis for data at the five stations sampled in both 1997 and 2008 data (Figure 2a and Table 7a) can be summarized as follows:

- The ANCOVA model explained 58 percent of the variability in the Total PCB data.
- ANCOVA detected no statistically significant differences between Total PCB concentrations in 1997 and those in 2008.
- Total PCB concentrations in bottom feeders were higher than corresponding concentrations in predatory fish.
- When stations were tested separately for difference, the results indicated that Total PCB concentrations at Station A9 were significantly lower than concentrations at the other stations. Station A9 is located upstream of the former Cornell-Dubilier Electronics (CDE) facility.

The estimate of the model coefficient for natural log of percent lipid is less than 1. Therefore, the relationship between Total PCB and lipid is not a simple linear one.

The results for ANCOVA on all 1997 data (Figure 2b and Table 7b) can be summarized as follows:

- The ANCOVA model explained 64 percent of the variability in the Total PCB data.
- When stations were tested separately for difference, the results indicated that Total PCB concentrations at Station A9 were significantly lower than the other stations. Station A9 is located upstream of the former CDE facility.

- The estimate of the model coefficient for natural log of percent lipid is less than 1. Therefore, the relationship between Total PCB and lipid is not a simple linear one.

The results for ANCOVA on all 2008 data (Figure 2c and Table 7c) can be summarized as follows:

- The ANCOVA model explained 75 percent of the variability in the Total PCB data.
- When stations were tested separately for difference, the results indicated that Total PCB concentrations at Station A9 were significantly lower than the other stations. Station A9 is located upstream of the former CDE facility.
- The estimate of the model coefficient for natural log of percent lipid is less than 1. Therefore, the relationship between Total PCB and lipid is not a simple linear one.

Therefore, for the whole body fish data:

- Data for the 1997 and 2008 sampling events will be combined.
- Data for bottom feeders and predatory fish will be evaluated separately.
- Data for Station A9 (located upstream of the CDE facility) will be evaluated separately and applied to EU BB6.
- Data for Station A1 and Station S3 will be combined an applied to EU BB5.
- Data for Station 2 will be evaluated separately and applied to EU BB4.
- Data for Stations A3, A4, and A5 will be combined and applied to EU BB3, EU BB2, EU BB1, and EU GB.

<u>Crayfish Analysis</u>

Total PCB data for crayfish were available for different stations, but only for a single sampling event (1997) (See Table 3). A single ANCOVA analysis was performed with station as the main effect.

The results for the ANCOVA analysis on crayfish data (Figure 3 and Table 8) can be summarized as follows:

- The ANCOVA model explained 61 percent of the variability in the Total PCB data.
- When stations were tested separately for difference, the results indicated that the Total PCB concentrations at Station A9 were significantly lower than the other stations. Station A9 is located upstream of the former CDE facility.
- The estimate of the model coefficient for natural log of percent lipid is less than 1. Therefore, the relationship between Total PCB and lipid is not a simple linear one.

Therefore, for the crayfish data:

- Data for Station A9 will be evaluated separately and applied to EU BB6.

- Data for Stations A1, A2, A3, A4, and A5 will be combined and applied to EU BB5, EU BB4, EU BB3, EU BB2, EU BB1, and EU GB. The combined data from these stations will also be used as a surrogate for the Spring Lake EU (EU SL) in the ecological risk assessment only.

Asiatic Clam Analysis

Total PCB data for Asiatic clams were available for different stations, but only for a single sampling event (2008) (see Table 4). A single ANCOVA analysis was performed with station as the main effect.

The results for the ANCOVA analysis on Asiatic clam data (Figure 4 and Table 9) can be summarized as follows:

- The ANCOVA model explained 93 percent of the variability in the Total PCB data.
- When stations were tested separately for difference, the results indicated that the Total PCB concentrations at Station A1 were significantly lower than the other stations. Station A1 is adjacent to the former CDE facility.
- The estimate of the model coefficient for natural log of percent lipid is less than 1. Therefore, the relationship between Total PCB and lipid is not a simple linear one.

Therefore, for the Asiatic clam data:

- Data for Station A1 will be evaluated separately and applied to EU BB6 and EU BB5.
- Data for Stations A2, A3, A4, and A5 will be combined and applied to EU BB4, EU BB3, EU BB2, EU BB1, and EU GB. The combined data from these stations will also be used as a surrogate for EU SL in the ecological risk assessment only.

Small Mammal Analysis

Total PCB data for small mammals were available for different stations, but only for a single sampling event (1997) (see Table 5). A single ANCOVA analysis was performed with station as the main effect.

The results for the ANCOVA analysis on the small mammal data (Figure 5 and Table 10) can be summarized as follows:

- The ANCOVA model explained 75 percent of the variability in the Total PCB data.
- When stations were tested separately for difference, the results indicated that the Total PCB concentrations at Station T3 were significantly lower than the other stations. Station T3 is located just downstream of the New Brunswick Avenue Bridge.
- The estimate of the model coefficient for natural log of percent lipid is less than 1. Therefore, the relationship between Total PCB and lipid is not a simple linear one.

Therefore, for the small mammal data:

- Data for Station T1 will be evaluated separately and applied to EU BB5 and BB6.
- Data for Station T3 will be evaluated separately and applied to EU BB3, EU BB2, EU BB1, and EU GB.
- Data for Stations T2 and T4 will be combined and applied to EU BB4.

References

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Table 1
Data Included in Fish Fillet ANCOVA Analysis

Event	Station	Fish Type	LN TPCB (mg/kg, wet)	LN % Lipid
1997	A1	BF	1.825	3.258
1997	A1	BF	1.988	3.466
1997	A1	BF	2.092	3.689
1997	A1	P	-0.693	1.609
1997	A1	P	1.569	1.946
1997	A1	P	-0.693	1.609
1997	A1	BF	1.281	2.485
1997	A1	BF	0.000	2.398
2008	A1	P	-0.074	-0.139
2008	A1	P	0.732	0.095
2008	A1	P	-0.512	-0.248
2008	A1	P	0.157	-0.223
2008	A1	P	0.113	-0.248
2008	A1	BF	2.070	-0.274
2008	A1	BF	2.754	0.336
2008	A1	BF	2.127	-0.580
2008	A1	BF	2.518	-0.062
2008	A1	BF	1.959	-0.186
2008	A1	BF	1.569	-0.673
1997	A2	P	0.993	2.197
1997	A2	P	1.609	2.197
1997	A2	BF	1.723	2.079
1997	A2	BF	1.163	1.946
1997	A2	BF	2.128	2.485
2008	A2	P	0.872	0.470
2008	A2	P	0.912	0.182
2008	A2	P	-0.170	-0.400
2008	A2	P	-0.123	-0.062
2008	A2	BF	0.784	-0.248
2008	A2	BF	-0.106	-0.693
2008	A2	BF	0.701	-0.248
2008	A2	BF	0.052	-1.204
2008	A2	BF	0.427	-0.635
2008	A2	BF	1.095	0.182
2008	A2	BF	1.169	0.405
2008	A2	BF	1.065	-0.580
1997	A3	P	0.470	1.386
1997	A3	P	0.336	1.386
1997	A3	P	0.788	1.609
1997	A3	BF	2.041	2.398
1997	A3	BF	1.792	1.792
1997	A3	BF	1.758	2.485

Table 1
Data Included in Fish Fillet ANCOVA Analysis

Event	Station	Fish Type	LN TPCB (mg/kg, wet)	LN % Lipid
2008	A3	P	0.481	-0.301
2008	A3	P	0.166	-0.151
2008	A3	P	-0.336	-0.329
2008	A3	P	-0.380	-0.357
2008	A3	P	-0.294	-0.186
2008	A3	BF	0.470	-0.051
2008	A3	BF	0.058	-0.734
2008	A3	BF	1.135	0.095
2008	A3	BF	0.829	-0.041
2008	A3	BF	-0.882	0.642
2008	A3	BF	1.714	0.470
2008	A3	BF	0.959	0.642
2008	A3	BF	0.916	0.531
1997	A4	P	-1.609	1.609
1997	A4	P	0.693	1.099
1997	A4	P	0.742	2.079
1997	A5	BF	2.773	1.792
1997	A5	BF	2.104	2.565
1997	A5	BF	3.258	3.611
1997	A5	BF	2.833	3.497
1997	A5	BF	0.531	1.946
1997	A5	P	-0.357	0.693
1997	A5	P	-0.223	0.000
1997	A5	P	0.095	0.693
1997	A5	P	-0.511	0.693
1997	A5	P	0.095	0.693
1997	A5	P	0.531	0.000
1997	A5	P	0.531	1.099
1997	A5	P	0.405465108	0.6931472
1997	A5	P	0.832909123	1.6094379
1997	A5	P	0.336472237	1.0986123
1997	A5	P	0.182321557	0.6931472
1997	A5	P	0.336472237	1.7917595
1997	A5	BF	2.48490665	2.7725887
1997	A5	BF	2.251291799	2.6390573
1997	A5	BF	1.722766598	1.6094379
2008	A5	BF	2.557227311	2.1972246
2008	A5	BF	1.111857515	1.410987
2008	A5	BF	2.32238772	1.4350845
2008	A5	BF	2.468099531	1.3350011
2008	A5	BF	1.091923301	1.1631508
2008	A5	BF	1.104925651	1.3862944

Table 1
Data Included in Fish Fillet ANCOVA Analysis

Event	Station	Fish Type	LN TPCB (mg/kg, wet)	LN % Lipid
2008	A5	BF	0.75612198	1.1939225
2008	A5	BF	0.636576829	1.1314021
2008	A5	P	-0.529329095	-0.4462871
2008	A5	P	-0.679244275	-0.3285041
2008	A5	P	-0.679244275	-0.3856625
2008	A5	P	-1.258781041	-0.8675006
2008	A5	P	-2.45457145	-1.7147984
2008	A5	BF	1.501852702	-0.4780358
2008	A5	BF	1.277594944	0.0953102
2008	A5	BF	-0.202116184	0.0953102
1997	A9	BF	-1.609437912	2.1972246
1997	A9	BF	-1.203972804	2.6390573
1997	A9	BF	-0.916290732	2.4849066
1997	A9	BF	1.131402111	2.5649494
1997	A9	BF	1.840549633	2.3978953
1997	A9	BF	-1.203972804	2.0794415
2008	A9	P	-1.40283033	0.3364722
2008	A9	P	-1.669187917	0.8754687
2008	A9	P	-2.861201381	0.1823216
2008	A9	P	-1.847060785	0.3364722
2008	A9	P	-1.765507098	0.9932518
2008	A9	BF	0.894862784	-0.6931472
2008	A9	BF	-1.995100393	0.3364722
2008	A9	BF	-2.287696481	-0.0618754
2008	A9	BF	-3.103317484	-0.5798185
2008	A9	BF	-2.54338358	-0.0304592
2008	A9	BF	-2.145581344	-0.2613648
2008	A9	BF	-1.485893726	0.6418539
1997	A11	BF	2.773	2.833
1997	A11	BF	0.262	2.398
1997	A11	BF	2.773	3.045
1997	A11	BF	-1.661	0.693
1997	A11	BF	0.095	2.197
1997	A11	BF	0.588	2.303
1997	A11	P	-1.204	0.693
1997	A11	P	1.065	2.079
1997	A11	P	0.642	1.609
1997	A11	P	-0.174	1.386
1997	A11	P	-0.821	1.099
1997	A11	P	-1.309	1.386
1997	A11	BF	0.531	1.792
1997	A11	BF	0.262	1.099

Table 1
Data Included in Fish Fillet ANCOVA Analysis

Event	Station	Fish Type	LN TPCB (mg/kg, wet)	LN % Lipid
1997	A11	BF	0.000	1.792
1997	A12	BF	3.738	4.060
1997	A12	BF	2.833	3.497
1997	A12	BF	2.485	2.890
1997	A12	BF	-0.545	1.792
1997	A12	P	0.262	1.609
1997	A12	P	-0.329	0.693
1997	A12	P	-0.223	1.386
1997	A12	P	-0.223	1.386
1997	A12	P	-0.198	1.099
1997	A12	BF	0.470	2.303
1997	A12	BF	0.833	2.197
1997	A12	BF	0.182	2.197
1997	A13	BF	3.332	3.664
1997	A13	P	-0.713	0.693
1997	A13	P	-0.562	1.386
1997	A13	P	-0.329	1.609
1997	A13	P	-0.248	1.946
1997	A13	BF	0.470	2.079
1997	A13	BF	-2.120	2.773
1997	A13	BF	0.336	2.303
1997	S3	BF	1.757857918	2.0794415
2008	S3	P	1.673351238	0.1823216
2008	S3	P	1.506075399	0.0953102
2008	S3	P	1.100277568	-0.1743534
2008	S3	P	0.78845736	-0.210721
2008	S3	P	0.698134722	0
2008	S3	BF	2.603430152	-0.5621189
2008	S3	BF	1.387793237	-0.3856625
2008	S3	BF	2.087657696	0.0953102
2008	S3	BF	3.096029995	-0.1625189
2008	S3	BF	2.507971923	-0.0833816
2008	S3	BF	3.318902139	0.1823216
2008	S3	BF	2.018762231	0.0953102
2008	S3	BF	2.294149614	-0.1053605

Table 2
Data Included in Whole Body Fish ANCOVA Analysis

Year	Station Name	Fish Type	LN % Lipid	LN TPCB (ug/kg)
1997	A1	P	1.90	7.65
1997	A1	P	1.94	9.62
1997	A1	P	1.57	7.30
1997	A1	P	1.50	7.00
1997	A1	P	0.92	7.17
1997	A1	P	1.25	7.82
2008	A1	BF	0.88	10.31
2008	A1	BF	0.55	9.92
2008	A1	BF	0.20	10.02
2008	A1	BF	0.87	10.51
2008	A1	BF	0.05	10.00
2008	A1	BF	0.60	9.83
2008	A1	P	1.06	8.62
2008	A1	P	1.08	9.12
2008	A1	P	0.86	7.92
2008	A1	P	1.28	9.14
2008	A1	P	0.98	8.44
1997	A2	P	2.17	9.89
1997	A2	P	2.26	9.65
1997	A2	P	1.22	9.04
1997	A2	P	1.19	9.15
1997	A2	P	1.31	8.87
2008	A2	BF	0.47	8.58
2008	A2	BF	-0.21	7.45
2008	A2	BF	0.76	9.05
2008	A2	BF	-0.36	7.85
2008	A2	BF	0.22	8.39
2008	A2	BF	1.30	9.56
2008	A2	BF	1.15	9.00
2008	A2	BF	0.81	9.52
2008	A2	P	1.15	8.89
2008	A2	P	1.20	9.22
2008	A2	P	0.35	7.68
2008	A2	P	1.33	8.30
1997	A3	P	2.08	9.54
1997	A3	P	1.57	9.22
1997	A3	P	1.87	9.63
1997	A3	P	1.10	8.29
1997	A3	P	1.53	8.72
1997	A3	P	1.19	8.19
1997	A3	P	1.19	8.10
1997	A3	P	1.25	8.59

Table 2
Data Included in Whole Body Fish ANCOVA Analysis

Year	Station Name	Fish Type	LN % Lipid	LN TPCB (ug/kg)
1997	A4	P	2.01	7.19
1997	A4	P	1.43	8.42
1997	A4	P	1.74	9.69
1997	A4	P	1.50	8.54
1997	A4	P	1.50	8.61
1997	A4	P	1.36	8.70
1997	A4	P	1.13	8.59
2008	A4	BF	0.65	8.34
2008	A4	BF	0.61	8.60
2008	A4	BF	0.99	9.14
2008	A4	BF	0.85	9.45
2008	A4	BF	1.43	6.95
2008	A4	BF	1.39	9.88
2008	A4	BF	1.45	8.95
2008	A4	BF	1.53	8.97
2008	A4	P	1.23	8.59
2008	A4	P	1.14	8.21
2008	A4	P	0.97	7.93
2008	A4	P	1.01	9.15
2008	A4	P	0.91	8.32
1997	A5	P	0.53	8.41
1997	A5	P	1.44	7.90
1997	A5	P	0.88	9.31
1997	A5	P	0.47	9.31
1997	A5	P	0.64	7.65
1997	A5	P	0.59	8.16
1997	A5	P	1.48	8.24
1997	A5	P	-0.20	7.94
1997	A5	P	0.79	7.97
1997	A5	P	0.18	8.94
1997	A5	P	0.47	7.31
1997	A5	P	0.26	8.32
1997	A5	P	-0.02	7.55
1997	A5	P	0.47	6.80
1997	A5	P	0.00	8.75
2008	A5	BF	1.89	8.34
2008	A5	BF	1.33	8.05
2008	A5	BF	2.24	10.05
2008	A5	BF	1.84	9.32
2008	A5	BF	2.24	9.20
2008	A5	BF	1.90	8.66
2008	A5	BF	2.08	8.65

Table 2
Data Included in Whole Body Fish ANCOVA Analysis

Year	Station Name	Fish Type	LN % Lipid	LN TPCB (ug/kg)
2008	A5	BF	1.58	8.04
2008	A5	BF	0.37	9.41
2008	A5	BF	0.76	8.94
2008	A5	BF	1.09	7.73
2008	A5	P	0.87	8.11
2008	A5	P	0.92	7.92
2008	A5	P	0.78	7.66
2008	A5	P	0.75	7.51
2008	A5	P	0.44	6.96
1997	A9	P	1.19	5.44
1997	A9	P	1.53	6.15
1997	A9	P	1.46	5.35
1997	A9	P	1.16	6.46
1997	A9	P	1.63	5.80
2008	A9	BF	0.34	9.43
2008	A9	BF	0.74	5.35
2008	A9	BF	1.04	5.66
2008	A9	BF	0.97	5.45
2008	A9	BF	0.96	5.42
2008	A9	BF	1.01	5.80
2008	A9	BF	1.09	6.33
2008	A9	P	1.28	6.70
2008	A9	P	1.62	5.81
2008	A9	P	1.54	6.11
2008	A9	P	1.52	6.51
2008	A9	P	1.59	5.80
2008	S3	BF	0.17	10.51
2008	S3	BF	0.64	9.47
2008	S3	BF	1.03	10.58
2008	S3	BF	0.62	10.58
2008	S3	BF	1.38	10.72
2008	S3	BF	1.05	10.80
2008	S3	BF	1.45	10.65
2008	S3	BF	1.36	10.48
2008	S3	P	1.07	9.61
2008	S3	P	0.96	9.86
2008	S3	P	1.10	9.90
2008	S3	P	1.09	9.65
2008	S3	P	1.49	9.73

Table 3
Data Included in Crayfish ANCOVA Analysis

Event	Station	LN TPCB (mg/kg, wet)	LN % Lipid (wet)
1997	A1	-0.9163	1.0296
1997	A1	0.0953	1.4816
1997	A2	0.4700	0.0953
1997	A2	0.8755	1.0986
1997	A2	0.3365	0.2624
1997	A2	0.0953	0.5306
1997	A2	0.5878	0.7419
1997	A2	0.8329	0.2624
1997	A2	0.6419	0.6419
1997	A2	0.4700	0.8755
1997	A3	0.5306	0.9933
1997	A3	0.5306	0.5306
1997	A3	-0.0619	0.7885
1997	A3	0.0000	0.6419
1997	A3	-0.0202	0.8329
1997	A3	-0.1278	0.7885
1997	A3	0.0953	0.6931
1997	A3	0.0953	0.5878
1997	A3	0.0953	0.8329
1997	A3	0.5878	1.1632
1997	A3	0.5878	0.4700
1997	A4	-0.0101	0.4055
1997	A4	-0.2107	1.0647
1997	A4	0.3365	1.1314
1997	A4	0.3365	0.9933
1997	A5	-0.4155	0.7419
1997	A5	0.0953	1.3863
1997	A5	-0.5978	0.8329
1997	A9	-0.9943	0.9163
1997	A9	-1.8971	-0.0619
1997	A9	-2.0402	1.7750
1997	A9	0.7885	0.7885
1997	A9	-1.0217	0.6931
1997	A9	-0.9163	0.7885
1997	A9	-1.1712	1.6864
1997	A9	-1.2040	0.9163
1997	A9	-2.0402	0.7885
1997	A9	-1.8326	1.0647

Table 4
Data Included in Asiatic Clam ANCOVA Analysis

Event	Station	LN TPCB (mg/kg, wet)	LN % Lipid (wet)
2008	A1	*-1.609*	-0.151
2008	A1	-2.781	-0.198
2008	A1	-2.189	-0.117
2008	A2	0.255	-0.357
2008	A2	0.718	-0.223
2008	A2	0.775	-0.151
2008	A3	0.336	-0.580
2008	A3	1.015	-0.274
2008	A3	0.499	-0.616
2008	A4	0.495	0.095
2008	A4	0.457	-0.329
2008	A4	0.239	-0.580
2008	A5	0.507	-0.431
2008	A5	0.811	0.095
2008	A5	0.713	-0.301

Italicized text indicates an MDL.

Table 5
Data Included in Small Mammal ANCOVA Analysis

Event	Station	LN TPCB	LN % Lipids
1997	T1	1.629	0.833
1997	T1	0.693	1.253
1997	T1	1.335	1.482
1997	T1	1.548	1.194
1997	T1	0.262	0.956
1997	T1	0.693	0.956
1997	T1	1.386	1.194
1997	T1	-0.462	0.833
1997	T1	1.335	0.993
1997	T1	1.686	0.993
1997	T2	-1.427	1.131
1997	T2	-0.151	1.065
1997	T2	0.588	2.175
1997	T2	-0.329	1.386
1997	T2	-0.174	1.435
1997	T2	-1.079	1.281
1997	T3	-1.204	2.015
1997	T3	-2.313	1.435
1997	T3	-0.821	1.758
1997	T3	-1.897	2.251
1997	T3	-2.313	1.629
1997	T3	-2.303	1.960
1997	T3	-2.303	1.459
1997	T3	-1.514	1.792
1997	T4	-0.616	1.758
1997	T4	0.262	1.065
1997	T4	-1.171	1.917
1997	T4	-0.528	1.411
1997	T4	-0.755	1.569
1997	T4	0.336	1.723
1997	T4	-0.916	1.411
1997	T4	-0.288	1.917

Table 6a-c

Results of Fish Fillet Pairwise Comparison Tests for Least Squares Mean

6a - Stations Common to Both Years

Event Comparison

Event	LSM	Group
1997	0.154207	a
2008	0.430305	a

Fish Type Comparison

Fish Type	LSM	Group
BF	0.762377	a
P	-0.17787	b

Station Comparison

Station	LSM	Group
A1	0.936703	a
A2	0.828107	a
A3	0.630382	a
A5	0.701164	a
A9	-1.635074	b

Summary

Effect	Significance Groups
Event	(1997 2008)
Station	(A1 A2 A3 A5) (A9)
Fish Type	(BF) (P)

6b - 1997, only

Station Comparison

Station	LSM	Group
A1	0.213551	abc
A2	1.228711	ab
A3	1.286248	ab
A4_A5	1.334152	a
A9	-0.917944	c
A11	0.416559	b
A12	0.577826	ab
A13	-0.122696	bc

Fish Type Comparison

Fish Type	LSM	Group
BF	0.583589	a
P	0.420513	a

Summary

Effect	Significance Groups
Station	(A4_A5 A2 A3 A12 A1) (A11 A2 A3 A12 A13) (A9 A13 A1)
Fish Type	(BP P)

6C - 2008, only

Station Comparison

Station	LSM	Group
A1	ab	1.33826
A2	bc	0.57344
A3	c	0.27053
A5	c	0.094
A9	d	-2.02427
S3	a	1.89374

Fish Type Comparison

Fish Type	LSM	Group
BF	0.876994	a
P	-0.16176	b

Summary

Effect	Significance Groups
Station	(S3 A1) (A2) (A3 A5 A2) (A9)
Fish Type	(BF) (P)

Table 7a-c

Results of Whole Body Fish Pairwise Comparison Tests for Least Squares Mean

7a - Stations Common to Both Years

Event Comparison

Event	LSM	Group
1997	8.344102	a
2008	8.324249	a

Fish Type Comparison

Fish Type	LSM	Group
BF	8.636217	a
P	8.032135	b

Station Comparison

Station	LSM	Group
A1	8.952238	a
A2	8.88003	a
A3	8.992586	a
A4	8.641607	a
A5	8.416191	a
A9	6.122401	b

Summary

Effect	Significance Groups
Event	(1997 2008)
Station	(A1 A2 A3 A4 A5) (A9)
Fish Type	(BF) (P)

7b - 1997, only

Station Comparison

Station	LSM	Group
A1	7.620665	b
A2	9.126236	a
A3	8.661153	ab
A4	8.388878	ab
A5	8.4546	ab
A9	5.750399	c

Fish Type Results

Fish Type	LSM	Group
BF	NOT COLLECTED in 1997	
P	8.000322	a

Summary

Effect	Significance Groups
Station	(A1 A3 A4 A5) (A2 A3 A4 A5) (A9)
Fish Type	A single fish type was collected in 1997. No comparison conducted.

7c - 2008, only

Station Comparison

Station	LSM	Group
A1	9.499274	ab
A2	8.632648	bc
A4	8.549789	c
A5	8.176241	c
A9	6.0985	d
S3	10.11367	a

Fish Type Comparison

Fish Type	LSM	Group
BF	8.856897	a
P	8.166478	b

Summary

Effect	Significance Groups
Station	(S3 A1) (A2) (A4 A5 A2) (A9)
Fish Type	(BF) (P)

Table 8

Results of Crayfish Pairwise Comparison Tests for Least Squares Mean

Station Comparison

Station	LSM	Group
A1	-0.456741	ab
A2	0.56637	a
A3	0.217292	a
A4	0.104902	a
A5	-0.323588	ab
A9	-1.244976	b

Summary

Effect	Significance Groups
Station	(A2 A3 A4 A1 A5) (A9 A1 A5)

Table 9

Results of Asiatic Clam Pairwise Comparison Tests for Least Squares Mean

Station Comparison

Station	LSM	Group
A1	-2.284704	b
A2	0.558662	a
A3	0.782703	a
A4	0.394411	a
A5	0.629057	a

Summary

Effect	Significance Groups
Station	(A2 A3 A4 A5) (A1)

Table 10

Results of Small Mammal Pairwise Comparison Tests for Least Squares Mean

Station Comparison

Station	LSM	Group
T1	1.253601	a
T2	-0.407695	b
T3	-2.054803	c
T4	-0.557364	b

Summary

Effect	Significance Groups
Station	(T1) (T2 T4) (T3)

Table 11
Exposure Units and Associated Sampling Stations and Biota Types

Sampling Station	Exposure Unit	Biota Type
A1	BB5	Fish Fillet, Whole Body Fish, Crayfish, Asiatic Clam
A2	BB4	Fish Fillet, Whole Body Fish, Crayfish, Asiatic Clam
A3	BB3	Fish Fillet, Whole Body Fish, Crayfish, Asiatic Clam
A4	BB3	Fish Fillet, Whole Body Fish, Crayfish, Asiatic Clam
A5	BB2	Fish Fillet, Whole Body Fish, Crayfish, Asiatic Clam
A9	BB6	Fish Fillet, Whole Body Fish, Crayfish
A11	BB1	Fish Fillet
A12	BB1	Fish Fillet
A13	BB1	Fish Fillet
A14	GB	Fish Fillet
S3	BB5	Fish Fillet, Whole Body Fish
T1	BB5	Small Mammal
T2	BB4	Small Mammal
T3	BB3	Small Mammal
T4	BB4	Small Mammal

Figures 1a-c
ANCOVA Model Fit and Regression Coefficients for LN TPCB in Fish Fillet

1a - Stations Common to Both Years

Summary of Fit

RSquare	0.678959
RSquare Adj	0.656709
Root Mean Square Error	0.810307
Mean of Response	0.478518
Observations (or Sum Wgts)	109

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	7	140.25054	20.0358	30.5146
Error	101	66.31640	0.6566	Prob > F
C. Total	108	206.56694		<.0001*

Lack Of Fit

Source	DF	Sum of Squares	Mean Square	F Ratio
Lack Of Fit	86	62.124236	0.722375	2.5847
Pure Error	15	4.192159	0.279477	Prob > F
Total Error	101	66.316396		0.0208*
				Max RSq
				0.9797

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-0.12813	0.135197	-0.95	0.3455
Event[1997]	-0.138049	0.134648	-1.03	0.3077
Station[A1]	0.6444468	0.165734	3.89	0.0002*
Station[A2]	0.5358508	0.174089	3.08	0.0027*
Station[A3]	0.3381253	0.165579	2.04	0.0437*
Station[A5]	0.4089078	0.135499	3.02	0.0032*
Fish Type[BF]	0.4701213	0.090259	5.21	<.0001*
LN % Lipid	0.5009645	0.112845	4.44	<.0001*

1b - 1997, only

Summary of Fit

RSquare	0.703765
RSquare Adj	0.666267
Root Mean Square Error	0.813316
Mean of Response	0.462799
Observations (or Sum Wgts)	90

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	10	124.14737	12.4147	18.7680
Error	79	52.25713	0.6615	Prob > F
C. Total	89	176.40450		<.0001*

Lack Of Fit

Source	DF	Sum of Squares	Mean Square	F Ratio
Lack Of Fit	62	46.988049	0.757872	2.4452
Pure Error	17	5.269085	0.309946	Prob > F
Total Error	79	52.257134		0.0216*
				Max RSq
				0.9701

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-1.741551	0.300135	-5.80	<.0001*
Station[A1]	-0.023324	0.280362	-0.08	0.9339
Station[A11]	0.1454071	0.21256	0.68	0.4959
Station[A12]	0.3210242	0.2283	1.41	0.1636
Station[A13]	-0.380839	0.27219	-1.40	0.1657
Station[A14]	-1.947356	0.287945	-6.76	<.0001*
Station[A2]	0.9756779	0.335341	2.91	0.0047*
Station[A3]	1.0188938	0.308758	3.30	0.0015*
Station[A4_A5]	1.0532981	0.186198	5.66	<.0001*
Fish Type[BF]	0.0827603	0.12391	0.67	0.5061
LN % Lipid	1.0420677	0.147236	7.08	<.0001*

1c - 2008, only

Summary of Fit

RSquare	0.793101
RSquare Adj	0.772111
Root Mean Square Error	0.71742
Mean of Response	0.478163
Observations (or Sum Wgts)	77

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	7	136.13395	19.4477	37.7851
Error	69	35.51376	0.5147	Prob > F
C. Total	76	171.64771		<.0001 *

Lack Of Fit

Source	DF	Sum of Squares	Mean Square	F Ratio
Lack Of Fit	63	32.423566	0.514660	0.9993
Pure Error	6	3.090192	0.515032	Prob > F
Total Error	69	35.513758		0.5671
				Max RSq
				0.9820

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	0.3271739	0.084752	3.86	0.0003 *
Station[A1]	0.9806478	0.197352	4.97	<.0001 *
Station[A2]	0.2158218	0.191912	1.12	0.2647
Station[A3]	-0.087091	0.182128	-0.48	0.6340
Station[A5]	-0.26362	0.178116	-1.48	0.1434
Station[A9]	-2.381883	0.189483	-12.57	<.0001 *
Fish Type[BF]	0.5193785	0.086129	6.03	<.0001 *
LN % Lipid	0.6773114	0.139709	4.85	<.0001 *

Figures 2a-c
ANCOVA Model Fit and Regression Coefficients for LN TPCB in Whole Body Fish

2a - Stations Common to Both Years

Summary of Fit

RSquare	0.613717
RSquare Adj	0.58312
Root Mean Square Error	0.808828
Mean of Response	8.215129
Observations (or Sum Wgts)	110

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	8	104.97751	13.1222	20.0583
Error	101	66.07450	0.6542	Prob > F
C. Total	109	171.05201		<.0001 *

Lack Of Fit

Source	DF	Sum of Squares	Mean Square	F Ratio
Lack Of Fit	97	62.568861	0.645040	0.7360
Pure Error	4	3.505640	0.876410	Prob > F
Total Error	101	66.074500		0.7460
				Max RSq
				0.9795

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	8.0925742	0.187603	43.14	<.0001 *
Year[1997]	0.0099266	0.10699	0.09	0.9263
Station Name[A1]	0.6180624	0.182437	3.39	0.0010 *
Station Name[A2]	0.5458546	0.184378	2.96	0.0038 *
Station Name[A3]	0.6584105	0.266508	2.47	0.0152 *
Station Name[A4]	0.3074318	0.171474	1.79	0.0760
Station Name[A5]	0.0820152	0.148295	0.55	0.5814
Fish Type[BF]	0.3020411	0.104921	2.88	0.0049 *
LN Whole Body % Lipid	0.2211907	0.143695	1.54	0.1269

2b - 1997, only

Summary of Fit

RSquare	0.692158
RSquare Adj	0.644798
Root Mean Square Error	0.674823
Mean of Response	8.150816
Observations (or Sum Wgts)	46

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	6	39.932114	6.65535	14.6148
Error	39	17.760043	0.45539	Prob > F
C. Total	45	57.692157		<.0001*

Lack Of Fit

Source	DF	Sum of Squares	Mean Square	F Ratio
Lack Of Fit	35	14.254404	0.407269	0.4647
Pure Error	4	3.505640	0.876410	Prob > F
Total Error	39	17.760043		0.9050
				Max RSq
				0.9392

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	7.4857135	0.367407	20.37	<.0001*
Station Name[A1]	-0.379657	0.252858	-1.50	0.1413
Station Name[A2]	1.1259142	0.278739	4.04	0.0002*
Station Name[A3]	0.660831	0.224674	2.94	0.0055*
Station Name[A4]	0.388556	0.238765	1.63	0.1117
Station Name[A5]	0.4542778	0.27715	1.64	0.1092
LN Whole Body % Lipid	0.4331561	0.261399	1.66	0.1055

2c - 2008, only

Summary of Fit

RSquare	0.768662
RSquare Adj	0.745193
Root Mean Square Error	0.72404
Mean of Response	8.587917
Observations (or Sum Wgts)	77

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	7	120.18839	17.1698	32.7521
Error	69	36.17216	0.5242	Prob > F
C. Total	76	156.36055		<.0001*

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|
Intercept	8.1471034	0.204819	39.78	<.000
Station Name[A1]	0.987587	0.202177	4.88	<.000
Station Name[A2]	0.120961	0.198693	0.61	0.544
Station Name[A4]	0.0381013	0.184456	0.21	0.837
Station Name[A5]	-0.335446	0.179791	-1.87	0.066
Station Name[A9]	-2.413187	0.191463	-12.60	<.000
Fish Type[BF]	0.3452096	0.08627	4.00	0.000
LN Whole Body % Lipid	0.3557808	0.182762	1.95	0.055

Effect Tests

Source	Nparm	DF	Sum of Squares	F Ratio
Station Name	5	5	112.57868	42.9498
Fish Type	1	1	8.39414	16.0122
LN Whole Body % Lipid	1	1	1.98664	3.7896

Figure 3
ANCOVA Model Fit and Regression Coefficients for LN TPCB in Crayfish

Summary of Fit

RSquare	0.669411
RSquare Adj	0.605426
Root Mean Square Error	0.527096
Mean of Response	-0.18403
Observations (or Sum Wgts)	38

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	6	17.439951	2.90666	10.4620
Error	31	8.612729	0.27783	Prob > F
C. Total	37	26.052680		<.0001*

Lack Of Fit

Source	DF	Sum of Squares	Mean Square	F Ratio
Lack Of Fit	25	4.4017310	0.176069	0.2509
Pure Error	6	4.2109981	0.701833	Prob > F
Total Error	31	8.6127291		0.9938
				Max RSq
				0.8384

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-0.277277	0.25065	-1.11	0.2771
Station[A1]	-0.267284	0.33401	-0.80	0.4297
Station[A2]	0.7558268	0.202997	3.72	0.0008*
Station[A3]	0.4067488	0.170147	2.39	0.0231*
Station[A4]	0.2943589	0.238964	1.23	0.2273
Station[A5]	-0.134131	0.270243	-0.50	0.6232
LN % Lipid (wet)	0.1067769	0.253576	0.42	0.6766

Figure 4
ANCOVA Model Fit and Regression Coefficients for LN TPCB in Asiatic Clam

Summary of Fit

RSquare	0.953956
RSquare Adj	0.928377
Root Mean Square Error	0.316806
Mean of Response	0.016026
Observations (or Sum Wgts)	15

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	5	18.714903	3.74298	37.2933
Error	9	0.903294	0.10037	Prob > F
C. Total	14	19.618197		<.0001*

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	0.2269773	0.149932	1.51	0.1644
Station[A1]	-2.300729	0.172456	-13.34	<.0001*
Station[A2]	0.5426365	0.164208	3.30	0.0092*
Station[A3]	0.766677	0.1911	4.01	0.0031*
Station[A4]	0.3783851	0.163605	2.31	0.0460*
LN % Lipid (wet)	0.7686838	0.457862	1.68	0.1275

Figure 5
ANCOVA Model Fit and Regression Coefficients for LN TPCB in Small Mammal

Summary of Fit

RSquare	0.780281
RSquare Adj	0.747729
Root Mean Square Error	0.623031
Mean of Response	-0.33773
Observations (or Sum Wgts)	32

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	4	37.219037	9.30476	23.9710
Error	27	10.480522	0.38817	Prob > F
C. Total	31	47.699559		<.0001*

Lack Of Fit

Source	DF	Sum of Squares	Mean Square	F Ratio
Lack Of Fit	21	7.660459	0.364784	0.7761
Pure Error	6	2.820063	0.470011	Prob > F
Total Error	27	10.480522		0.6950
				Max RSq
				0.9409

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-1.375014	0.607764	-2.26	0.0319*
Station[T1]	1.6951662	0.241203	7.03	<.0001*
Station[T2]	0.03387	0.212988	0.16	0.8748
Station[T3]	-1.613238	0.232231	-6.95	<.0001*
LN % Lipids	0.6461621	0.407456	1.59	0.1244

APPENDIX F

Angler Survey

Angler/Sportsman Survey Summary
Cornell-Dubilier Electronics Superfund Site: OU 4 Bound Brook

Record	Surveyor	Location		Date	Time	Fish Species Caught											Other Biota Caught			Keep Catch?	Consume Catch?	Seen Fish Advisory Signs?	Angler's Remarks
						Sunfish	Catfish	Largemouth Bass	Smallmouth Bass	White Suckers	American Eel	Carp	Yellow Perch	Crappies	Pickerel	Trout	Crayfish	Turtles	Frogs				
1	BG	NMP	after spillway	6/6/2011	1550	√												snapping		No		--	
2	BG	NMP	west end	6/6/2011	1555	√	√	√	√		√	√								No		--	
3	BG	NMP	west end	6/6/2011	1600	√	√	√	√		√									No		--	
4	BG	NMP	boat ramp	9/17/2011	0752	√			√				√					snapping		No		Yes	observed signs in English and Spanish
5	BG	NMP	between Washington Ave. Bridge and Maple Ave.	9/17/2011	0935	√	√	√						√			√	snapping, painted		No		Yes	observed box turtles; observed anglers keeping caught fish
6	BG	Spring Lake		9/17/2011	1020	√														No		No	
7	BG	NMP	boat ramp	9/17/2011	1225	√	√	√	√		√	√		√				snapping		No		Yes	
8	BG	NMP	boat ramp	9/17/2011	1230	√	√						√							No		Yes	
9	BG	NMP	gazebo near Brook Hollow Rd.	9/17/2011	1240			√												No		Yes	only fishes for largemouth bass; only seen signs near Washington Ave.; observed anglers keeping caught fish
10	BG	Spring Lake		9/17/2011	1335															No		No	casual/recreational angler that does not identify fish species
11	BG	Spring Lake		9/17/2011	1340		√	√		√		√			√		√	√	√	No		No	
12	BG	Spring Lake	near spillway	9/17/2011	1330			√						√				snapping		No		No	observed other anglers keeping carp and catfish
13	BG	Spring Lake		9/17/2011	1345			√				√								No		No	
14	SL	NMP	gazebo	9/17/2011	1445	√	√	√	√			√						√		No		Yes	signs came down after flood
15	SL	NMP		9/17/2011	1430	√	√	√				√		√				snapping, American beauties		No		Yes	caught carp (45-50 lbs); caught "coy" (white, orange, black)
16	SL	NMP	near Washington Ave. Bridge	9/17/2011	1354			√	√											No		Yes	turtles are everywhere
17	SL	NMP	near dam	9/17/2011	1545	√		√	√							√		√		No		Yes	
18	SL	NMP	near dam	9/17/2011	1545	√		√										√		No		Yes	
19	BG	NMP	near dam	10/1/2011	0757	√		√						√						No		Yes	
20	BG	NMP	near Brook Hollow Rd.	10/1/2011	0811	√	√	√				√		√						No		Yes	
21	BG	NMP	near Brook Hollow Rd.	10/1/2011	0813	√														No		Yes	
22	BG	NMP	past Washington Ave.	10/1/2011	0925			√				√						snapping		No		Yes	
23	BG	NMP	after spillway, north side	10/1/2011	1035	√	√	√						√						No		Yes	
24	BG	NMP	after spillway; south bank	10/1/2011	1040			√												No		No	
25	BG	NMP	after spillway; south bank	10/1/2011	1045	√		√												No		Yes	
26	BG	NMP	between dam and Fair?	10/1/2011	1055			√						√						No		Yes	
27	SL	NMP	near dam	10/1/2011	1235															No		No	first time here
28	SL	NMP	downstream of dam	10/1/2011	1325			√	√											No		Yes	there used to be more signs around; no signs at Spring Lake; many people believe that fish caught at Spring Lake are OK to eat
29	SL	NMP	downstream of dam	10/1/2011	1335	√														No		Yes	
30	BG	Spring Lake	near spillway	10/1/2011	1335	√								√						No		No	
31	BG	NMP	tributary overpass near Brook Hollow Rd.	10/1/2011	1340			√						√						No		Yes	
32	BG	NMP	tributary overpass near Brook Hollow Rd.	10/1/2011	1345			√						√						No		Yes	
33	BG	NMP	gazebo near Brook Hollow Rd.	10/1/2011	1355		√	√			√	√	√	√						No		Yes	
34	BG	NMP	gazebo near Brook Hollow Rd.	10/1/2011	1400	√		√						√						No		Yes	
35	SL	NMP	near gazebo	10/1/2011	1405	√		√	√											No		Yes	
36	BG	NMP	near boat ramp	10/1/2011	1420	√		√						√						Yes	Yes	No	2 adults in household that consume catch; 4 fish; once; whole fish; fried; does not give catch to anyone outside household
37	SL	NMP	gazebo near boat ramp	10/1/2011	1535	√	√	√	√									√		No		Yes	
38	SL	NMP	downstream of dam	10/1/2011	1550	√														No		Yes	

	Fish Species Caught											Other Biota Caught			Keep Catch?	Consume Catch?	Seen Fish Advisory Signs?
	Sunfish	Catfish	Largemouth Bass	Smallmouth Bass	White Suckers	American Eel	Carp	Yellow Perch	Crappies	Pickerel	Trout	Crayfish	Turtles	Frogs			
Number of responses of individuals fishing in/near NMP	22	12	27	10	1	4	9	3	12	1	1	2	11	1	0	1	26
Percent of respondees fishing in/near NMP	65	35	79	29	3	12	26	9	35	3	3	6	32	3	0	3	76

APPENDIX G

Selection of Chemicals of Potential Ecological Concern

Screening Level COPEC Selection

Table G-1: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU GB
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Semi-Volatile Organic Chemicals									
120-12-7	Anthracene	mg/kg	1 / 7	-- - 0.15	0.0572	a	Y	3	Y - HQ>1
56-55-3	Benzo(a)anthracene	mg/kg	3 / 7	0.18 - 0.74	0.108	a	Y	7	Y - HQ>1
50-32-8	Benzo(a)pyrene	mg/kg	3 / 7	0.18 - 0.77	0.15	a	Y	5	Y - HQ>1
205-99-2	Benzo(b)fluoranthene	mg/kg	3 / 7	0.28 - 1.2	10.4	b	N	--	N
191-24-2	Benzo(g,h,i)perylene	mg/kg	1 / 7	-- - 0.37	0.17	b	Y	2	Y - HQ>1
207-08-9	Benzo(k)fluoranthene	mg/kg	1 / 7	-- - 0.41	0.24	b	Y	2	Y - HQ>1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	2 / 7	0.14 - 2.6	0.182	b	Y	14	Y - HQ>1
218-01-9	Chrysene	mg/kg	3 / 7	0.20 - 0.83	0.166	a	Y	5	Y - HQ>1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	1 / 7	-- - 0.13	0.033	b	Y	4	Y - HQ>1
84-74-2	di-n-Butyl phthalate	mg/kg	1 / 7	-- - 0.13	1.114	b	N	--	N
206-44-0	Fluoranthene	mg/kg	4 / 7	0.11 - 1.4	0.423	a	Y	3	Y - HQ>1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	3 / 7	0.12 - 0.44	0.2	b	Y	2	Y - HQ>1
85-01-8	Phenanthrene	mg/kg	3 / 7	0.17 - 0.72	0.204	a	Y	4	Y - HQ>1
129-00-0	Pyrene	mg/kg	3 / 7	0.34 - 1.6	0.195	a	Y	8	Y - HQ>1
Polychlorinated Biphenyls									
	Total PCB Aroclors [2]	mg/kg	3 / 7	0.016 - 0.089	0.0598	a	Y	1	N
Metals									
7429-90-5	Aluminum	mg/kg	7 / 7	5,610 - 11,400	25,500	c	N	--	N
7440-38-2	Arsenic	mg/kg	7 / 7	1.1 - 2.6	9.79	a	N	--	N
7440-39-3	Barium	mg/kg	7 / 7	28 - 69	NA		--	--	Y - NESV
7440-41-7	Beryllium	mg/kg	1 / 7	-- - 0.67	NA		--	--	Y - NESV
7440-43-9	Cadmium	mg/kg	2 / 7	0.58 - 0.81	0.99	a	N	--	N
7440-70-2	Calcium	mg/kg	7 / 7	606 - 1,710	NA		--	--	N
7440-47-3	Chromium	mg/kg	7 / 7	10 - 29	43.4	a	N	--	N
7440-48-4	Cobalt	mg/kg	7 / 7	5.0 - 9.2	50	b	N	--	N
7440-50-8	Copper	mg/kg	7 / 7	6.3 - 25	31.6	a	N	--	N
7439-89-6	Iron	mg/kg	7 / 7	11,900 - 25,000	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	7 / 7	12 - 70	35.8	a	Y	2	Y - HQ>1
7439-95-4	Magnesium	mg/kg	7 / 7	2,420 - 3,510	NA		--	--	N
7439-96-5	Manganese	mg/kg	7 / 7	73 - 299	630	c	N	--	N
7439-97-6	Mercury	mg/kg	1 / 7	-- - 0.18	0.18	a	N	--	N
7440-02-0	Nickel	mg/kg	7 / 7	8.7 - 19	22.7	a	N	--	N
7440-09-7	Potassium	mg/kg	7 / 7	864 - 1,440	NA		--	--	N
7440-62-2	Vanadium	mg/kg	7 / 7	12 - 54	NA		--	--	Y - NESV
7440-66-6	Zinc	mg/kg	7 / 7	29 - 81	121	a	N	--	N

Notes:

[1] Screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).

b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] Selection of total PCBs as COPEC.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-2: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU BB1[1]
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [2]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	7 / 23	0.010 - 0.44	0.0099	b	Y	44	Y - HQ>1
75-15-0	Carbon disulfide	mg/kg	5 / 23	0.00061 - 0.0070	0.0239	b	N	--	N
108-90-7	Chlorobenzene	mg/kg	1 / 23	-- - 0.072	0.291	b	N	--	N
107-06-2	1,2-Dichloroethane	mg/kg	1 / 23	-- - 0.0020	0.26	b	N	--	N
78-93-3	Methyl ethyl ketone	mg/kg	3 / 23	0.0075 - 0.010	0.0424	b	N	--	N
1634-04-4	Methyl tert-butyl ether	mg/kg	1 / 23	-- - 0.0020	NA		--	--	Y - NESV
108-88-3	Toluene	mg/kg	1 / 23	-- - 0.020	1.22	b	N	--	N
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	16 / 25	0.0023 - 0.85	0.00671	b	Y	127	Y - HQ>1
208-96-8	Acenaphthylene	mg/kg	18 / 25	0.00092 - 3.1	0.00587	b	Y	528	Y - HQ>1
98-86-2	Acetophenone	mg/kg	5 / 19	0.073 - 0.20	NA		--	--	Y - NESV
120-12-7	Anthracene	mg/kg	19 / 25	0.0018 - 2.7	0.0572	a	Y	47	Y - HQ>1
100-52-7	Benzaldehyde	mg/kg	2 / 18	0.062 - 0.50	NA		--	--	Y - NESV
92-87-5	Benzidine	mg/kg	1 / 1	-- - 15	NA		--	--	Y - NESV
56-55-3	Benzo(a)anthracene	mg/kg	24 / 25	0.011 - 8.3	0.108	a	Y	77	Y - HQ>1
50-32-8	Benzo(a)pyrene	mg/kg	24 / 25	0.011 - 13	0.15	a	Y	87	Y - HQ>1
205-99-2	Benzo(b)fluoranthene	mg/kg	24 / 25	0.025 - 11	10.4	b	Y	1	N
191-24-2	Benzo(g,h,i)perylene	mg/kg	23 / 25	0.0080 - 9.0	0.17	b	Y	53	Y - HQ>1
207-08-9	Benzo(k)fluoranthene	mg/kg	21 / 25	0.0092 - 9.1	0.24	b	Y	38	Y - HQ>1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	14 / 25	0.092 - 1.4	0.182	b	Y	8	Y - HQ>1
85-68-7	Butyl benzyl phthalate	mg/kg	2 / 23	0.041 - 0.056	1.97	b	N	--	N
86-74-8	Carbazole	mg/kg	6 / 18	0.059 - 0.29	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	24 / 25	0.015 - 9.4	0.166	a	Y	57	Y - HQ>1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	18 / 25	0.0027 - 2.4	0.033	b	Y	73	Y - HQ>1
117-84-0	di-n-Octyl phthalate	mg/kg	1 / 24	-- - 0.20	40.6	b	N	--	N
206-44-0	Fluoranthene	mg/kg	24 / 25	0.033 - 16	0.423	a	Y	38	Y - HQ>1
86-73-7	Fluorene	mg/kg	17 / 25	0.00081 - 2.3	0.0774	a	Y	30	Y - HQ>1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	23 / 25	0.010 - 7.5	0.2	b	Y	38	Y - HQ>1
99-87-6	p-Isopropyltouene	mg/kg	1 / 7	-- - 0.0010	NA		--	--	Y - NESV
91-57-6	2-Methylnaphthalene	mg/kg	14 / 25	0.0011 - 0.14	0.0202	b	Y	7	Y - HQ>1
106-44-5 / 15831-10-4 / 65794-96-9	3- & 4-Methylphenol	mg/kg	2 / 25	0.15 - 0.38	0.0202	b[5]	Y	19	Y - HQ>1
91-20-3	Naphthalene	mg/kg	15 / 25	0.0010 - 0.97	0.176	a	Y	6	Y - HQ>1
85-01-8	Phenanthrene	mg/kg	24 / 25	0.010 - 17	0.204	a	Y	83	Y - HQ>1
129-00-0	Pyrene	mg/kg	23 / 25	0.021 - 15	0.195	a	Y	77	Y - HQ>1
Pesticides									
309-00-2	Aldrin	mg/kg	4 / 23	0.00058 - 0.00077	0.002	b	N	--	N
319-84-6	alpha-BHC	mg/kg	4 / 23	0.00089 - 0.0046	0.006	b	N	--	N
319-85-7	beta-BHC	mg/kg	1 / 23	-- - 0.011	0.005	b	Y	2	Y - HQ>1
319-86-8	delta-BHC	mg/kg	1 / 23	-- - 0.0020	71.5	b	N	--	N
58-89-9	gamma-BHC	mg/kg	4 / 23	0.00070 - 0.0025	0.00237	a	Y	1	N
57-74-9	Chlordane, total	mg/kg	14 / 23	0.0022 - 0.092	0.00324	a	Y	28	Y - HQ>1
60-57-1	Dieldrin	mg/kg	4 / 20	0.0038 - 0.030	0.0019	a	Y	16	Y - HQ>1
	Total DDx [3]	mg/kg	12 / 23	0.0018 - 0.060	0.00528	a	Y	11	Y - HQ>1
959-98-8	alpha-Endosulfan	mg/kg	4 / 21	0.00078 - 0.0023	0.00326	b	N	--	N
33213-65-9	beta-Endosulfan	mg/kg	1 / 22	-- - 0.0014	0.00194	b	N	--	N
72-20-8	Endrin	mg/kg	3 / 22	0.00098 - 0.017	0.00222	a	Y	8	Y - HQ>1
7421-93-4	Endrin aldehyde	mg/kg	3 / 23	0.0026 - 0.0067	0.48	b	N	--	N
53494-70-5	Endrin ketone	mg/kg	4 / 23	0.0019 - 0.020	NA		--	--	Y - NESV
76-44-8	Heptachlor	mg/kg	2 / 23	0.0013 - 0.0014	0.0006	b	Y	2	Y - HQ>1
1024-57-3	Heptachlor epoxide	mg/kg	2 / 13	0.0019 - 0.0069	0.00247	a	Y	3	Y - HQ>1
72-43-5	Methoxychlor	mg/kg	5 / 23	0.0040 - 0.057	0.0136	b	Y	4	Y - HQ>1

Table G-2: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU BB1[1]
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [2]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Polychlorinated Biphenyls									
	Total PCB Aroclors [4]	mg/kg	25 / 29	0.030 - 11	0.0598	a	Y	184	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	25 / 25	3,090 - 72,500	25,500	c	Y	3	Y - HQ>1
7440-36-0	Antimony	mg/kg	1 / 25	-- - 1.1	NA		--	--	Y - NESV
7440-38-2	Arsenic	mg/kg	24 / 25	0.62 - 23	9.79	a	Y	2	Y - HQ>1
7440-39-3	Barium	mg/kg	25 / 25	41 - 531	NA		--	--	Y - NESV
7440-41-7	Beryllium	mg/kg	7 / 25	0.28 - 1.4	NA		--	--	Y - NESV
7440-43-9	Cadmium	mg/kg	17 / 25	0.66 - 5.2	0.99	a	Y	5	Y - HQ>1
7440-70-2	Calcium	mg/kg	25 / 25	770 - 22,700	NA		--	--	N
7440-47-3	Chromium	mg/kg	25 / 25	8.1 - 95	43.4	a	Y	2	Y - HQ>1
7440-48-4	Cobalt	mg/kg	25 / 25	3.8 - 46	50	b	N	--	N
7440-50-8	Copper	mg/kg	25 / 25	5.0 - 829	31.6	a	Y	26	Y - HQ>1
7439-89-6	Iron	mg/kg	25 / 25	7,740 - 281,000	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	25 / 25	8.8 - 389	35.8	a	Y	11	Y - HQ>1
7439-95-4	Magnesium	mg/kg	25 / 25	1,300 - 45,700	NA		--	--	N
7439-96-5	Manganese	mg/kg	25 / 25	92 - 2,410	630	c	Y	4	Y - HQ>1
7439-97-6	Mercury	mg/kg	8 / 25	0.040 - 0.54	0.18	a	Y	3	Y - HQ>1
7440-02-0	Nickel	mg/kg	23 / 23	7.7 - 94	22.7	a	Y	4	Y - HQ>1
7440-09-7	Potassium	mg/kg	23 / 25	417 - 12,300	NA		--	--	N
7782-49-2	Selenium	mg/kg	4 / 25	0.67 - 1.1	NA		--	--	Y - NESV
7440-22-4	Silver	mg/kg	5 / 25	0.38 - 2.3	0.5	b	Y	5	Y - HQ>1
7440-23-5	Sodium	mg/kg	23 / 25	57 - 1,790	NA		--	--	N
7440-62-2	Vanadium	mg/kg	25 / 25	8.3 - 77	NA		--	--	Y - NESV
7440-66-6	Zinc	mg/kg	25 / 25	25 - 600	121	a	Y	5	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	12 / 18	0.14 - 4.3	0.0001	b	Y	43,000	Y - HQ>1

Notes:

[1] The analytical results from the Phase II (June 1997) and Phase III (August 1997) sampling events conducted as part of the USEPA's 1997 Ecological Evaluation were manually entered into the project database from data tables for each sampling event that present only detected chemicals. In so doing, data for chemicals not detected in one sampling event but detected in the other sampling event were omitted from the database. As a result, the frequency of detection for some chemicals is less than otherwise indicated and the EPCs for those chemicals selected as COPECs for further evaluation may be overstated.

[2] Screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).

b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[4] Selection of total PCBs as COPEC.

[5] Screening value for 4-methylphenol

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-3: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU BB2
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	2 / 11	2.3 - 3.0	0.0099	b	Y	303	Y - HQ>1
75-15-0	Carbon disulfide	mg/kg	2 / 11	0.0033 - 0.0040	0.0239	b	N	--	N
78-93-3	Methyl ethyl ketone	mg/kg	7 / 11	0.0068 - 0.092	0.0424	b	Y	2	Y - HQ>1
75-09-2	Methylene chloride	mg/kg	1 / 11	-- - 0.030	0.159	b	N	--	N
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	7 / 11	0.014 - 0.13	0.00671	b	Y	19	Y - HQ>1
208-96-8	Acenaphthylene	mg/kg	7 / 11	0.0026 - 0.024	0.00587	b	Y	4	Y - HQ>1
120-12-7	Anthracene	mg/kg	9 / 11	0.0030 - 0.30	0.0572	a	Y	5	Y - HQ>1
100-52-7	Benzaldehyde	mg/kg	5 / 9	0.075 - 0.22	NA		--	--	Y - NESV
92-87-5	Benzidine	mg/kg	2 / 2	17 - 19	NA		--	--	Y - NESV
56-55-3	Benzo(a)anthracene	mg/kg	10 / 11	0.16 - 3.4	0.108	a	Y	31	Y - HQ>1
50-32-8	Benzo(a)pyrene	mg/kg	10 / 11	0.18 - 3.5	0.15	a	Y	23	Y - HQ>1
205-99-2	Benzo(b)fluoranthene	mg/kg	10 / 11	0.39 - 5.7	10.4	b	N	--	N
191-24-2	Benzo(g,h,i)perylene	mg/kg	9 / 11	0.20 - 2.4	0.17	b	Y	14	Y - HQ>1
207-08-9	Benzo(k)fluoranthene	mg/kg	10 / 11	0.14 - 4.5	0.24	b	Y	19	Y - HQ>1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	11 / 11	0.15 - 47	0.182	b	Y	258	Y - HQ>1
85-68-7	Butyl benzyl phthalate	mg/kg	9 / 11	0.050 - 0.93	1.97	b	N	--	N
86-74-8	Carbazole	mg/kg	2 / 9	0.078 - 0.18	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	10 / 11	0.25 - 4.0	0.166	a	Y	24	Y - HQ>1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	8 / 11	0.048 - 1.0	0.033	b	Y	30	Y - HQ>1
117-84-0	di-n-Octyl phthalate	mg/kg	8 / 9	0.19 - 25	40.6	b	N	--	N
206-44-0	Fluoranthene	mg/kg	10 / 11	0.35 - 6.5	0.423	a	Y	15	Y - HQ>1
86-73-7	Fluorene	mg/kg	8 / 11	0.014 - 0.21	0.0774	a	Y	3	Y - HQ>1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	9 / 11	0.26 - 3.1	0.2	b	Y	16	Y - HQ>1
91-57-6	2-Methylnaphthalene	mg/kg	8 / 11	0.010 - 0.065	0.0202	b	Y	3	Y - HQ>1
65794-96-9	3- & 4-Methylphenol	mg/kg	1 / 11	-- - 0.98	0.0202	b[4]	Y	49	Y - HQ>1
91-20-3	Naphthalene	mg/kg	9 / 11	0.0071 - 0.42	0.176	a	Y	2	Y - HQ>1
85-01-8	Phenanthrene	mg/kg	10 / 11	0.18 - 2.0	0.204	a	Y	10	Y - HQ>1
129-00-0	Pyrene	mg/kg	10 / 11	0.36 - 6.6	0.195	a	Y	34	Y - HQ>1
Pesticides									
319-84-6	alpha-BHC	mg/kg	4 / 11	0.0046 - 0.0073	0.006	b	Y	1	N
319-85-7	beta-BHC	mg/kg	6 / 10	0.0077 - 0.023	0.005	b	Y	5	Y - HQ>1
57-74-9	Chlordane, total	mg/kg	9 / 11	0.0057 - 0.065	0.00324	a	Y	20	Y - HQ>1
	Total DDx [2]	mg/kg	9 / 11	0.0046 - 0.11	0.00528	a	Y	21	Y - HQ>1
959-98-8	alpha-Endosulfan	mg/kg	1 / 9	-- - 0.0011	0.00326	b	N	--	N
72-20-8	Endrin	mg/kg	6 / 10	0.0094 - 0.039	0.00222	a	Y	18	Y - HQ>1
53494-70-5	Endrin ketone	mg/kg	1 / 11	-- - 0.0059	NA		--	--	Y - NESV
72-43-5	Methoxychlor	mg/kg	2 / 8	0.079 - 0.12	0.0136	b	Y	9	Y - HQ>1
Polychlorinated Biphenyls									
	Total PCB Aroclors [3]	mg/kg	11 / 11	0.27 - 4.7	0.0598	a	Y	79	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	11 / 11	5,450 - 22,300	25,500	c	N	--	N
7440-36-0	Antimony	mg/kg	2 / 11	2.6 - 2.7	NA		--	--	Y - NESV
7440-38-2	Arsenic	mg/kg	11 / 11	0.69 - 13	9.79	a	Y	1	N
7440-39-3	Barium	mg/kg	10 / 10	49 - 1,320	NA		--	--	Y - NESV
7440-41-7	Beryllium	mg/kg	2 / 11	0.78 - 1.1	NA		--	--	Y - NESV
7440-43-9	Cadmium	mg/kg	11 / 11	1.4 - 68	0.99	a	Y	69	Y - HQ>1
7440-70-2	Calcium	mg/kg	11 / 11	1,010 - 8,860	NA		--	--	N
7440-47-3	Chromium	mg/kg	11 / 11	9.6 - 78	43.4	a	Y	2	Y - HQ>1
7440-48-4	Cobalt	mg/kg	11 / 11	3.2 - 21	50	b	N	--	N
7440-50-8	Copper	mg/kg	11 / 11	5.3 - 220	31.6	a	Y	7	Y - HQ>1
7439-89-6	Iron	mg/kg	11 / 11	11,900 - 36,100	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	11 / 11	16 - 290	35.8	a	Y	8	Y - HQ>1
7439-95-4	Magnesium	mg/kg	11 / 11	2,060 - 6,830	NA		--	--	N
7439-96-5	Manganese	mg/kg	11 / 11	84 - 642	630	c	Y	1	N
7439-97-6	Mercury	mg/kg	11 / 11	0.032 - 0.91	0.18	a	Y	5	Y - HQ>1
7440-02-0	Nickel	mg/kg	11 / 11	5.6 - 51	22.7	a	Y	2	Y - HQ>1
7440-09-7	Potassium	mg/kg	11 / 11	489 - 2,110	NA		--	--	N
7782-49-2	Selenium	mg/kg	2 / 11	3.7 - 3.8	NA		--	--	Y - NESV
7440-22-4	Silver	mg/kg	9 / 11	1.5 - 35	0.5	b	Y	70	Y - HQ>1
7440-23-5	Sodium	mg/kg	11 / 11	146 - 1,050	NA		--	--	N
7440-62-2	Vanadium	mg/kg	11 / 11	5.1 - 51	NA		--	--	Y - NESV
7440-66-6	Zinc	mg/kg	11 / 11	43 - 670	121	a	Y	6	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	5 / 9	0.85 - 2.7	0.0001	b	Y	27,000	Y - HQ>1

Notes:

[1] Screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).

b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[3] Selection of total PCBs as COPEC.

[4] Screening value for 4-methylphenol.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-4: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU BB3
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	8 / 16	0.086 - 7.7	0.0099	b	Y	778	Y - HQ>1
75-15-0	Carbon disulfide	mg/kg	9 / 16	0.00085 - 0.030	0.0239	b	Y	1	N
75-00-3	Chloroethane	mg/kg	1 / 16	-- - 0.030	NA		--	--	Y - NESV
74-87-3	Chloromethane	mg/kg	2 / 16	0.070 - 0.13	NA		--	--	Y - NESV
156-59-2	cis-1,2-Dichloroethene	mg/kg	1 / 16	-- - 0.0019	NA		--	--	Y - NESV
591-78-6	2-Hexanone	mg/kg	1 / 16	-- - 0.050	0.0582	b	N	--	N
78-93-3	Methyl ethyl ketone	mg/kg	3 / 16	0.032 - 0.056	0.0424	b	Y	1	N
75-09-2	Methylene chloride	mg/kg	6 / 16	0.010 - 0.080	0.159	b	N	--	N
108-88-3	Toluene	mg/kg	2 / 16	0.020 - 0.070	1.22	b	N	--	N
71-55-6	1,1,1-Trichloroethane	mg/kg	1 16	-- - 0.020	0.213	b	N	--	N
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	9 / 16	0.028 - 3.1	0.00671	b	Y	462	Y - HQ>1
208-96-8	Acenaphthylene	mg/kg	9 / 16	0.0023 - 0.60	0.00587	b	Y	102	Y - HQ>1
98-86-2	Acetophenone	mg/kg	3 / 16	0.10 - 0.24	NA		--	--	Y - NESV
120-12-7	Anthracene	mg/kg	14 / 16	0.0056 - 3.9	0.0572	a	Y	68	Y - HQ>1
92-87-5	Benzidine	mg/kg	5 / 6	4.6 - 81	NA		--	--	Y - NESV
56-55-3	Benzo(a)anthracene	mg/kg	15 / 16	0.0068 - 8.3	0.108	a	Y	77	Y - HQ>1
50-32-8	Benzo(a)pyrene	mg/kg	15 / 16	0.0063 - 6.4	0.15	a	Y	43	Y - HQ>1
205-99-2	Benzo(b)fluoranthene	mg/kg	15 / 16	0.015 - 7.7	10.4	b	N	--	N
191-24-2	Benzo(g,h,i)perylene	mg/kg	15 / 16	0.011 - 3.1	0.17	b	Y	18	Y - HQ>1
65-85-0	Benzoic acid	mg/kg	1 / 6	-- - 0.30	NA		--	--	Y - NESV
207-08-9	Benzo(k)fluoranthene	mg/kg	13 / 16	0.0061 - 5.2	0.24	b	Y	22	Y - HQ>1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	12 / 16	0.22 - 38	0.182	b	Y	209	Y - HQ>1
85-68-7	Butyl benzyl phthalate	mg/kg	9 / 15	0.049 - 2.7	1.97	b	Y	1	N
86-74-8	Carbazole	mg/kg	5 / 10	0.11 - 0.36	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	15 / 16	0.011 - 7.3	0.166	a	Y	44	Y - HQ>1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	10 / 16	0.0041 - 0.86	0.033	b	Y	26	Y - HQ>1
84-74-2	di-n-Butyl phthalate	mg/kg	7 / 16	0.18 - 2.4	1.114	b	Y	2	Y - HQ>1
117-84-0	di-n-Octyl phthalate	mg/kg	8 / 16	0.088 - 35	40.6	b	N	--	N
206-44-0	Fluoranthene	mg/kg	15 / 16	0.013 - 12	0.423	a	Y	28	Y - HQ>1
86-73-7	Fluorene	mg/kg	9 / 16	0.038 - 1.4	0.0774	a	Y	18	Y - HQ>1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	15 / 16	0.0094 - 3.4	0.2	b	Y	17	Y - HQ>1
91-57-6	2-Methylnaphthalene	mg/kg	9 / 16	0.0080 - 0.12	0.0202	b	Y	6	Y - HQ>1
106-44-5 / 15831-104 / 65794-96-9	3- & 4-Methylphenol	mg/kg	1 / 16	-- - 13	0.0202	b[4]	Y	644	Y - HQ>1
91-20-3	Naphthalene	mg/kg	10 / 16	0.0013 - 0.16	0.176	a	N	--	N
85-01-8	Phenanthrene	mg/kg	14 / 16	0.014 - 14	0.204	a	Y	69	Y - HQ>1
129-00-0	Pyrene	mg/kg	16 / 16	0.032 - 17	0.195	a	Y	87	Y - HQ>1
Pesticides									
309-00-2	Aldrin	mg/kg	1 / 15	-- - 0.0015	0.002	b	N	--	N
319-84-6	alpha-BHC	mg/kg	6 / 15	0.00088 - 0.012	0.006	b	Y	2	Y - HQ>1
319-85-7	beta-BHC	mg/kg	4 / 13	0.013 - 0.048	0.005	b	Y	10	Y - HQ>1
58-89-9	gamma-BHC	mg/kg	5 / 16	0.0019 - 0.0092	0.00237	a	Y	4	Y - HQ>1
57-74-9	Chlordane, total	mg/kg	9 / 15	0.0023 - 0.22	0.00324	a	Y	68	Y - HQ>1
60-57-1	Dieldrin	mg/kg	2 / 10	0.030 - 0.30	0.0019	a	Y	158	Y - HQ>1
	Total DDx [2]	mg/kg	12 / 16	0.0036 - 0.14	0.00528	a	Y	27	Y - HQ>1
959-98-8	alpha-Endosulfan	mg/kg	2 / 14	0.026 - 0.040	0.00326	b	Y	12	Y - HQ>1
33213-65-9	beta-Endosulfan	mg/kg	1 / 12	-- - 0.010	0.00194	b	Y	5	Y - HQ>1
72-20-8	Endrin	mg/kg	5 / 14	0.011 - 0.058	0.00222	a	Y	26	Y - HQ>1
7421-93-4	Endrin aldehyde	mg/kg	3 / 13	0.0088 - 0.018	0.48	b	N	--	N
53494-70-5	Endrin ketone	mg/kg	2 / 16	0.0025 - 0.010	NA		--	--	Y - NESV
76-44-8	Heptachlor	mg/kg	1 / 16	-- - 0.0029	0.0006	b	Y	5	Y - HQ>1
1024-57-3	Heptachlor epoxide	mg/kg	1 / 9	0.0017 - 0.0037	0.00247	a	Y	1	Y - HQ>1
72-43-5	Methoxychlor	mg/kg	2 / 14	0.015 - 0.028	0.0136	b	Y	2	Y - HQ>1

Table G-4: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU BB3
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Polychlorinated Biphenyls									
	Total PCB Aroclors [3]	mg/kg	32 / 42	0.020 - 25	0.0598	a	Y	418	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	16 / 16	2,400 - 22,900	25,500	c	N	--	N
7440-36-0	Antimony	mg/kg	6 / 16	0.38 - 2.9	NA		--	--	Y - NESV
7440-38-2	Arsenic	mg/kg	16 / 16	0.85 - 12	9.79	a	Y	1	N
7440-39-3	Barium	mg/kg	16 / 16	23 - 340	NA		--	--	Y - NESV
7440-41-7	Beryllium	mg/kg	7 / 16	0.20 - 2.9	NA		--	--	Y - NESV
7440-43-9	Cadmium	mg/kg	15 / 16	0.67 - 16	0.99	a	Y	16	Y - HQ>1
7440-70-2	Calcium	mg/kg	16 / 16	740 - 7,240	NA		--	--	N
7440-47-3	Chromium	mg/kg	16 / 16	6.4 - 76	43.4	a	Y	2	Y - HQ>1
7440-48-4	Cobalt	mg/kg	16 / 16	2.0 - 45	50	b	N	--	N
7440-50-8	Copper	mg/kg	16 / 16	3.2 - 170	31.6	a	Y	5	Y - HQ>1
7439-89-6	Iron	mg/kg	16 / 16	7,300 - 30,300	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	16 / 16	5.5 - 350	35.8	a	Y	10	Y - HQ>1
7439-95-4	Magnesium	mg/kg	16 / 16	910 - 5,910	NA		--	--	N
7439-96-5	Manganese	mg/kg	16 / 16	62 - 500	630	c	N	--	N
7439-97-6	Mercury	mg/kg	11 / 16	0.012 - 2.1	0.18	a	Y	12	Y - HQ>1
7440-02-0	Nickel	mg/kg	16 / 16	5.1 - 42	22.7	a	Y	2	Y - HQ>1
7440-09-7	Potassium	mg/kg	11 / 16	260 - 1,600	NA		--	--	N
7782-49-2	Selenium	mg/kg	6 / 16	0.63 - 3.3	NA		--	--	Y - NESV
7440-22-4	Silver	mg/kg	12 / 16	0.13 - 11	0.5	b	Y	22	Y - HQ>1
7440-23-5	Sodium	mg/kg	15 / 16	74 - 720	NA		--	--	N
7440-62-2	Vanadium	mg/kg	16 / 16	8.9 - 52	NA		--	--	Y - NESV
7440-66-6	Zinc	mg/kg	16 / 16	14 - 590	121	a	Y	5	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	8 / 10	0.10 - 0.84	0.0001	b	Y	8,400	Y - HQ>1

Notes:

[1] Screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).

b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[3] Selection of total PCBs as COPEC.

[4] Screening value for 4-methylphenol.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-5: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU BB4
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	2 / 14	0.69 - 1.1	0.0099	b	Y	111	Y - HQ>1
75-15-0	Carbon disulfide	mg/kg	3 / 14	0.0010 - 0.0013	0.0239	b	N	--	N
156-59-2	cis-1,2-Dichloroethene	mg/kg	1 / 14	-- - 0.0022	NA		--	--	Y - NESV
79-01-6	Trichloroethene	mg/kg	1 / 14	-- - 0.0012	0.112	b	N	--	N
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	13 / 15	0.0027 - 0.19	0.00671	b	Y	28	Y - HQ>1
208-96-8	Acenaphthylene	mg/kg	9 / 15	0.0014 - 0.026	0.00587	b	Y	4	Y - HQ>1
98-86-2	Acetophenone	mg/kg	5 / 15	0.11 - 0.27	NA		--	--	Y - NESV
120-12-7	Anthracene	mg/kg	15 / 15	0.0064 - 0.49	0.0572	a	Y	9	Y - HQ>1
92-87-5	Benzidine	mg/kg	2 / 2	18 - 20	NA		--	--	Y - NESV
56-55-3	Benzo(a)anthracene	mg/kg	15 / 15	0.051 - 2.9	0.108	a	Y	27	Y - HQ>1
50-32-8	Benzo(a)pyrene	mg/kg	15 / 15	0.059 - 2.6	0.15	a	Y	17	Y - HQ>1
205-99-2	Benzo(b)fluoranthene	mg/kg	14 / 14	0.10 - 4.2	10.4	b	N	--	N
191-24-2	Benzo(g,h,i)perylene	mg/kg	14 / 15	0.13 - 1.9	0.17	b	Y	11	Y - HQ>1
65-85-0	Benzoic acid	mg/kg	2 / 2	0.50 - 0.57	NA		--	--	Y - NESV
207-08-9	Benzo(k)fluoranthene	mg/kg	15 / 15	0.037 - 1.5	0.24	b	Y	6	Y - HQ>1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	15 / 15	0.10 - 26	0.182	b	Y	143	Y - HQ>1
85-68-7	Butyl benzyl phthalate	mg/kg	12 / 15	0.093 - 3.2	1.97	b	Y	2	Y - HQ>1
86-74-8	Carbazole	mg/kg	6 / 13	0.061 - 0.22	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	15 / 15	0.066 - 2.9	0.166	a	Y	17	Y - HQ>1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	13 / 15	0.014 - 0.46	0.033	b	Y	14	Y - HQ>1
84-74-2	di-n-Butyl phthalate	mg/kg	3 / 15	0.19 - 3.9	1.114	b	Y	4	Y - HQ>1
117-84-0	di-n-Octyl phthalate	mg/kg	8 / 15	0.10 - 4.0	40.6	b	N	--	N
206-44-0	Fluoranthene	mg/kg	15 / 15	0.093 - 4.6	0.423	a	Y	11	Y - HQ>1
86-73-7	Fluorene	mg/kg	13 / 15	0.0043 - 0.26	0.0774	a	Y	3	Y - HQ>1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	15 / 15	0.069 - 2.2	0.2	b	Y	11	Y - HQ>1
99-87-6	p-Isopropyltouene	mg/kg	1 / 2	-- - 0.080	NA		--	--	Y - NESV
91-57-6	2-Methylnaphthalene	mg/kg	11 / 15	0.0047 - 0.08	0.0202	b	Y	4	Y - HQ>1
91-20-3	Naphthalene	mg/kg	12 / 15	0.0048 - 0.23	0.176	a	Y	1	N
85-01-8	Phenanthrene	mg/kg	15 / 15	0.036 - 3.0	0.204	a	Y	15	Y - HQ>1
108-95-2	Phenol	mg/kg	1 / 15	-- - 0.12	0.0491	b	Y	2	Y - HQ>1
129-00-0	Pyrene	mg/kg	14 / 15	1.0 - 8.1	0.195	a	Y	42	Y - HQ>1
Pesticides									
309-00-2	Aldrin	mg/kg	1 / 15	-- - 0.0024	0.002	b	Y	1	N
319-84-6	alpha-BHC	mg/kg	11 / 15	0.0015 - 0.017	0.006	b	Y	3	Y - HQ>1
319-85-7	beta-BHC	mg/kg	5 / 9	0.0061 - 0.019	0.005	b	Y	4	Y - HQ>1
58-89-9	gamma-BHC	mg/kg	10 / 15	0.0012 - 0.024	0.00237	a	Y	10	Y - HQ>1
57-74-9	Chlordane, total	mg/kg	11 / 14	0.0084 0.12	0.00324	a	Y	36	Y - HQ>1
60-57-1	Dieldrin	mg/kg	1 / 4	-- - 0.015	0.0019	a	Y	8	Y - HQ>1
	Total DDx [2]	mg/kg	11 / 15	0.027 - 0.18	0.00528	a	Y	34	Y - HQ>1
959-98-8	alpha-Endosulfan	mg/kg	1 / 10	-- - 0.0073	0.00326	b	Y	2	Y - HQ>1
33213-65-9	beta-Endosulfan	mg/kg	2 / 4	0.0010 - 0.025	0.00194	b	Y	13	Y - HQ>1
1031-07-8	Endosulfan sulfate	mg/kg	1 / 14	-- - 0.013	0.0346	b	N	--	N
72-20-8	Endrin	mg/kg	7 / 11	0.011 - 0.11	0.00222	a	Y	50	Y - HQ>1
7421-93-4	Endrin aldehyde	mg/kg	4 / 7	0.0063 - 0.027	0.48	b	N	--	N
53494-70-5	Endrin ketone	mg/kg	4 / 14	0.0075 - 0.013	NA		--	--	Y - NESV
1024-57-3	Heptachlor epoxide	mg/kg	1 / 4	-- - 0.034	0.00247	a	Y	14	Y - HQ>1
72-43-5	Methoxychlor	mg/kg	3 / 12	0.016 - 0.032	0.0136	b	Y	2	Y - HQ>1

Table G-5: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU BB4
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Polychlorinated Biphenyls									
	Total PCB Aroclors [3]	mg/kg	49 / 55	0.055 - 39	0.0598	a	Y	652	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	15 / 15	3,700 - 11,000	25,500	c	N	--	N
7440-36-0	Antimony	mg/kg	2 / 12	1.1 - 1.9	NA		--	--	Y - NESV
7440-38-2	Arsenic	mg/kg	14 / 15	0.79 - 12	9.79	a	Y	1	N
7440-39-3	Barium	mg/kg	15 / 15	38 - 260	NA		--	--	Y - NESV
7440-41-7	Beryllium	mg/kg	2 / 15	0.53 - 0.84	NA		--	--	Y - NESV
7440-43-9	Cadmium	mg/kg	13 / 15	0.78 - 12	0.99	a	Y	12	Y - HQ>1
7440-70-2	Calcium	mg/kg	15 / 15	1,440 - 7,870	NA		--	--	N
7440-47-3	Chromium	mg/kg	15 / 15	6.7 - 53	43.4	a	Y	1	N
7440-48-4	Cobalt	mg/kg	15 / 15	2.9 - 12	50	b	N	--	N
7440-50-8	Copper	mg/kg	15 / 15	6.6 - 130	31.6	a	Y	4	Y - HQ>1
7439-89-6	Iron	mg/kg	15 / 15	7,950 - 28,000	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	15 / 15	16 - 250	35.8	a	Y	7	Y - HQ>1
7439-95-4	Magnesium	mg/kg	15 / 15	1,520 - 6,280	NA		--	--	N
7439-96-5	Manganese	mg/kg	15 / 15	72 - 3,060	630	c	Y	5	Y - HQ>1
7439-97-6	Mercury	mg/kg	6 / 15	0.016 - 0.35	0.18	a	Y	2	Y - HQ>1
7440-02-0	Nickel	mg/kg	15 / 15	6.7 - 37	22.7	a	Y	2	Y - HQ>1
7440-09-7	Potassium	mg/kg	13 / 15	520 - 1,650	NA		--	--	N
7782-49-2	Selenium	mg/kg	3 / 15	0.15 - 3.3	NA		--	--	Y - NESV
7440-22-4	Silver	mg/kg	7 / 15	0.71 - 5.2	0.5	b	Y	10	Y - HQ>1
7440-23-5	Sodium	mg/kg	15 / 15	139 - 430	NA		--	--	N
7440-62-2	Vanadium	mg/kg	15 / 15	7.8 - 46	NA		--	--	Y - NESV
7440-66-6	Zinc	mg/kg	15 / 15	32 - 460	121	a	Y	4	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	8 / 13	0.12 - 0.79	0.0001	b	Y	7,900	Y - HQ>1

Notes:

[1] Screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).

b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[3] Selection of total PCBs as COPEC.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-6: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU BB5
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	14 / 24	0.0043 - 3.6	0.0099	b	Y	364	Y - HQ>1
75-15-0	Carbon disulfide	mg/kg	9 / 24	0.00077 - 0.0067	0.0239	b	N	--	N
108-90-7	Chlorobenzene	mg/kg	4 / 24	0.0061 - 0.030	0.291	b	N	--	N
106-46-7	1,4-Dichlorobenzene	mg/kg	4 / 24	0.018 - 0.053	0.318	b	N	--	N
75-34-3	1,1-Dichloroethane	mg/kg	1 / 24	-- - 0.0017	0.000575	b	Y	3	Y - HQ>1
75-35-4	1,1-Dichloroethene	mg/kg	1 / 24	-- - 0.028	0.0194	b	Y	1	N
156-59-2	cis-1,2-Dichloroethene	mg/kg	14 / 24	0.0012 - 61	NA		--	--	Y - NESV
156-60-5	trans-1,2-Dichloroethene	mg/kg	7 / 24	0.00085 - 0.025	0.654	b	N	--	N
78-93-3	Methyl ethyl ketone	mg/kg	2 / 24	0.013 - 0.013	0.0424	b	N	--	N
75-09-2	Methylene chloride	mg/kg	3 / 24	0.010 - 0.060	0.159	b	N	--	N
127-18-4	Tetrachloroethene	mg/kg	2 / 24	0.012 - 0.037	0.99	b	N	--	N
108-88-3	Toluene	mg/kg	2 / 24	0.040 - 1.9	1.22	b	Y	2	Y - HQ>1
87-61-6	1,2,3-Trichlorobenzene	mg/kg	5 / 24	0.0018 - 0.074	NA		--	--	Y - NESV
79-00-5	1,1,2-Trichloroethane	mg/kg	1 / 24	-- - 0.0019	0.518	b	N	--	N
79-01-6	Trichloroethene	mg/kg	5 / 24	0.00072 - 0.056	0.112	b	N	--	N
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	1 / 24	-- - 0.0015	NA		--	--	Y - NESV
75-01-4	Vinyl chloride	mg/kg	7 / 24	0.012 - 0.35	0.202	b	Y	2	Y - HQ>1
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	16 / 24	0.0019 - 0.28	0.00671	b	Y	42	Y - HQ>1
208-96-8	Acenaphthylene	mg/kg	12 / 24	0.0011 - 0.020	0.00587	b	Y	3	Y - HQ>1
98-86-2	Acetophenone	mg/kg	9 / 24	0.052 - 0.17	NA		--	--	Y - NESV
120-12-7	Anthracene	mg/kg	16 / 24	0.00063 - 0.34	0.0572	a	Y	6	Y - HQ>1
100-52-7	Benzaldehyde	mg/kg	1 / 18	-- - 0.15	NA		--	--	Y - NESV
92-87-5	Benzidine	mg/kg	6 / 6	5.4 - 14	NA		--	--	Y - NESV
56-55-3	Benzo(a)anthracene	mg/kg	24 / 24	0.0018 - 6.5	0.108	a	Y	60	Y - HQ>1
50-32-8	Benzo(a)pyrene	mg/kg	22 / 24	0.022 - 5.5	0.15	a	Y	37	Y - HQ>1
205-99-2	Benzo(b)fluoranthene	mg/kg	24 / 24	0.0047 - 8.7	10.4	b	N	--	N
191-24-2	Benzo(g,h,i)perylene	mg/kg	23 / 24	0.0025 - 2.3	0.17	b	Y	14	Y - HQ>1
65-85-0	Benzoic acid	mg/kg	2 / 6	0.35 - 0.48	NA		--	--	Y - NESV
207-08-9	Benzo(k)fluoranthene	mg/kg	23 / 24	0.0015 - 2.5	0.24	b	Y	10	Y - HQ>1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	24 / 24	0.39 - 300	0.182	b	Y	1,648	Y - HQ>1
104-51-8	n-Butylbenzene	mg/kg	1 / 6	-- - 0.030	NA		--	--	Y - NESV
85-68-7	Butyl benzyl phthalate	mg/kg	23 / 24	0.037 - 21	1.97	b	Y	11	Y - HQ>1
86-74-8	Carbazole	mg/kg	4 / 18	0.090 - 0.20	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	24 / 24	0.0028 - 6.6	0.166	a	Y	40	Y - HQ>1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	16 / 24	0.0060 - 1.0	0.033	b	Y	30	Y - HQ>1
95-50-1	1,2-Dichlorobenzene	mg/kg	4 / 24	0.0046 - 0.0077	0.294	b	N	--	N
541-73-1	1,3-Dichlorobenzene	mg/kg	4 / 24	0.0091 - 0.025	1.315	b	N	--	N
606-20-2	2,6-Dinitrotoluene	mg/kg	1 / 24	-- - 0.47	0.0398	b	Y	12	Y - HQ>1
84-74-2	di-n-Butyl phthalate	mg/kg	16 / 24	0.087 - 4.4	1.114	b	Y	4	Y - HQ>1
117-84-0	di-n-Octyl phthalate	mg/kg	20 / 24	0.054 - 42	40.6	b	Y	1	N
206-44-0	Fluoranthene	mg/kg	24 / 24	0.0050 - 2.7	0.423	a	Y	6	Y - HQ>1
86-73-7	Fluorene	mg/kg	17 / 24	0.0021 - 0.29	0.0774	a	Y	4	Y - HQ>1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	24 / 24	0.0021 - 4.0	0.2	b	Y	20	Y - HQ>1
91-57-6	2-Methylnaphthalene	mg/kg	16 / 24	0.0010 - 0.11	0.0202	b	Y	5	Y - HQ>1
106-44-5 / 15831-10-4 / 65794-96-9	3- & 4-Methylphenol	mg/kg	3 / 24	0.57 - 37	0.0202	b[4]	Y	1,832	Y - HQ>1
91-20-3	Naphthalene	mg/kg	16 / 24	0.0011 - 0.083	0.176	a	N	--	N
87-86-5	Pentachlorophenol	mg/kg	1 / 24	-- - 0.013	23	b	N	--	N
85-01-8	Phenanthrene	mg/kg	24 / 24	0.0026 - 1.6	0.204	a	Y	8	Y - HQ>1
108-95-2	Phenol	mg/kg	1 / 24	-- - 0.090	0.0491	b	Y	2	Y - HQ>1
129-00-0	Pyrene	mg/kg	21 / 24	0.011 - 9.3	0.195	a	Y	48	Y - HQ>1
120-82-1	1,2,4-Trichlorobenzene	mg/kg	7 / 24	0.0011 - 0.25	5.062	b	N	--	N
Pesticides									
319-84-6	alpha-BHC	mg/kg	12 / 24	0.00073 - 0.075	0.006	b	Y	13	Y - HQ>1
319-85-7	beta-BHC	mg/kg	1 / 18	-- - 0.0067	0.005	b	Y	1	N
319-86-8	delta-BHC	mg/kg	1 / 23	-- - 0.0011	71.5	b	N	--	N
58-89-9	gamma-BHC	mg/kg	4 / 22	0.0015 - 0.043	0.00237	a	Y	18	Y - HQ>1
57-74-9	Chlordane, total	mg/kg	16 24	0.0036 - 1.5	0.00324	a	Y	457	Y - HQ>1
60-57-1	Dieldrin	mg/kg	11 / 20	0.0083 - 2.0	0.0019	a	Y	1,053	Y - HQ>1
	Total DDx [2]	mg/kg	16 / 24	0.0037 - 2.6	0.00528	a	Y	492	Y - HQ>1
33213-65-9	beta-Endosulfan	mg/kg	5 / 18	0.0050 - 0.30	0.00194	b	Y	155	Y - HQ>1
72-20-8	Endrin	mg/kg	8 / 24	0.014 - 0.85	0.00222	a	Y	383	Y - HQ>1
7421-93-4	Endrin aldehyde	mg/kg	6 / 18	0.013 - 0.25	0.48	b	N	--	N
53494-70-5	Endrin ketone	mg/kg	2 / 23	0.0012 - 0.020	NA		--	--	Y - NESV
76-44-8	Heptachlor	mg/kg	1 / 24	-- - 0.0013	0.0006	b	Y	2	Y - HQ>1
1024-57-3	Heptachlor epoxide	mg/kg	6 / 15	0.0045 - 1.3	0.00247	a	Y	526	Y - HQ>1
72-43-5	Methoxychlor	mg/kg	2 / 24	0.047 - 0.091	0.0136	b	Y	7	Y - HQ>1

Table G-6: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU BB5
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Polychlorinated Biphenyls									
	Total PCB Aroclors [3]	mg/kg	97 / 114	0.040 - 235	0.0598	a	Y	3,930	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	24 / 24	4,580 - 19,100	25,500	c	N	--	N
7440-36-0	Antimony	mg/kg	7 / 23	1.5 - 3.5	NA		--	--	Y - NESV
7440-38-2	Arsenic	mg/kg	23 / 24	0.70 - 13	9.79	a	Y	1	N
7440-39-3	Barium	mg/kg	24 / 24	42 - 420	NA		--	--	Y - NESV
7440-41-7	Beryllium	mg/kg	10 / 24	0.61 - 1.5	NA		--	--	Y - NESV
7440-43-9	Cadmium	mg/kg	20 / 24	0.81 - 35	0.99	a	Y	35	Y - HQ>1
7440-70-2	Calcium	mg/kg	24 / 24	1,270 - 19,200	NA		--	--	N
7440-47-3	Chromium	mg/kg	24 / 24	5.4 - 56	43.4	a	Y	1	N
7440-48-4	Cobalt	mg/kg	24 / 24	2.0 - 15	50	b	N	--	N
7440-50-8	Copper	mg/kg	24 / 24	2.3 - 152	31.6	a	Y	5	Y - HQ>1
7439-89-6	Iron	mg/kg	24 / 24	8,990 - 75,600	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	24 / 24	8.6 - 340	35.8	a	Y	9	Y - HQ>1
7439-95-4	Magnesium	mg/kg	24 / 24	1,710 - 10,200	NA		--	--	N
7439-96-5	Manganese	mg/kg	24 / 24	66 - 1,100	630	c	Y	2	Y - HQ>1
7439-97-6	Mercury	mg/kg	20 / 24	0.0068 - 0.46	0.18	a	Y	3	Y - HQ>1
7440-02-0	Nickel	mg/kg	24 / 24	4.6 - 52	22.7	a	Y	2	Y - HQ>1
7440-09-7	Potassium	mg/kg	22 / 24	510 - 2,300	NA		--	--	N
7782-49-2	Selenium	mg/kg	6 / 24	1.6 - 3.8	NA		--	--	Y - NESV
7440-22-4	Silver	mg/kg	11 / 24	0.93 - 8.5	0.5	b	Y	17	Y - HQ>1
7440-23-5	Sodium	mg/kg	24 / 24	151 - 481	NA		--	--	N
7440-62-2	Vanadium	mg/kg	24 / 24	5.9 - 58	NA		--	--	Y - NESV
7440-66-6	Zinc	mg/kg	24 / 24	12 - 630	121	a	Y	5	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	17 / 18	0.036 - 5.4	0.0001	b	Y	54,000	Y - HQ>1

Notes:

[1] Screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).

b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[3] Selection of total PCBs as COPEC.

[4] Screening value for 4-methylphenol.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-7: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU BB6
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	24 / 34	0.014 - 3.1	0.0099	b	Y	313	Y - HQ>1
75-15-0	Carbon disulfide	mg/kg	11 / 34	0.0012 - 0.017	0.0239	b	N	--	N
108-90-7	Chlorobenzene	mg/kg	2 / 34	0.0037 - 0.0087	0.291	b	N	--	N
106-46-7	1,4-Dichlorobenzene	mg/kg	1 / 34	-- - 0.0030	0.318	b	N	--	N
75-34-3	1,1-Dichloroethane	mg/kg	1 / 34	-- - 0.017	0.000575	b	Y	30	Y - HQ>1
78-93-3	Methyl ethyl ketone	mg/kg	16 / 34	0.0075 - 0.088	0.0424	b	Y	2	Y - HQ>1
75-09-2	Methylene chloride	mg/kg	5 / 34	0.0016 - 0.0071	0.159	b	N	--	N
108-88-3	Toluene	mg/kg	6 / 34	0.0018 - 0.070	1.22	b	N	--	N
79-01-6	Trichloroethene	mg/kg	2 / 34	0.00068 - 0.0019	0.112	b	N	--	N
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	8 / 34	0.0022 - 0.012	NA		--	--	Y - NESV
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	5 / 42	0.0076 - 0.053	0.00671	b	Y	8	Y - HQ>1
208-96-8	Acenaphthylene	mg/kg	13 / 42	0.0014 - 0.10	0.00587	b	Y	18	Y - HQ>1
120-12-7	Anthracene	mg/kg	22 / 42	0.017 - 0.16	0.0572	a	Y	3	Y - HQ>1
92-87-5	Benzidine	mg/kg	2 / 2	9.7 - 10	NA		--	--	Y - NESV
56-55-3	Benzo(a)anthracene	mg/kg	34 / 42	0.029 - 1.4	0.108	a	Y	13	Y - HQ>1
50-32-8	Benzo(a)pyrene	mg/kg	36 / 42	0.016 - 1.5	0.15	a	Y	10	Y - HQ>1
205-99-2	Benzo(b)fluoranthene	mg/kg	37 / 42	0.020 - 2.9	10.4	b	N	--	N
191-24-2	Benzo(g,h,i)perylene	mg/kg	33 / 42	0.026 - 1.5	0.17	b	Y	9	Y - HQ>1
207-08-9	Benzo(k)fluoranthene	mg/kg	29 / 42	0.032 - 0.63	0.24	b	Y	3	Y - HQ>1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	16 / 42	0.13 - 2.5	0.182	b	Y	14	Y - HQ>1
85-68-7	Butyl benzyl phthalate	mg/kg	2 / 41	0.087 - 0.095	1.97	b	N	--	N
86-74-8	Carbazole	mg/kg	2 / 40	0.055 - 0.057	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	37 / 42	0.024 - 1.6	0.166	a	Y	10	Y - HQ>1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	21 / 42	0.027 - 0.13	0.033	b	Y	4	Y - HQ>1
206-44-0	Fluoranthene	mg/kg	38 / 42	0.033 - 2.9	0.423	a	Y	7	Y - HQ>1
86-73-7	Fluorene	mg/kg	5 / 42	0.010 - 0.070	0.0774	a	N	--	N
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	32 / 42	0.034 - 1.2	0.2	b	Y	6	Y - HQ>1
91-57-6	2-Methylnaphthalene	mg/kg	4 / 42	0.0026 - 0.0037	0.0202	b	N	--	N
91-20-3	Naphthalene	mg/kg	3 / 42	0.0027 - 0.0040	0.176	a	N	--	N
85-01-8	Phenanthrene	mg/kg	33 / 42	0.019 - 1.2	0.204	a	Y	6	Y - HQ>1
129-00-0	Pyrene	mg/kg	38 / 42	0.030 - 2.5	0.195	a	Y	13	Y - HQ>1
Pesticides									
319-84-6	alpha-BHC	mg/kg	2 / 34	0.00060 - 0.00087	0.006	b	N	--	N
319-85-7	beta-BHC	mg/kg	3 / 34	0.0025 - 0.016	0.005	b	Y	3	Y - HQ>1
319-86-8	delta-BHC	mg/kg	2 / 34	0.017 - 0.037	71.5	b	N	--	N
57-74-9	Chlordane, total	mg/kg	21 / 34	0.0038 0.15	0.00324	a	Y	46	Y - HQ>1
60-57-1	Dieldrin	mg/kg	6 / 34	0.0018 - 0.027	0.0019	a	Y	14	Y - HQ>1
	Total DDx [2]	mg/kg	11 / 34	0.0057 - 0.022	0.00528	a	Y	4	Y - HQ>1
33213-65-9	beta-Endosulfan	mg/kg	3 / 34	0.0015 - 0.0027	0.00194	b	Y	1	N
1031-07-8	Endosulfan sulfate	mg/kg	1 / 34	-- - 0.0024	0.0346	b	N	--	N
7421-93-4	Endrin aldehyde	mg/kg	1 / 34	-- - 0.0017	0.48	b	N	--	N
1024-57-3	Heptachlor epoxide	mg/kg	1 / 34	-- - 0.00085	0.00247	a	N	--	N
72-43-5	Methoxychlor	mg/kg	2 / 34	0.0045 - 0.0091	0.0136	b	N	--	N

Table G-7: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU BB6
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Polychlorinated Biphenyls									
	Total PCB Aroclors [3]	mg/kg	12 / 42	0.080 - 0.46	0.0598	a	Y	8	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	42 / 42	3,520 - 22,200	25,500	c	N	--	N
7440-36-0	Antimony	mg/kg	2 / 42	1.3 - 1.5	NA		--	--	Y - NESV
7440-38-2	Arsenic	mg/kg	42 / 42	0.41 - 8.7	9.79	a	N	--	N
7440-39-3	Barium	mg/kg	42 / 42	32 - 498	NA		--	--	Y - NESV
7440-41-7	Beryllium	mg/kg	3 / 42	0.68 - 1.3	NA		--	--	Y - NESV
7440-43-9	Cadmium	mg/kg	41 / 42	0.15 - 70	0.99	a	Y	71	Y - HQ>1
7440-70-2	Calcium	mg/kg	42 / 42	760 - 6,470	NA		--	--	N
7440-47-3	Chromium	mg/kg	42 / 42	6.1 - 73	43.4	a	Y	2	Y - HQ>1
7440-48-4	Cobalt	mg/kg	22 / 42	3.1 - 19	50	b	N	--	N
7440-50-8	Copper	mg/kg	42 / 42	3.9 - 179	31.6	a	Y	6	Y - HQ>1
7439-89-6	Iron	mg/kg	42 / 42	4,530 - 28,500	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	42 / 42	3.1 - 769	35.8	a	Y	21	Y - HQ>1
7439-95-4	Magnesium	mg/kg	42 / 42	853 - 5,950	NA		--	--	N
7439-96-5	Manganese	mg/kg	42 / 42	39 - 1,125	630	c	Y	2	Y - HQ>1
7439-97-6	Mercury	mg/kg	26 / 42	0.047 - 0.56	0.18	a	Y	3	Y - HQ>1
7440-02-0	Nickel	mg/kg	42 / 42	5.2 - 119	22.7	a	Y	5	Y - HQ>1
7440-09-7	Potassium	mg/kg	36 / 42	667 - 2,680	NA		--	--	N
7782-49-2	Selenium	mg/kg	2 / 42	1.7 - 1.8	NA		--	--	Y - NESV
7440-22-4	Silver	mg/kg	21 / 42	0.76 - 31	0.5	b	Y	61	Y - HQ>1
7440-23-5	Sodium	mg/kg	5 / 42	120 - 240	NA		--	--	N
7440-28-0	Thallium	mg/kg	28 / 42	0.028 - 0.16	NA		--	--	Y - NESV
7440-62-2	Vanadium	mg/kg	42 / 42	6.0 - 54	NA		--	--	Y - NESV
7440-66-6	Zinc	mg/kg	42 / 42	19 - 542	121	a	Y	4	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	1 / 12	-- - 0.19	0.0001	b	Y	1,900	Y - HQ>1

Notes:

[1] Screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).

b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[3] Selection of total PCBs as COPEC.

[4] Screening value for 4-methylphenol.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-8: Selection of COPECs/Screening-Level Evaluation Surface Sediment EU SL
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	2 / 3	0.010 - 0.020	0.0099	b	Y	2	Y - HQ>1
75-15-0	Carbon disulfide	mg/kg	1 / 3	-- - 0.00059	0.0239	b	N	--	N
156-59-2	cis-1,2-Dichloroethene	mg/kg	1 / 3	-- - 0.039	NA		--	--	Y - NESV
78-93-3	Methyl ethyl ketone	mg/kg	1 / 3	-- - 0.0039	0.0424	b	N	--	N
1634-04-4	Methyl tert-butyl ether	mg/kg	1 / 3	-- - 0.010	NA		--	--	Y - NESV
108-88-3	Toluene	mg/kg	2 / 3	0.0022 - 0.090	1.22	b	N	--	N
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	1 / 3	-- - 0.049	0.00671	b	Y	7	Y - HQ>1
208-96-8	Acenaphthylene	mg/kg	1 / 3	-- - 0.0036	0.00587	b	N	--	N
98-86-2	Acetophenone	mg/kg	1 / 1	-- - 0.057	NA		--	--	Y - NESV
120-12-7	Anthracene	mg/kg	1 / 3	-- - 0.15	0.0572	a	Y	3	Y - HQ>1
56-55-3	Benzo(a)anthracene	mg/kg	3 / 3	0.75 - 3.9	0.108	a	Y	36	Y - HQ>1
50-32-8	Benzo(a)pyrene	mg/kg	3 / 3	0.35 - 5.8	0.15	a	Y	39	Y - HQ>1
205-99-2	Benzo(b)fluoranthene	mg/kg	3 / 3	1.1 - 5.4	10.4	b	N	--	N
191-24-2	Benzo(g,h,i)perylene	mg/kg	3 / 3	0.27 - 3.5	0.17	b	Y	21	Y - HQ>1
207-08-9	Benzo(k)fluoranthene	mg/kg	3 / 3	0.35 - 5.2	0.24	b	Y	22	Y - HQ>1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	2 / 3	0.87 - 1.6	0.182	b	Y	9	Y - HQ>1
86-74-8	Carbazole	mg/kg	1 / 1	-- - 0.069	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	3 / 3	0.83 - 4.9	0.166	a	Y	30	Y - HQ>1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	2 / 3	0.059 - 1.3	0.033	b	Y	39	Y - HQ>1
206-44-0	Fluoranthene	mg/kg	3 / 3	1.4 - 9.3	0.423	a	Y	22	Y - HQ>1
86-73-7	Fluorene	mg/kg	1 / 3	-- - 0.069	0.0774	a	N	--	N
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	3 / 3	0.28 - 3.2	0.2	b	Y	16	Y - HQ>1
99-87-6	p-Isopropyltouene	mg/kg	1 / 2	-- - 0.010	NA		--	--	Y - NESV
91-57-6	2-Methylnaphthalene	mg/kg	1 / 3	-- - 0.0034	0.0202	b	N	--	N
85-01-8	Phenanthrene	mg/kg	3 / 3	0.87 - 4.1	0.204	a	Y	20	Y - HQ>1
129-00-0	Pyrene	mg/kg	3 / 3	1.3 - 8.2	0.195	a	Y	42	Y - HQ>1
Pesticides									
57-74-9	Chlordane, total	mg/kg	14 / 22	0.012 - 0.30	0.00324	a	Y	93	Y - HQ>1
	Total DDx [2]	mg/kg	5 / 19	0.014 - 0.30	0.00528	a	Y	57	Y - HQ>1
1024-57-3	Heptachlor epoxide	mg/kg	1 / 22	-- - 0.023	0.00247	a	Y	9	Y - HQ>1
Polychlorinated Biphenyls									
	Total PCB Aroclors [3]	mg/kg	1 / 22	-- - 0.057	0.0598	a	N	--	N
Metals									
7429-90-5	Aluminum	mg/kg	3 / 3	5,300 - 9,800	25,500	c	N	--	N
7440-38-2	Arsenic	mg/kg	3 / 3	0.88 - 3.3	9.79	a	N	--	N
7440-39-3	Barium	mg/kg	3 / 3	55 - 110	NA		--	--	Y - NESV
7440-43-9	Cadmium	mg/kg	3 / 3	0.67 - 2.5	0.99	a	Y	3	Y - HQ>1
7440-70-2	Calcium	mg/kg	3 / 3	3,820 - 5,300	NA		--	--	N
7440-47-3	Chromium	mg/kg	3 / 3	13 - 41	43.4	a	N	--	N
7440-48-4	Cobalt	mg/kg	3 / 3	3.6 - 8.0	50	b	N	--	N
7440-50-8	Copper	mg/kg	3 / 3	20 - 81	31.6	a	Y	3	Y - HQ>1
7439-89-6	Iron	mg/kg	3 / 3	9,200 - 19,000	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	3 / 3	53 - 290	35.8	a	Y	8	Y - HQ>1
7439-95-4	Magnesium	mg/kg	3 / 3	2,700 - 4,150	NA		--	--	N
7439-96-5	Manganese	mg/kg	3 / 3	118 - 220	630	c	N	--	N
7439-97-6	Mercury	mg/kg	2 / 3	0.080 - 0.43	0.18	a	Y	2	Y - HQ>1
7440-02-0	Nickel	mg/kg	3 / 3	8.5 - 25	22.7	a	Y	1	N
7440-09-7	Potassium	mg/kg	3 / 3	370 - 1,070	NA		--	--	N
7440-22-4	Silver	mg/kg	1 / 3	-- - 1.1	0.5	b	Y	2	Y - HQ>1
7440-23-5	Sodium	mg/kg	3 / 3	74 - 415	NA		--	--	N
7440-62-2	Vanadium	mg/kg	3 / 3	14 - 39	NA		--	--	Y - NESV
7440-66-6	Zinc	mg/kg	3 / 3	64 - 300	121	a	Y	2	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	1 / 1	-- - 1.3	0.0001	b	Y	13,000	Y - HQ>1

Notes:

[1] Screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).

b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample

[3] Selection of total PCBs as COPEC.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-9: Selection of COPECs/Screening-Level Evaluation Surface Soil EU GB - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	2 / 12	0.11 - 0.30	20	c	N	--	-- [2]
120-12-7	Anthracene	mg/kg	4 / 12	0.13 - 0.66	NA		--	--	-- [2]
56-55-3	Benzo(a)anthracene	mg/kg	11 / 12	0.24 - 1.6	NA		--	--	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	12 / 12	0.14 - 1.5	NA		--	--	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	12 / 12	0.20 - 2.0	NA		--	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	11 / 12	0.19 - 0.77	NA		--	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	11 / 12	0.15 - 0.85	NA		--	--	-- [2]
86-74-8	Carbazole	mg/kg	2 / 12	0.13 - 0.29	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	12 / 12	0.14 - 1.5	NA		--	--	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	5 / 12	0.12 - 0.25	NA		--	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	1 / 12	-- - 0.19	NA		--	--	Y - NESV
206-44-0	Fluoranthene	mg/kg	12 / 12	0.21 - 2.8	NA		--	--	-- [2]
86-73-7	Fluorene	mg/kg	2 / 12	0.13 - 0.39	NA		--	--	-- [2]
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	11 / 12	0.17 - 0.83	NA		--	--	-- [2]
91-20-3	Naphthalene	mg/kg	1 / 12	-- - 0.14	NA		--	--	-- [2]
85-01-8	Phenanthrene	mg/kg	11 / 12	0.20 - 3.0	NA		--	--	-- [2]
129-00-0	Pyrene	mg/kg	12 / 12	0.23 - 3.1	NA		--	--	-- [2]
--	LMW PAHs [2]	mg/kg	12 / 12	0.0085 - 4.5	29	a	N	--	N
--	HMW PAHs [2]	mg/kg	12 / 12	0.92 - 15	18	a	N	--	N
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	12 / 12	0.0090 - 0.13	40	c	N	--	N
Metals									
7429-90-5	Aluminum	mg/kg	12 / 12	6,860 - 36,900	50	c	Y	738	Y - HQ>1
7440-38-2	Arsenic	mg/kg	12 / 12	2.4 - 13	18	a	N	--	N
7440-39-3	Barium	mg/kg	12 / 12	43 - 292	330	a	N	--	N
7440-41-7	Beryllium	mg/kg	8 / 12	0.50 - 1.3	40	a	N	--	N
7440-43-9	Cadmium	mg/kg	12 / 12	0.27 - 1.9	32	a	N	--	N
7440-70-2	Calcium	mg/kg	11 / 12	828 - 8,010	NA		--	--	N
7440-47-3	Chromium	mg/kg	12 / 12	13 - 73	0.4	b[4]	Y	182	Y - HQ>1
7440-48-4	Cobalt	mg/kg	12 / 12	4.9 - 21	13	a	Y	2	Y - HQ>1
7440-50-8	Copper	mg/kg	12 / 12	18 - 129	70	a	Y	2	Y - HQ>1
7439-89-6	Iron	mg/kg	12 / 12	11,000 - 49,500	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	12 / 12	44 - 262	120	a	Y	2	Y - HQ>1
7439-95-4	Magnesium	mg/kg	12 / 12	1,960 - 8,440	NA		--	--	N
7439-96-5	Manganese	mg/kg	12 / 12	191 - 1,150	220	a	Y	5	Y - HQ>1
7439-97-6	Mercury	mg/kg	12 / 12	0.11 - 4.5	0.1	b	Y	45	Y - HQ>1
7440-02-0	Nickel	mg/kg	12 / 12	8.9 - 39	38	a	Y	1	N
7440-09-7	Potassium	mg/kg	12 / 12	479 - 1,920	NA		--	--	N
7782-49-2	Selenium	mg/kg	5 / 12	0.19 - 0.56	0.52	a	Y	1	N
7440-22-4	Silver	mg/kg	3 / 12	0.61 - 3.0	560	a	N	--	N
7440-62-2	Vanadium	mg/kg	12 / 12	16 - 80	2.0	c	Y	40	Y - HQ>1
7440-66-6	Zinc	mg/kg	12 / 12	48 - 301	120	a	Y	3	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	4 / 12	0.15 - 1.0	NA		--	--	Y - NESV

Notes:

[1] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).

b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[3] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[4] Screening value for chromium $^{+3}$ based on exposure to soil invertebrates.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-10: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB1 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	27 / 27	0.00099 - 0.095	20	c	N	--	-- [2]
208-96-8	Acenaphthylene	mg/kg	27 / 27	0.0012 - 0.067	NA		--	--	-- [2]
98-86-2	Acetophenone	mg/kg	9 / 27	0.011 - 0.031	NA		--	--	Y - NESV
120-12-7	Anthracene	mg/kg	27 / 27	0.0021 - 0.33	NA		--	--	-- [2]
100-52-7	Benzaldehyde	mg/kg	10 / 27	0.0074 - 0.035	NA		--	--	Y - NESV
56-55-3	Benzo(a)anthracene	mg/kg	27 / 27	0.026 - 2.4	NA		--	--	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	27 / 27	0.035 - 2.6	NA		--	--	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	27 / 27	0.039 - 2.7	NA		--	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	27 / 27	0.016 - 1.8	NA		--	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	27 / 27	0.039 - 2.8	NA		--	--	-- [2]
85-68-7	Butyl benzyl phthalate	mg/kg	1 / 27	-- - 0.040	NA		--	--	Y - NESV
92-52-4	Biphenyl	mg/kg	10 / 27	0.0036 - 0.029	60	c	N	--	N
105-60-2	Caprolactam	mg/kg	3 / 27	0.019 - 0.025	NA		--	--	Y - NESV
86-74-8	Carbazole	mg/kg	23 / 27	0.0027 - 0.18	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	27 / 27	0.033 - 3.1	NA		--	--	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	27 / 27	0.0051 - 0.61	NA		--	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	17 / 27	0.0025 - 0.072	NA		--	--	Y - NESV
84-66-2	Diethyl phthalate	mg/kg	4 / 27	0.0021 - 0.12	100	c	N	--	N
131-11-3	Dimethyl phthalate	mg/kg	3 / 27	0.012 - 0.13	NA		--	--	Y - NESV
117-84-0	di-n-Octyl phthalate	mg/kg	4 / 25	0.012 - 0.12	NA		--	--	Y - NESV
206-44-0	Fluoranthene	mg/kg	27 / 27	0.049 - 4.6	NA		--	--	-- [2]
86-73-7	Fluorene	mg/kg	27 / 27	0.0011 - 0.14	NA		--	--	-- [2]
118-74-1	Hexachlorobenzene	mg/kg	2 / 27	0.017 - 0.028	NA		--	--	Y - NESV
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	27 / 27	0.016 - 1.6	NA		--	--	-- [2]
91-57-6	2-Methylnaphthalene	mg/kg	27 / 27	0.0019 - 0.14	NA		--	--	Y - NESV
106-44-5	4-Methylphenol	mg/kg	3 / 27	0.0037 - 0.0089	NA		--	--	Y - NESV
91-20-3	Naphthalene	mg/kg	8 / 27	0.015 - 0.12	NA		--	--	-- [2]
87-86-5	Pentachlorophenol	mg/kg	3 / 27	0.0017 - 0.0039	5.0	a	N	--	N
85-01-8	Phenanthrene	mg/kg	27 / 27	0.027 - 2.0	NA		--	--	-- [2]
108-95-2	Phenol	mg/kg	1 / 27	-- - 0.038	30	c	N	--	N
129-00-0	Pyrene	mg/kg	27 / 27	0.048 - 4.6	NA		--	--	-- [2]
--	LMW PAHs [2]	mg/kg	27 / 27	0.032 - 2.6	29	a	N	--	N
--	HMW PAHs [2]	mg/kg	27 / 27	0.31 - 27	18	a	Y	1	Y - HQ>1
Pesticides									
309-00-2	Aldrin	mg/kg	1 / 4	-- - 0.0014	0.00332	b	N	--	N
319-84-6	alpha-BHC	mg/kg	1 / 4	-- - 0.00069	NA		--	--	Y - NESV
58-89-9	gamma-BHC	mg/kg	1 / 4	-- - 0.00024	0.005	b	N	--	N
57-74-9	Chlordane, Total	mg/kg	3 / 4	0.0066 - 0.23	0.224	b	Y	1	N
60-57-1	Dieldrin	mg/kg	1 / 4	-- - 0.030	NA		--	--	Y - NESV
	Total DDx	mg/kg	4 / 4	0.0067 - 0.11	NA		--	--	Y - NESV
959-98-8	alpha-Endosulfan	mg/kg	1 / 4	-- - 0.00093	NA		--	--	Y - NESV
7421-93-4	Endrin aldehyde	mg/kg	1 / 4	-- - 0.0061	NA		--	--	Y - NESV
76-44-8	Heptachlor	mg/kg	1 / 4	-- - 0.00037	NA		--	--	Y - NESV
1024-57-3	Heptachlor epoxide	mg/kg	4 / 4	0.0011 - 0.032	NA		--	--	Y - NESV
72-43-5	Methoxychlor	mg/kg	1 / 4	-- - 0.0018	NA		--	--	Y - NESV
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	37 / 42	0.0079 - 3.7	40	c	N	--	N
Metals									
7429-90-5	Aluminum	mg/kg	27 / 27	6,590 - 27,050	50	c	Y	541	Y - HQ>1
7440-36-0	Antimony	mg/kg	7 / 27	0.18 - 1.7	78	a	N	--	N
7440-38-2	Arsenic	mg/kg	27 / 27	1.6 - 21	18	a	Y	1	N
7440-39-3	Barium	mg/kg	27 / 27	32 - 326	330	a	N	--	N
7440-41-7	Beryllium	mg/kg	23 / 27	0.089 - 1.5	40	a	N	--	N
7440-43-9	Cadmium	mg/kg	18 / 27	0.14 - 5.6	32	a	N	--	N
7440-70-2	Calcium	mg/kg	27 / 27	173 - 6,920	NA		--	--	N
7440-47-3	Chromium	mg/kg	27 / 27	10 - 128	0.4	b[4]	Y	320	Y - HQ>1
7440-48-4	Cobalt	mg/kg	27 / 27	2.5 - 28	13	a	Y	2	Y - HQ>1
7440-50-8	Copper	mg/kg	27 / 27	11 - 136	70	a	Y	2	Y - HQ>1
7439-89-6	Iron	mg/kg	27 / 27	10,100 - 73,750	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	27 / 27	16 - 286	120	a	Y	2	Y - HQ>1
7439-95-4	Magnesium	mg/kg	27 / 27	1,300 - 5,460	NA		--	--	N
7439-96-5	Manganese	mg/kg	27 / 27	94 - 1,960	220	a	Y	9	Y - HQ>1
7439-97-6	Mercury	mg/kg	20 / 27	0.043 - 0.44	0.1	b	Y	4	Y - HQ>1
7440-02-0	Nickel	mg/kg	27 / 27	6.7 - 34	38	a	N	--	N
7440-09-7	Potassium	mg/kg	17 / 27	383 - 1,510	NA		--	--	N
7782-49-2	Selenium	mg/kg	14 / 27	0.76 - 4.1	0.52	a	Y	8	Y - HQ>1
7440-22-4	Silver	mg/kg	23 / 27	0.86 - 5.0	560	a	N	--	N
7440-23-5	Sodium	mg/kg	22 / 27	117 - 794	NA		--	--	N
7440-62-2	Vanadium	mg/kg	27 / 27	16 - 152	2.0	c	Y	76	Y - HQ>1
7440-66-6	Zinc	mg/kg	27 / 27	25 - 340	120	a	Y	3	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	20 / 27	0.20 - 4.0	NA		--	--	Y - NESV

Notes:

[1] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).

b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[3] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[4] Screening value for chromium $^{+3}$ based on exposure to soil invertebrates.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-11: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB2 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	1 / 1	-- - 0.0059	NA		--	--	Y - NESV
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	2 / 2	0.0082 - 0.010	20	c	N	--	-- [2]
208-96-8	Acenaphthylene	mg/kg	2 / 2	0.013 - 0.024	NA		--	--	-- [2]
120-12-7	Anthracene	mg/kg	2 / 2	0.025 - 0.027	NA		--	--	-- [2]
56-55-3	Benzo(a)anthracene	mg/kg	2 / 2	0.23 - 0.29	NA		--	--	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	2 / 2	0.24 - 0.33	NA		--	--	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	2 / 2	0.37 - 0.41	NA		--	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	2 / 2	0.17 - 0.25	NA		--	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	2 / 2	0.30 - 0.30	NA		--	--	-- [2]
92-52-4	Biphenyl	mg/kg	2 / 2	0.0034 - 0.027	60	c	N	--	N
86-74-8	Carbazole	mg/kg	2 / 2	0.022 - 0.025	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	2 / 2	0.35 - 0.39	NA		--	--	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	2 / 2	0.063 - 0.077	NA		--	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	2 / 2	0.010 - 0.060	NA		--	--	Y - NESV
84-66-2	Diethyl phthalate	mg/kg	1 / 2	-- - 0.0029	100	c	N	--	N
206-44-0	Fluoranthene	mg/kg	2 / 2	0.35 - 0.44	NA		--	--	-- [2]
86-73-7	Fluorene	mg/kg	2 / 2	0.012 - 0.012	NA		--	--	-- [2]
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	2 / 2	0.17 - 0.23	NA		--	--	-- [2]
91-20-3	Naphthalene	mg/kg	1 / 2	-- - 0.10	NA		--	--	-- [2]
87-86-5	Pentachlorophenol	mg/kg	1 / 2	-- - 0.0023	5.0	a	N	--	N
85-01-8	Phenanthrene	mg/kg	2 / 2	0.24 - 0.29	NA		--	--	-- [2]
129-00-0	Pyrene	mg/kg	2 / 2	0.31 - 0.58	NA		--	--	-- [2]
--	LMW PAHs [2]	mg/kg	2 / 2	0.30 - 0.46	29	a	N	--	N
--	HMW PAHs [2]	mg/kg	2 / 2	2.6 - 3.2	18	a	N	--	N
Pesticides									
319-84-6	alpha-BHC	mg/kg	1 / 1	-- - 0.00025	NA		--	--	Y - NESV
1031-07-8	Endosulfan sulfate	mg/kg	1 / 1	-- - 0.0055	NA		--	--	Y - NESV
72-20-8	Endrin	mg/kg	1 / 1	-- - 0.0072	NA		--	--	Y - NESV
1024-57-3	Heptachlor epoxide	mg/kg	1 / 1	-- - 0.0052	NA		--	--	Y - NESV
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	1 / 2	-- - 0.75	40	c	N	--	N
Metals									
7429-90-5	Aluminum	mg/kg	2 / 2	8,580 - 13,100	50	c	Y	262	Y - HQ>1
7440-38-2	Arsenic	mg/kg	2 / 2	6.8 - 12	18	a	N	--	N
7440-39-3	Barium	mg/kg	2 / 2	82 - 100	330	a	N	--	N
7440-41-7	Beryllium	mg/kg	2 / 2	0.38 - 0.61	40	a	N	--	N
7440-43-9	Cadmium	mg/kg	1 / 2	-- - 0.55	32	a	N	--	N
7440-70-2	Calcium	mg/kg	2 / 2	692 - 1,360	NA		--	--	N
7440-47-3	Chromium	mg/kg	2 / 2	14 - 25	0.4	b[4]	Y	61	Y - HQ>1
7440-48-4	Cobalt	mg/kg	2 / 2	5.1 - 5.6	13	a	N	--	N
7440-50-8	Copper	mg/kg	2 / 2	31 - 38	70	a	N	--	N
7439-89-6	Iron	mg/kg	2 / 2	12,400 - 15,800	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	2 / 2	44 - 85	120	a	N	--	N
7439-95-4	Magnesium	mg/kg	2 / 2	1,790 - 2,260	NA		--	--	N
7439-96-5	Manganese	mg/kg	2 / 2	273 - 492	220	a	Y	2	Y - HQ>1
7439-97-6	Mercury	mg/kg	2 / 2	0.062 - 0.12	0.1	b	Y	1	N
7440-02-0	Nickel	mg/kg	2 / 2	11 - 13	38	a	N	--	N
7440-09-7	Potassium	mg/kg	2 / 2	554 - 562	NA		--	--	N
7782-49-2	Selenium	mg/kg	1 / 2	-- - 1.9	0.52	a	Y	4	Y - HQ>1
7440-22-4	Silver	mg/kg	2 / 2	1.1 - 1.9	560	a	N	--	N
7440-23-5	Sodium	mg/kg	2 / 2	161 - 198	NA		--	--	N
7440-62-2	Vanadium	mg/kg	2 / 2	19 - 28	2.0	c	Y	14	Y - HQ>1
7440-66-6	Zinc	mg/kg	2 / 2	54 - 62	120	a	N	--	N
Other									
57-12-5	Cyanide	mg/kg	2 / 2	0.11 - 0.43	NA		--	--	Y - NESV

Notes:

[1] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).

b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[3] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[4] Screening value for chromium $^{+3}$ based on exposure to soil invertebrates.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-12: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB3 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number		Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	4 / 9	0.31 - 0.71	NA		--	--	Y - NESV
78-93-3	Methyl ethyl ketone	mg/kg	1 / 9	-- - 0.012	NA		--	--	Y - NESV
75-09-2	Methylene chloride	mg/kg	1 / 9	-- - 0.040	NA		--	--	Y - NESV
71-55-6	1,1,1-Trichloroethane	mg/kg	1 / 9	-- - 0.0030	NA		--	--	Y - NESV
75-69-4	Trichlorofluoromethane	mg/kg	6 / 9	0.010 - 0.020	NA		--	--	Y - NESV
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	19 / 24	0.0019 - 0.70	20	c	N	--	-- [2]
208-96-8	Acenaphthylene	mg/kg	16 / 24	0.0032 - 0.30	NA		--	--	-- [2]
98-86-2	Acetophenone	mg/kg	1 / 24	-- - 0.011	NA		--	--	Y - NESV
120-12-7	Anthracene	mg/kg	20 / 24	0.0033 - 1.1	NA		--	--	-- [2]
56-55-3	Benzo(a)anthracene	mg/kg	24 / 24	0.0010 - 4.9	NA		--	--	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	24 / 24	0.0051 - 4.5	NA		--	--	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	24 / 24	0.0028 - 6.6	NA		--	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	23 / 24	0.0012 - 2.8	NA		--	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	23 / 24	0.0018 - 5.3	NA		--	--	-- [2]
85-68-7	Butyl benzyl phthalate	mg/kg	4 / 22	0.064 - 1.8	NA		--	--	Y - NESV
92-52-4	Biphenyl	mg/kg	9 / 18	0.0033 - 0.029	60	c	N	--	N
111-44-4	bis(2-Chloroethyl) ether	mg/kg	1 / 24	-- - 0.0022	NA		--	--	Y - NESV
108-60-1	bis(2-Chloroisopropyl) ether	mg/kg	1 / 24	-- - 1.0	NA		--	--	Y - NESV
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	5 / 24	0.47 - 54	NA		--	--	Y - NESV
86-74-8	Carbazole	mg/kg	14 / 18	0.016 - 0.76	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	24 / 24	0.0017 - 4.7	NA		--	--	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	16 / 24	0.073 - 1.1	NA		--	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	12 / 24	0.0048 - 0.28	NA		--	--	Y - NESV
84-66-2	Diethyl phthalate	mg/kg	3 / 24	0.0030 - 0.20	100	c	N	--	N
131-11-3	Dimethyl phthalate	mg/kg	1 / 24	-- - 0.069	NA		--	--	Y - NESV
84-74-2	di-n-Butyl phthalate	mg/kg	3 / 24	0.069 - 1.7	200	c	N	--	N
117-84-0	di-n-Octyl phthalate	mg/kg	2 / 20	0.12 - 0.55	NA		--	--	Y - NESV
206-44-0	Fluoranthene	mg/kg	24 / 24	0.0015 - 9.7	NA		--	--	-- [2]
86-73-7	Fluorene	mg/kg	19 / 24	0.0024 - 0.43	NA		--	--	-- [2]
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	24 / 24	0.0008 - 3.3	NA		--	--	-- [2]
106-44-5	4-Methylphenol	mg/kg	7 / 24	0.0039 - 0.82	NA		--	--	Y - NESV
91-20-3	Naphthalene	mg/kg	16 / 24	0.0072 - 0.21	NA		--	--	-- [2]
87-86-5	Pentachlorophenol	mg/kg	3 / 24	0.0049 - 0.023	5.0	a	N	--	N
85-01-8	Phenanthrene	mg/kg	24 / 24	0.00048 - 7.6	NA		--	--	-- [2]
108-95-2	Phenol	mg/kg	1 / 24	-- - 0.0070	30	c	N	--	N
129-00-0	Pyrene	mg/kg	23 / 24	0.0049 - 8.8	NA		--	--	-- [2]
--	LMW PAHs [2]	mg/kg	24 / 24	0.00048 - 9.4	29	a	N	--	N
--	HMW PAHs [2]	mg/kg	24 / 24	0.021 - 46	18	a	Y	3	Y - HQ>1
Pesticides									
309-00-2	Aldrin	mg/kg	1 / 9	-- - 0.0017	0.00332	b	N	--	N
319-84-6	alpha-BHC	mg/kg	2 / 9	0.0011 - 0.0030	NA		--	--	Y - NESV
319-85-7	beta-BHC	mg/kg	1 / 8	-- - 0.0020	0.00398	b	N	--	N
57-74-9	Chlordane, Total	mg/kg	2 / 9	0.024 - 0.0350	0.224	b	N	--	N
60-57-1	Dieldrin	mg/kg	1 / 9	-- - 0.026	NA		--	--	Y - NESV
	Total DDx	mg/kg	5 / 9	-- - 0.10	NA		--	--	Y - NESV
33213-65-9	beta-Endosulfan	mg/kg	1 / 9	-- - 0.014	NA		--	--	Y - NESV
72-20-8	Endrin	mg/kg	2 / 9	0.0049 - 0.013	NA		--	--	Y - NESV
7421-93-4	Endrin aldehyde	mg/kg	2 / 9	0.0087 - 0.010	NA		--	--	Y - NESV
53494-70-5	Endrin ketone	mg/kg	2 / 9	0.0044 - 0.0058	NA		--	--	Y - NESV
76-44-8	Heptachlor	mg/kg	2 / 9	0.0014 - 0.020	NA		--	--	Y - NESV
1024-57-3	Heptachlor epoxide	mg/kg	1 / 8	-- - 0.0065	NA		--	--	Y - NESV
72-43-5	Methoxychlor	mg/kg	1 / 8	-- - 0.020	NA		--	--	Y - NESV
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	115 / 132	0.0062 - 14	40	c	N	--	N
Metals									
7429-90-5	Aluminum	mg/kg	24 / 24	4,100 - 21,400	50	c	Y	428	Y - HQ>1
7440-36-0	Antimony	mg/kg	9 / 24	11 - 42	78	a	N	--	N
7440-38-2	Arsenic	mg/kg	24 / 24	1.0 - 39	18	a	Y	2	Y - HQ>1
7440-39-3	Barium	mg/kg	24 / 24	52 - 1,200	330	a	Y	4	Y - HQ>1
7440-41-7	Beryllium	mg/kg	18 / 24	0.090 - 0.78	40	a	N	--	N
7440-43-9	Cadmium	mg/kg	16 / 24	1.0 - 14	32	a	N	--	N
7440-70-2	Calcium	mg/kg	24 / 24	309 - 18,200	NA		--	--	N
7440-47-3	Chromium	mg/kg	24 / 24	8.6 - 242	0.4	b[4]	Y	605	Y - HQ>1
7440-48-4	Cobalt	mg/kg	24 / 24	3.0 - 34	13	a	Y	3	Y - HQ>1
7440-50-8	Copper	mg/kg	24 / 24	3.9 - 12,000	70	a	Y	171	Y - HQ>1
7439-89-6	Iron	mg/kg	24 / 24	8,600 - 282,000	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	24 / 24	10 - 9,950	120	a	Y	83	Y - HQ>1
7439-95-4	Magnesium	mg/kg	24 / 24	628 - 4,230	NA		--	--	N
7439-96-5	Manganese	mg/kg	24 / 24	56 - 1,390	220	a	Y	6	Y - HQ>1
7439-97-6	Mercury	mg/kg	24 / 24	0.020 - 5.7	0.1	b	Y	57	Y - HQ>1
7440-02-0	Nickel	mg/kg	24 / 24	6.7 - 235	38	a	Y	6	Y - HQ>1
7440-09-7	Potassium	mg/kg	24 / 24	279 - 1,620	NA		--	--	N
7782-49-2	Selenium	mg/kg	14 / 24	0.071 - 9.2	0.52	a	Y	18	Y - HQ>1
7440-22-4	Silver	mg/kg	21 / 24	0.48 - 28	560	a	N	--	N
7440-23-5	Sodium	mg/kg	24 / 24	99 - 319	NA		--	--	N
7440-28-0	Thallium	mg/kg	4 / 24	1.2 - 4.0	1.0	c	Y	4	Y - HQ>1
7440-62-2	Vanadium	mg/kg	23 / 24	13 - 40	2.0	c	Y	20	Y - HQ>1
7440-66-6	Zinc	mg/kg	24 / 24	20 - 3,680	120	a	Y	31	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	17 / 18	0.067 - 2.6	NA		--	--	Y - NESV

Notes:

[1] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[3] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[4] Screening value for chromium $^{+3}$ based on exposure to soil invertebrates.
NA = Not Available
Y - NESV = Chemical selected as a COPEC because no ESV available.
Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-13: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB4 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	12 / 55	0.04 - 0.56	NA		--	--	Y - NESV
75-15-0	Carbon disulfide	mg/kg	2 / 55	0.0041 - 0.0059	NA		--	--	Y - NESV
56-23-5	Carbon tetrachloride	mg/kg	1 / 50	-- - 0.01	NA		--	--	Y - NESV
67-66-3	Chloroform	mg/kg	1 / 55	-- - 0.0011	NA		--	--	Y - NESV
74-87-3	Chloromethane	mg/kg	1 / 55	-- - 0.0046	NA		--	--	Y - NESV
110-82-7	Cyclohexane	mg/kg	3 / 38	0.0012 - 0.002	NA		--	--	Y - NESV
75-34-3	1,1-Dichloroethane	mg/kg	1 / 43	-- - 0.0041	NA		--	--	Y - NESV
75-35-4	1,1-Dichloroethene	mg/kg	4 / 55	0.00066 - 0.0011	NA		--	--	Y - NESV
156-59-2	cis-1,2-Dichloroethene	mg/kg	2 / 55	0.00094 - 0.0023	NA		--	--	Y - NESV
10061-01-5	cis-1,3-Dichloropropene	mg/kg	2 / 50	0.0012 - 0.0038	NA		--	--	Y - NESV
10061-02-6	trans-1,3-Dichloropropene	mg/kg	2 / 50	0.0009 - 0.0025	NA		--	--	Y - NESV
100-41-4	Ethylbenzene	mg/kg	2 / 50	0.002 - 0.011	NA		--	--	Y - NESV
591-78-6	2-Hexanone	mg/kg	10 / 48	0.0072 - 0.16	NA		--	--	Y - NESV
79-20-9	Methyl acetate	mg/kg	1 / 43	-- - 0.0086	NA		--	--	Y - NESV
78-93-3	Methyl ethyl ketone	mg/kg	19 / 55	0.0094 - 0.22	NA		--	--	Y - NESV
108-10-1	Methyl isobutyl ketone	mg/kg	5 / 49	0.001 - 0.0027	NA		--	--	Y - NESV
108-87-2	Methylcyclohexane	mg/kg	1 / 39	-- - 0.0042	NA		--	--	Y - NESV
75-09-2	Methylene chloride	mg/kg	5 / 55	0.03 - 0.05	NA		--	--	Y - NESV
100-42-5	Styrene	mg/kg	1 / 50	-- - 0.014	300	c	N	--	N
108-88-3	Toluene	mg/kg	7 / 51	0.0012 - 0.053	200	c	N	--	N
71-55-6	1,1,1-Trichloroethane	mg/kg	1 / 50	-- - 0.01	NA		--	--	Y - NESV
75-69-4	Trichlorofluoromethane	mg/kg	7 / 55	0.01 - 0.02	NA		--	--	Y - NESV
179601-23-1	m, p Xylenes	mg/kg	5 / 50	0.002 - 0.045	10	b[4]	N	--	N
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	8 / 59	0.0035 - 0.34	20	c	N	--	-- [2]
208-96-8	Acenaphthylene	mg/kg	12 / 59	0.001 - 0.67	NA		--	--	-- [2]
120-12-7	Anthracene	mg/kg	25 / 59	0.0078 - 0.76	NA		--	--	-- [2]
56-55-3	Benzo(a)anthracene	mg/kg	49 / 59	0.04 - 6.4	NA		--	--	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	50 / 59	0.023 - 6.2	NA		--	--	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	52 / 59	0.022 - 9.9	NA		--	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	48 / 59	0.019 - 3.6	NA		--	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	46 / 59	0.032 - 2.2	NA		--	--	-- [2]
85-68-7	Butyl benzyl phthalate	mg/kg	33 / 59	0.063 - 36	NA		--	--	Y - NESV
92-52-4	Biphenyl	mg/kg	1 / 47	-- - 0.13	60	c	N	--	N
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	36 / 59	0.035 - 25	NA		--	--	Y - NESV
86-74-8	Carbazole	mg/kg	3 / 47	0.06 - 0.25	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	51 / 59	0.024 - 8.5	NA		--	--	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	7 / 59	0.033 - 1.6	NA		--	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	2 / 59	0.083 - 0.22	NA		--	--	Y - NESV
91-94-1	3,3'-Dichlorobenzidine	mg/kg	1 / 57	-- - 0.17	NA		--	--	Y - NESV
84-74-2	di-n-Butyl phthalate	mg/kg	11 / 59	0.02 - 2.3	200	c	N	--	N
117-84-0	di-n-Octyl phthalate	mg/kg	8 / 58	0.089 - 1.2	NA		--	--	Y - NESV
206-44-0	Fluoranthene	mg/kg	52 / 59	0.026 - 11	NA		--	--	-- [2]
86-73-7	Fluorene	mg/kg	7 / 59	0.0032 - 0.41	NA		--	--	-- [2]
118-74-1	Hexachlorobenzene	mg/kg	2 / 58	0.079 - 0.26	NA		--	--	Y - NESV
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	46 / 59	0.036 - 3.7	NA		--	--	-- [2]
91-57-6	2-Methylnaphthalene	mg/kg	12 / 59	0.0069 - 0.51	NA		--	--	Y - NESV
106-44-5	4-Methylphenol	mg/kg	1 / 59	-- - 0.34	NA		--	--	Y - NESV
91-20-3	Naphthalene	mg/kg	14 / 59	0.0061 - 0.37	NA		--	--	-- [2]
100-01-6	4-Nitroaniline	mg/kg	1 / 59	-- - 8.7	NA		--	--	Y - NESV
85-01-8	Phenanthrene	mg/kg	44 / 59	0.04 - 5.7	NA		--	--	-- [2]
129-00-0	Pyrene	mg/kg	51 / 59	0.028 - 11	NA		--	--	-- [2]
--	LMW PAHs [2]	mg/kg	44 / 59	0.040 - 8.0	29	a	N	--	N
--	HMW PAHs [2]	mg/kg	52 / 59	0.080 - 62	18	a	Y	3	Y - HQ>1
Pesticides									
309-00-2	Aldrin	mg/kg	10 / 46	0.000042 - 0.041	0.00332	b	Y	12	Y - HQ>1
319-84-6	alpha-BHC	mg/kg	7 / 55	0.00004 - 0.00093	NA		--	--	Y - NESV
319-85-7	beta-BHC	mg/kg	2 / 55	0.00032 - 0.00058	0.00398	b	N	--	N
319-86-8	delta-BHC	mg/kg	10 / 55	0.000038 - 0.056	NA		--	--	Y - NESV
58-89-9	gamma-BHC	mg/kg	8 / 55	0.00011 - 0.01	0.005	b	Y	3	Y - HQ>1
57-74-9	Chlordane, Total	mg/kg	34 / 55	0.00049 - 1.1	0.224	b	Y	5	Y - HQ>1
60-57-1	Dieldrin	mg/kg	34 / 55	0.002 - 2.4	NA		--	--	Y - NESV
Total DDT	Total DDx	mg/kg	40 / 55	0.0037 - 2.0	NA		--	--	Y - NESV
959-98-8	alpha-Endosulfan	mg/kg	8 / 54	0.00013 - 0.082	NA		--	--	Y - NESV
33213-65-9	beta-Endosulfan	mg/kg	8 / 44	0.0087 - 0.59	NA		--	--	Y - NESV
1031-07-8	Endosulfan sulfate	mg/kg	6 / 53	0.00038 - 0.022	NA		--	--	Y - NESV
72-20-8	Endrin	mg/kg	3 / 39	0.0022 - 0.01	NA		--	--	Y - NESV
7421-93-4	Endrin aldehyde	mg/kg	18 / 54	0.00027 - 0.13	NA		--	--	Y - NESV
53494-70-5	Endrin ketone	mg/kg	2 / 40	0.017 - 0.065	NA		--	--	Y - NESV
76-44-8	Heptachlor	mg/kg	1 / 55	-- - 0.017	NA		--	--	Y - NESV
1024-57-3	Heptachlor epoxide	mg/kg	7 / 52	0.00018 - 0.0062	NA		--	--	Y - NESV
72-43-5	Methoxychlor	mg/kg	8 / 55	0.0023 - 0.043	NA		--	--	Y - NESV

Table G-13: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB4 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	285 / 305	0.027 - 80	40	c	Y	2	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	59 / 59	1,430 - 30,000	50	c	Y	600	Y - HQ>1
7440-36-0	Antimony	mg/kg	13 / 59	1.2 - 4.0	78	a	N	--	N
7440-38-2	Arsenic	mg/kg	54 / 59	1.4 - 33	18	a	Y	2	Y - HQ>1
7440-39-3	Barium	mg/kg	59 / 59	11 - 1,210	330	a	Y	4	Y - HQ>1
7440-41-7	Beryllium	mg/kg	21 / 59	0.48 - 2.3	40	a	N	--	N
7440-43-9	Cadmium	mg/kg	45 / 59	1.1 - 38	32	a	Y	1	N
7440-70-2	Calcium	mg/kg	58 / 59	570 - 23,000	NA		--	--	N
7440-47-3	Chromium	mg/kg	55 / 59	2.5 - 304	0.4	b[5]	Y	760	Y - HQ>1
7440-48-4	Cobalt	mg/kg	54 / 59	1.2 - 24	13	a	Y	2	Y - HQ>1
7440-50-8	Copper	mg/kg	58 / 59	3.2 - 520	70	a	Y	7	Y - HQ>1
7439-89-6	Iron	mg/kg	59 / 59	1,970 - 75,900	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	59 / 59	1.9 - 1,245	120	a	Y	10	Y - HQ>1
7439-95-4	Magnesium	mg/kg	59 / 59	261 - 6,200	NA		--	--	N
7439-96-5	Manganese	mg/kg	59 / 59	12 - 1,800	220	a	Y	8	Y - HQ>1
7439-97-6	Mercury	mg/kg	54 / 59	0.028 - 1.1	0.1	b	Y	11	Y - HQ>1
7440-02-0	Nickel	mg/kg	59 / 59	1.2 - 72	38	a	Y	2	Y - HQ>1
7440-09-7	Potassium	mg/kg	36 / 59	203 - 1,790	NA		--	--	N
7782-49-2	Selenium	mg/kg	13 / 43	0.20 - 5.0	0.52	a	Y	10	Y - HQ>1
7440-22-4	Silver	mg/kg	42 / 59	1.2 - 63	560	a	N	--	N
7440-23-5	Sodium	mg/kg	18 / 59	63 - 457	NA		--	--	N
7440-28-0	Thallium	mg/kg	1 / 59	-- - 0.60	1.0	c	N	--	N
7440-62-2	Vanadium	mg/kg	55 / 59	5.0 - 95	2.0	c	Y	48	Y - HQ>1
7440-66-6	Zinc	mg/kg	59 / 59	5.0 - 570	120	a	Y	5	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	14 / 47	0.067 - 0.85	NA		--	--	Y - NESV

Notes:

[1] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).

b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[3] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[4] Screening value for total xylenes based on exposure to plants.

[5] Screening value for chromium $^{+3}$ based on exposure to soil invertebrates.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-14: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB5 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	8 / 18	0.058 - 0.4	NA		--	--	Y - NESV
110-82-7	Cyclohexane	mg/kg	1 / 10	-- - 0.015	NA		--	--	Y - NESV
156-59-2	cis-1,2-Dichloroethene	mg/kg	2 / 19	0.1 - 22	NA		--	--	Y - NESV
156-60-5	trans-1,2-Dichloroethene	mg/kg	2 / 19	0.012 - 0.97	NA		--	--	Y - NESV
100-41-4	Ethylbenzene	mg/kg	1 / 18	-- - 0.002	NA		--	--	Y - NESV
78-93-3	Methyl ethyl ketone	mg/kg	1 / 19	-- - 0.003	NA		--	--	Y - NESV
108-10-1	Methyl isobutyl ketone	mg/kg	1 / 18	-- - 0.0011	NA		--	--	Y - NESV
75-09-2	Methylene chloride	mg/kg	1 / 18	-- - 1.7	NA		--	--	Y - NESV
108-88-3	Toluene	mg/kg	1 / 17	-- - 0.005	200	c	N	--	N
75-69-4	Trichlorofluoromethane	mg/kg	8 / 18	0.003 - 0.05	NA		--	--	Y - NESV
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	10 / 21	0.012 - 0.84	20	c	N	--	-- [2]
208-96-8	Acenaphthylene	mg/kg	9 / 21	0.016 - 0.96	NA		--	--	-- [2]
98-86-2	Acetophenone	mg/kg	5 / 21	0.13 - 0.29	NA		--	--	Y - NESV
120-12-7	Anthracene	mg/kg	12 / 21	0.026 - 2.3	NA		--	--	-- [2]
100-52-7	Benzaldehyde	mg/kg	6 / 13	0.03 - 0.95	NA		--	--	Y - NESV
56-55-3	Benzo(a)anthracene	mg/kg	17 / 21	0.039 - 9.5	NA		--	--	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	19 / 21	0.02 - 9.7	NA		--	--	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	20 / 21	0.026 - 15	NA		--	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	16 / 21	0.027 - 6.4	NA		--	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	15 / 21	0.01 - 4.2	NA		--	--	-- [2]
85-68-7	Butyl benzyl phthalate	mg/kg	19 / 21	0.05 - 25	NA		--	--	Y - NESV
92-52-4	Biphenyl	mg/kg	6 / 13	0.008 - 0.099	60	c	N	--	N
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	13 / 21	0.23 - 110	NA		--	--	Y - NESV
86-74-8	Carbazole	mg/kg	6 / 13	0.038 - 0.33	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	19 / 21	0.023 - 11	NA		--	--	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	7 / 21	0.092 - 1.0	NA		--	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	13 / 21	0.038 - 0.66	NA		--	--	Y - NESV
84-66-2	Diethyl phthalate	mg/kg	3 / 21	0.0066 - 78	100	c	N	--	N
131-11-3	Dimethyl phthalate	mg/kg	3 / 21	0.031 - 3.6	NA		--	--	Y - NESV
84-74-2	di-n-Butyl phthalate	mg/kg	8 / 21	0.024 - 2.3	200	c	N	--	N
117-84-0	di-n-Octyl phthalate	mg/kg	7 / 21	0.027 - 7.8	NA		--	--	Y - NESV
206-44-0	Fluoranthene	mg/kg	20 / 21	0.024 - 12	NA		--	--	-- [2]
86-73-7	Fluorene	mg/kg	10 / 21	0.021 - 0.89	NA		--	--	-- [2]
118-74-1	Hexachlorobenzene	mg/kg	2 / 21	0.007 - 0.014	NA		--	--	Y - NESV
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	16 / 21	0.033 - 6.0	NA		--	--	-- [2]
91-57-6	2-Methylnaphthalene	mg/kg	13 / 21	0.022 - 1.7	NA		--	--	Y - NESV
106-44-5	4-Methylphenol	mg/kg	5 / 21	0.0054 - 0.24	NA		--	--	Y - NESV
91-20-3	Naphthalene	mg/kg	12 / 21	0.017 - 1.2	NA		--	--	-- [2]
87-86-5	Pentachlorophenol	mg/kg	2 / 21	0.001 - 0.0045	5.0	a	N	--	N
85-01-8	Phenanthrene	mg/kg	16 / 21	0.04 - 9.4	NA		--	--	-- [2]
108-95-2	Phenol	mg/kg	3 / 21	0.02 - 0.46	30	c	N	--	N
129-00-0	Pyrene	mg/kg	20 / 21	0.023 - 16	NA		--	--	-- [2]
120-82-1	1,2,4-Trichlorobenzene	mg/kg	5 / 14	0.12 - 3.2	20	c	N	--	N
--	LMW PAHs [2]	mg/kg	16 / 21	0.04 - 14	29	a	N	--	N
--	HMW PAHs [2]	mg/kg	21 / 21	0.047 - 90	18	a	Y	5	Y - HQ>1
Pesticides									
309-00-2	Aldrin	mg/kg	1 / 19	-- - 0.00078	0.00332	b	N	--	N
319-84-6	alpha-BHC	mg/kg	2 / 19	0.000 - 0.000047	NA		--	--	Y - NESV
319-85-7	beta-BHC	mg/kg	3 / 19	0.000 - 0.00031	0.00398	b	N	--	N
58-89-9	gamma-BHC	mg/kg	2 / 19	0.000 - 0.0004	0.005	b	N	--	N
57-74-9	Chlordane, Total	mg/kg	7 / 19	0.0014 - 0.55	0.224	b	Y	2	Y - HQ>1
60-57-1	Dieldrin	mg/kg	9 / 18	0.003 - 16	NA		--	--	Y - NESV
Total DDT	Total DDx	mg/kg	10 / 19	0.012 - 56	NA		--	--	Y - NESV
959-98-8	alpha-Endosulfan	mg/kg	1 / 19	-- - 0.0043	NA		--	--	Y - NESV
33213-65-9	beta-Endosulfan	mg/kg	2 / 14	0.003 - 0.0087	NA		--	--	Y - NESV
1031-07-8	Endosulfan sulfate	mg/kg	2 / 19	0.000 - 0.0019	NA		--	--	Y - NESV
7421-93-4	Endrin aldehyde	mg/kg	6 / 19	0.001 - 5.2	NA		--	--	Y - NESV
1024-57-3	Heptachlor epoxide	mg/kg	7 / 19	0.000 - 12	NA		--	--	Y - NESV
72-43-5	Methoxychlor	mg/kg	2 / 19	0.001 - 0.0016	NA		--	--	Y - NESV
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	366 / 437	0.011 - 924	40	c	Y	23	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	21 / 21	2,200 - 35,800	50	c	Y	716	Y - HQ>1
7440-36-0	Antimony	mg/kg	12 / 21	0.140 - 19	78	a	N	--	N
7440-38-2	Arsenic	mg/kg	21 / 21	2.8 - 38	18	a	Y	2	Y - HQ>1
7440-39-3	Barium	mg/kg	21 / 21	46 - 1,500	330	a	Y	5	Y - HQ>1
7440-41-7	Beryllium	mg/kg	16 / 21	0.250 - 11	40	a	N	--	N
7440-43-9	Cadmium	mg/kg	16 / 21	1.4 - 40.2	32	a	Y	1	N
7440-70-2	Calcium	mg/kg	20 / 21	218 - 8,600	NA		--	--	N
7440-47-3	Chromium	mg/kg	21 / 21	7.7 - 78	0.4	b[4]	Y	194	Y - HQ>1
7440-48-4	Cobalt	mg/kg	21 / 21	2.1 - 30	13	a	Y	2	Y - HQ>1
7440-50-8	Copper	mg/kg	18 / 21	12 - 960	70	a	Y	14	Y - HQ>1
7439-89-6	Iron	mg/kg	21 / 21	6,500 - 88,000	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	21 / 21	26 - 1,000	120	a	Y	8	Y - HQ>1
7439-95-4	Magnesium	mg/kg	21 / 21	250 - 5,730	NA		--	--	N
7439-96-5	Manganese	mg/kg	18 / 21	38 - 1,050	220	a	Y	5	Y - HQ>1
7439-97-6	Mercury	mg/kg	19 / 21	0.125 - 1.5	0.1	b	Y	15	Y - HQ>1
7440-02-0	Nickel	mg/kg	21 / 21	7.2 - 93	38	a	Y	2	Y - HQ>1
7440-09-7	Potassium	mg/kg	19 / 21	179 - 1,430	NA		--	--	N
7782-49-2	Selenium	mg/kg	14 / 21	1.6 - 7.9	0.52	a	Y	15	Y - HQ>1
7440-22-4	Silver	mg/kg	16 / 21	2.2 - 14	560	a	N	--	N
7440-23-5	Sodium	mg/kg	15 / 21	80 - 774	NA		--	--	N
7440-28-0	Thallium	mg/kg	1 / 21	-- - 1.2	1.0	c	Y	1	N
7440-62-2	Vanadium	mg/kg	21 / 21	13 - 88	2.0	c	Y	44	Y - HQ>1
7440-66-6	Zinc	mg/kg	21 / 21	31 - 1,000	120	a	Y	8	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	2 / 13	0.58 - 0.70	NA		--	--	Y - NESV

Notes:

[1] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).

b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[3] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[4] Screening value for chromium $^{+3}$ based on exposure to soil invertebrates.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-15: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB6 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number		Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
78-93-3	Methyl ethyl ketone	mg/kg	1 / 2	-- - 0.0048	NA		--	--	Y - NESV
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	6 / 6	0.0014 - 0.10	20	c	N	--	-- [2]
208-96-8	Acenaphthylene	mg/kg	5 / 6	0.0018 - 0.017	NA		--	--	-- [2]
98-86-2	Acetophenone	mg/kg	2 / 6	0.0076 - 0.0080	NA		--	--	Y - NESV
120-12-7	Anthracene	mg/kg	6 / 6	0.0026 - 0.43	NA		--	--	-- [2]
100-52-7	Benzaldehyde	mg/kg	2 / 6	0.0088 - 0.014	NA		--	--	Y - NESV
56-55-3	Benzo(a)anthracene	mg/kg	6 / 6	0.027 - 2.0	NA		--	--	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	5 / 6	0.13 - 1.9	NA		--	--	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	6 / 6	0.060 - 2.3	NA		--	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	5 / 6	0.097 - 1.0	NA		--	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	5 / 6	0.076 - 0.90	NA		--	--	-- [2]
85-68-7	Butyl benzyl phthalate	mg/kg	4 / 6	0.041 - 0.16	NA		--	--	Y - NESV
92-52-4	Biphenyl	mg/kg	1 / 6	-- - 0.0038	60	c	N	--	N
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	4 / 6	0.16 - 6.1	NA		--	--	Y - NESV
86-74-8	Carbazole	mg/kg	2 / 6	0.0053 - 0.039	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	6 / 6	0.056 - 1.9	NA		--	--	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	5 / 6	0.035 - 0.30	NA		--	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	1 / 6	-- - 0.019	NA		--	--	Y - NESV
117-84-0	di-n-Octyl phthalate	mg/kg	2 / 6	0.055 - 0.16	NA		--	--	Y - NESV
206-44-0	Fluoranthene	mg/kg	6 / 6	0.024 - 3.5	NA		--	--	-- [2]
86-73-7	Fluorene	mg/kg	6 / 6	0.0015 - 0.14	NA		--	--	-- [2]
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	6 / 6	0.041 - 1.4	NA		--	--	-- [2]
91-57-6	2-Methylnaphthalene	mg/kg	6 / 6	0.0026 - 0.020	NA		--	--	Y - NESV
91-20-3	Naphthalene	mg/kg	3 / 6	0.0058 - 0.015	NA		--	--	-- [2]
85-01-8	Phenanthrene	mg/kg	6 / 6	0.026 - 2.0	NA		--	--	-- [2]
129-00-0	Pyrene	mg/kg	5 / 6	0.19 - 5.4	NA		--	--	-- [2]
--	LMW PAHs [2]	mg/kg	6 / 6	0.032 - 2.7	29	a	N	--	N
--	HMW PAHs [2]	mg/kg	6 / 6	0.21 - 21	18	a	Y	1	N
Pesticides									
309-00-2	Aldrin	mg/kg	1 / 2	-- - 0.0037	0.00332	b	Y	1	N
57-74-9	Chlordane, Total	mg/kg	2 / 2	0.0052 - 0.0080	0.224	b	N	--	N
60-57-1	Dieldrin	mg/kg	1 / 1	-- - 0.016	NA		--	--	Y - NESV
Total DDT	Total DDx	mg/kg	2 / 2	0.037 - 0.061	NA		--	--	Y - NESV
33213-65-9	beta-Endosulfan	mg/kg	1 / 2	-- - 0.0066	NA		--	--	Y - NESV
53494-70-5	Endrin ketone	mg/kg	1 / 2	-- - 0.004	NA		--	--	Y - NESV
1024-57-3	Heptachlor epoxide	mg/kg	1 / 1	-- - 0.004	NA		--	--	Y - NESV
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	6 / 6	0.13 - 62	40	c	Y	2	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	6 / 6	8,040 - 16,900	50	c	Y	338	Y - HQ>1
7440-38-2	Arsenic	mg/kg	6 / 6	1.3 - 3.0	18	a	N	--	N
7440-39-3	Barium	mg/kg	6 / 6	76 - 187	330	a	N	--	N
7440-41-7	Beryllium	mg/kg	4 / 6	0.44 - 0.84	40	a	N	--	N
7440-43-9	Cadmium	mg/kg	3 / 6	1.0 - 9.4	32	a	N	--	N
7440-70-2	Calcium	mg/kg	6 / 6	812 - 6,420	NA		--	--	N
7440-47-3	Chromium	mg/kg	6 / 6	13 - 20	0.4	b[4]	Y	50	Y - HQ>1
7440-48-4	Cobalt	mg/kg	6 / 6	2.8 - 7.4	13	a	N	--	N
7440-50-8	Copper	mg/kg	6 / 6	4.7 - 36	70	a	N	--	N
7439-89-6	Iron	mg/kg	6 / 6	16,500 - 28,600	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	6 / 6	32 - 137	120	a	Y	1	N
7439-95-4	Magnesium	mg/kg	6 / 6	2,420 - 6,450	NA		--	--	N
7439-96-5	Manganese	mg/kg	6 / 6	110 - 798	220	a	Y	4	Y - HQ>1
7439-97-6	Mercury	mg/kg	6 / 6	0.048 - 0.19	0.1	b	Y	2	Y - HQ>1
7440-02-0	Nickel	mg/kg	6 / 6	7.0 - 20	38	a	N	--	N
7440-09-7	Potassium	mg/kg	6 / 6	741 - 2,100	NA		--	--	N
7440-22-4	Silver	mg/kg	4 / 6	1.3 - 2.8	560	a	N	--	N
7440-23-5	Sodium	mg/kg	3 / 6	169 - 245	NA		--	--	N
7440-62-2	Vanadium	mg/kg	6 / 6	13 - 24	2.0	c	Y	12	Y - HQ>1
7440-66-6	Zinc	mg/kg	6 / 6	23 - 148	120	a	Y	1	N
Other									
57-12-5	Cyanide	mg/kg	4 / 6	0.21 - 6.1	NA		--	--	Y - NESV

Notes:

[1] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).

b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[3] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[4] Screening value for chromium $^{+3}$ based on exposure to soil invertebrates.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-16: Selection of COPECs/Screening-Level Evaluation Surface Soil EU GB - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	2 / 12	0.11 - 0.30	682	b	N	--	-- [2]
120-12-7	Anthracene	mg/kg	4 / 12	0.13 - 0.66	1480	b	N	--	-- [2]
56-55-3	Benzo(a)anthracene	mg/kg	11 / 12	0.24 - 1.6	5.21	b	N	--	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	12 / 12	0.14 - 1.5	1.52	b	N	--	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	12 / 12	0.20 - 2.0	59.8	b	N	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	11 / 12	0.19 - 0.77	119	b	N	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	11 / 12	0.15 - 0.85	148	b	N	--	-- [2]
86-74-8	Carbazole	mg/kg	2 / 12	0.13 - 0.29	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	12 / 12	0.14 - 1.5	4.73	b	N	--	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	5 / 12	0.12 - 0.25	18.4	b	N	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	1 / 12	-- - 0.19	NA		--	--	Y - NESV
206-44-0	Fluoranthene	mg/kg	12 / 12	0.21 - 2.8	122	b	N	--	-- [2]
86-73-7	Fluorene	mg/kg	2 / 12	0.13 - 0.39	122	b	N	--	-- [2]
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	11 / 12	0.17 - 0.83	109	b	N	--	-- [2]
91-20-3	Naphthalene	mg/kg	1 / 12	-- - 0.14	0.0994	b	Y	1	-- [2]
85-01-8	Phenanthrene	mg/kg	11 / 12	0.20 - 3.0	47.5	b	N	--	-- [2]
129-00-0	Pyrene	mg/kg	12 / 12	0.23 - 3.1	78.5	b	N	--	-- [2]
--	LMW PAHs [2]	mg/kg	12 / 12	0.0085 - 4.5	100	a	N	--	N
--	HMW PAHs [2]	mg/kg	12 / 12	0.92 - 15	1.1	a	Y	14	Y - HQ>1
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	12 / 12	0.0090 - 0.13	0.000332	b	Y	381	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	12 / 12	6,860 - 36,900	NA		--	--	Y - NESV
7440-38-2	Arsenic	mg/kg	12 / 12	2.4 - 13	43	a	N	--	N
7440-39-3	Barium	mg/kg	12 / 12	43 - 292	2000	a	N	--	N
7440-41-7	Beryllium	mg/kg	8 / 12	0.50 - 1.3	21	a	N	--	N
7440-43-9	Cadmium	mg/kg	12 / 12	0.27 - 1.9	0.36	a	Y	5	Y - HQ>1
7440-70-2	Calcium	mg/kg	11 / 12	828 - 8,010	NA		--	--	N
7440-47-3	Chromium	mg/kg	12 / 12	13 - 73	26	a	Y	3	Y - HQ>1
7440-48-4	Cobalt	mg/kg	12 / 12	4.9 - 21	120	a	N	--	N
7440-50-8	Copper	mg/kg	12 / 12	18 - 129	28	a	Y	5	Y - HQ>1
7439-89-6	Iron	mg/kg	12 / 12	11,000 - 49,500	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	12 / 12	44 - 262	11	a	Y	24	Y - HQ>1
7439-95-4	Magnesium	mg/kg	12 / 12	1,960 - 8,440	NA		--	--	N
7439-96-5	Manganese	mg/kg	12 / 12	191 - 1,150	4000	a	N	--	N
7439-97-6	Mercury	mg/kg	12 / 12	0.11 - 4.5	0.00051	c	Y	8,824	Y - HQ>1
7440-02-0	Nickel	mg/kg	12 / 12	8.9 - 39	130	a	N	--	N
7440-09-7	Potassium	mg/kg	12 / 12	479 - 1,920	NA		--	--	N
7782-49-2	Selenium	mg/kg	5 / 12	0.19 - 0.56	0.63	a	N	--	N
7440-22-4	Silver	mg/kg	3 / 12	0.61 - 3.0	4.2	a	N	--	N
7440-62-2	Vanadium	mg/kg	12 / 12	16 - 80	7.8	a	Y	10	Y - HQ>1
7440-66-6	Zinc	mg/kg	12 / 12	48 - 301	46	a	Y	7	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	4 / 12	0.15 - 1.0	1.33	b	N	--	N

Notes:

[1] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).

b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/).

[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[3] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor

[4] Screening value for chromium $^{+3}$ based on exposure to birds.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-17: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB1 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	27 / 27	0.00099 - 0.095	682	b	N	--	-- [2]
208-96-8	Acenaphthylene	mg/kg	27 / 27	0.0012 - 0.067	682	b	N	--	-- [2]
98-86-2	Acetophenone	mg/kg	9 / 27	0.011 - 0.031	300	b	N	--	N
120-12-7	Anthracene	mg/kg	27 / 27	0.0021 - 0.33	1480	b	N	--	-- [2]
100-52-7	Benzaldehyde	mg/kg	10 / 27	0.0074 - 0.035	NA		--	--	Y - NESV
56-55-3	Benzo(a)anthracene	mg/kg	27 / 27	0.026 - 2.4	5.21	b	N	--	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	27 / 27	0.035 - 2.6	1.52	b	Y	2	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	27 / 27	0.039 - 2.7	59.8	b	N	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	27 / 27	0.016 - 1.8	119	b	N	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	27 / 27	0.039 - 2.8	148	b	N	--	-- [2]
85-68-7	Butyl benzyl phthalate	mg/kg	1 / 27	-- - 0.040	0.239	b	N	--	N
92-52-4	Biphenyl	mg/kg	10 / 27	0.0036 - 0.029	NA		--	--	Y - NESV
105-60-2	Caprolactam	mg/kg	3 / 27	0.019 - 0.025	NA		--	--	Y - NESV
86-74-8	Carbazole	mg/kg	23 / 27	0.0027 - 0.18	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	27 / 27	0.033 - 3.1	4.73	b	N	--	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	27 / 27	0.0051 - 0.61	18.4	b	N	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	17 / 27	0.0025 - 0.072	NA		--	--	Y - NESV
84-66-2	Diethyl phthalate	mg/kg	4 / 27	0.0021 - 0.12	24.8	b	N	--	N
131-11-3	Dimethyl phthalate	mg/kg	3 / 27	0.012 - 0.13	734	b	N	--	N
117-84-0	di-n-Octyl phthalate	mg/kg	4 / 25	0.012 - 0.12	709	b	N	--	N
206-44-0	Fluoranthene	mg/kg	27 / 27	0.049 - 4.6	122	b	N	--	-- [2]
86-73-7	Fluorene	mg/kg	27 / 27	0.0011 - 0.14	122	b	N	--	-- [2]
118-74-1	Hexachlorobenzene	mg/kg	2 / 27	0.017 - 0.028	0.199	b	N	--	N
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	27 / 27	0.016 - 1.6	109	b	N	--	-- [2]
91-57-6	2-Methylnaphthalene	mg/kg	27 / 27	0.0019 - 0.14	3.24	b	N	--	N
106-44-5	4-Methylphenol	mg/kg	3 / 27	0.0037 - 0.0089	163	b	N	--	N
91-20-3	Naphthalene	mg/kg	8 / 27	0.015 - 0.12	0.0994	b	Y	1	-- [2]
87-86-5	Pentachlorophenol	mg/kg	3 / 27	0.0017 - 0.0039	2.1	a	N	--	N
85-01-8	Phenanthrene	mg/kg	27 / 27	0.027 - 2.0	47.5	b	N	--	-- [2]
108-95-2	Phenol	mg/kg	1 / 27	-- - 0.038	120	b	N	--	N
129-00-0	Pyrene	mg/kg	27 / 27	0.048 - 4.6	78.5	b	N	--	-- [2]
--	LMW PAHs [2]	mg/kg	27 / 27	0.032 - 2.6	100	a	N	--	N
--	HMW PAHs [2]	mg/kg	27 / 27	0.31 - 27	1.1	a	Y	24	Y - HQ>1
Pesticides									
309-00-2	Aldrin	mg/kg	1 / 4	-- - 0.0014	NA		--	--	Y - NESV
319-84-6	alpha-BHC	mg/kg	1 / 4	-- - 0.00069	0.0994	b	N	--	N
58-89-9	gamma-BHC	mg/kg	1 / 4	-- - 0.00024	NA		--	--	Y - NESV
57-74-9	Chlordane, Total	mg/kg	3 / 4	0.0066 - 0.23	NA		--	--	Y - NESV
60-57-1	Dieldrin	mg/kg	1 / 4	-- - 0.030	0.0049	a	Y	6	Y - HQ>1
--	Total DDx [3]	mg/kg	4 / 4	0.0067 - 0.11	0.021	a	Y	5	Y - HQ>1
959-98-8	alpha-Endosulfan	mg/kg	1 / 4	-- - 0.00093	0.119	b	N	--	N
7421-93-4	Endrin aldehyde	mg/kg	1 / 4	-- - 0.0061	0.0105	b	N	--	N
76-44-8	Heptachlor	mg/kg	1 / 4	-- - 0.00037	0.00598	b	N	--	N
1024-57-3	Heptachlor epoxide	mg/kg	4 / 4	0.0011 - 0.032	0.152	b	N	--	N
72-43-5	Methoxychlor	mg/kg	1 / 4	-- - 0.0018	0.0199	b	N	--	N
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	37 / 42	0.0079 - 3.7	0.000332	b	Y	11,235	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	27 / 27	6,590 - 27,050	NA		--	--	Y - NESV
7440-36-0	Antimony	mg/kg	7 / 27	0.18 - 1.7	0.27	a	Y	6	Y - HQ>1
7440-38-2	Arsenic	mg/kg	27 / 27	1.6 - 21	43	a	N	--	N
7440-39-3	Barium	mg/kg	27 / 27	32 - 326	2000	a	N	--	N
7440-41-7	Beryllium	mg/kg	23 / 27	0.089 - 1.5	21	a	N	--	N
7440-43-9	Cadmium	mg/kg	18 / 27	0.14 - 5.6	0.36	a	Y	16	Y - HQ>1
7440-70-2	Calcium	mg/kg	27 / 27	173 - 6,920	NA		--	--	N
7440-47-3	Chromium	mg/kg	27 / 27	10 - 128	26	a	Y	5	Y - HQ>1
7440-48-4	Cobalt	mg/kg	27 / 27	2.5 - 28	120	a	N	--	N
7440-50-8	Copper	mg/kg	27 / 27	11 - 136	28	a	Y	5	Y - HQ>1
7439-89-6	Iron	mg/kg	27 / 27	10,100 - 73,750	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	27 / 27	16 - 286	11	a	Y	26	Y - HQ>1
7439-95-4	Magnesium	mg/kg	27 / 27	1,300 - 5,460	NA		--	--	N
7439-96-5	Manganese	mg/kg	27 / 27	94 - 1,960	4000	a	N	--	N
7439-97-6	Mercury	mg/kg	20 / 27	0.043 - 0.44	0.00051	c	Y	863	Y - HQ>1
7440-02-0	Nickel	mg/kg	27 / 27	6.7 - 34	130	a	N	--	N
7440-09-7	Potassium	mg/kg	17 / 27	383 - 1,510	NA		--	--	N
7782-49-2	Selenium	mg/kg	14 / 27	0.76 - 4.1	0.63	a	Y	7	Y - HQ>1
7440-22-4	Silver	mg/kg	23 / 27	0.86 - 5.0	4.2	a	Y	1	N
7440-23-5	Sodium	mg/kg	22 / 27	117 - 794	NA		--	--	N
7440-62-2	Vanadium	mg/kg	27 / 27	16 - 152	7.8	a	Y	19	Y - HQ>1
7440-66-6	Zinc	mg/kg	27 / 27	25 - 340	46	a	Y	7	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	20 / 27	0.20 - 4.0	1.33	b	Y	3	Y - HQ>1

Notes:
[1] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were
a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at:
[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on
[3] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.
[4] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor
[5] Screening value for chromium $^{+3}$ based on exposure to birds.
NA = Not Available
Y - NESV = Chemical selected as a COPEC because no ESV available.
Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-18: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB2 - Birds and MammalsG
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	1 / 1	-- - 0.0059	2.5	b	N	--	N
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	2 / 2	0.0082 - 0.010	682	b	N	--	-- [2]
208-96-8	Acenaphthylene	mg/kg	2 / 2	0.013 - 0.024	682	b	N	--	-- [2]
120-12-7	Anthracene	mg/kg	2 / 2	0.025 - 0.027	1480	b	N	--	-- [2]
56-55-3	Benzo(a)anthracene	mg/kg	2 / 2	0.23 - 0.29	5.21	b	N	--	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	2 / 2	0.24 - 0.33	1.52	b	N	--	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	2 / 2	0.37 - 0.41	59.8	b	N	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	2 / 2	0.17 - 0.25	119	b	N	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	2 / 2	0.30 - 0.30	148	b	N	--	-- [2]
92-52-4	Biphenyl	mg/kg	2 / 2	0.0034 - 0.027	NA		--	--	Y - NESV
86-74-8	Carbazole	mg/kg	2 / 2	0.022 - 0.025	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	2 / 2	0.35 - 0.39	4.73	b	N	--	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	2 / 2	0.063 - 0.077	18.4	b	N	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	2 / 2	0.010 - 0.060	NA		--	--	Y - NESV
84-66-2	Diethyl phthalate	mg/kg	1 / 2	-- - 0.0029	24.8	b	N	--	N
206-44-0	Fluoranthene	mg/kg	2 / 2	0.35 - 0.44	122	b	N	--	-- [2]
86-73-7	Fluorene	mg/kg	2 / 2	0.012 - 0.012	122	b	N	--	-- [2]
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	2 / 2	0.17 - 0.23	109	b	N	--	-- [2]
91-20-3	Naphthalene	mg/kg	1 / 2	-- - 0.10	0.0994	b	Y	1	-- [2]
87-86-5	Pentachlorophenol	mg/kg	1 / 2	-- - 0.0023	2.1	a	N	--	N
85-01-8	Phenanthrene	mg/kg	2 / 2	0.24 - 0.29	47.5	b	N	--	-- [2]
129-00-0	Pyrene	mg/kg	2 / 2	0.31 - 0.58	78.5	b	N	--	-- [2]
--	LMW PAHs [2]	mg/kg	2 / 2	0.30 - 0.46	100	a	N	--	N
--	HMW PAHs [2]	mg/kg	2 / 2	2.6 - 3.2	1.1	a	Y	3	Y - HQ>1
Pesticides									
319-84-6	alpha-BHC	mg/kg	1 / 1	-- - 0.00025	0.0994	b	N	--	N
1031-07-8	Endosulfan sulfate	mg/kg	1 / 1	-- - 0.0055	0.0358	b	N	--	N
72-20-8	Endrin	mg/kg	1 / 1	-- - 0.0072	0.0101	b	N	--	N
1024-57-3	Heptachlor epoxide	mg/kg	1 / 1	-- - 0.0052	0.152	b	N	--	N
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	1 / 2	-- - 0.75	0.000332	b	Y	2,271	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	2 / 2	8,580 - 13,100	NA		--	--	Y - NESV
7440-38-2	Arsenic	mg/kg	2 / 2	6.8 - 12	43	a	N	--	N
7440-39-3	Barium	mg/kg	2 / 2	82 - 100	2000	a	N	--	N
7440-41-7	Beryllium	mg/kg	2 / 2	0.38 - 0.61	21	a	N	--	N
7440-43-9	Cadmium	mg/kg	1 / 2	-- - 0.55	0.36	a	Y	2	Y - HQ>1
7440-70-2	Calcium	mg/kg	2 / 2	692 - 1,360	NA		--	--	N
7440-47-3	Chromium	mg/kg	2 / 2	14 - 25	26	a	N	--	N
7440-48-4	Cobalt	mg/kg	2 / 2	5.1 - 5.6	120	a	N	--	N
7440-50-8	Copper	mg/kg	2 / 2	31 - 38	28	a	Y	1	N
7439-89-6	Iron	mg/kg	2 / 2	12,400 - 15,800	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	2 / 2	44 - 85	11	a	Y	8	Y - HQ>1
7439-95-4	Magnesium	mg/kg	2 / 2	1,790 - 2,260	NA		--	--	N
7439-96-5	Manganese	mg/kg	2 / 2	273 - 492	4000	a	N	--	N
7439-97-6	Mercury	mg/kg	2 / 2	0.062 - 0.12	0.00051	c	Y	235	Y - HQ>1
7440-02-0	Nickel	mg/kg	2 / 2	11 - 13	130	a	N	--	N
7440-09-7	Potassium	mg/kg	2 / 2	554 - 562	NA		--	--	N
7782-49-2	Selenium	mg/kg	1 / 2	-- - 1.9	0.63	a	Y	3	Y - HQ>1
7440-22-4	Silver	mg/kg	2 / 2	1.1 - 1.9	4.2	a	N	--	N
7440-23-5	Sodium	mg/kg	2 / 2	161 - 198	NA		--	--	N
7440-62-2	Vanadium	mg/kg	2 / 2	19 - 28	7.8	a	Y	4	Y - HQ>1
7440-66-6	Zinc	mg/kg	2 / 2	54 - 62	46	a	Y	1	N
Other									
57-12-5	Cyanide	mg/kg	2 / 2	0.11 - 0.43	1.33	b	N	--	N

Notes:

[1] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).

b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/).

[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on data for

[3] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and

[4] Screening value for chromium $^{+3}$ based on exposure to birds.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-19: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB3 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number		Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	4 / 9	0.31 - 0.71	2.5	b	N	--	N
78-93-3	Methyl ethyl ketone	mg/kg	1 / 9	-- - 0.012	89.6	b	N	--	N
75-09-2	Methylene chloride	mg/kg	1 / 9	-- - 0.040	4.05	b	N	--	N
71-55-6	1,1,1-Trichloroethane	mg/kg	1 / 9	-- - 0.0030	29.8	b	N	--	N
75-69-4	Trichlorofluoromethane	mg/kg	6 / 9	0.010 - 0.020	16.4	b	N	--	N
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	19 / 24	0.0019 - 0.70	682	b	N	--	-- [2]
208-96-8	Acenaphthylene	mg/kg	16 / 24	0.0032 - 0.30	682	b	N	--	-- [2]
98-86-2	Acetophenone	mg/kg	1 / 24	-- - 0.011	300	b	N	--	N
120-12-7	Anthracene	mg/kg	20 / 24	0.0033 - 1.1	1480	b	N	--	-- [2]
56-55-3	Benzo(a)anthracene	mg/kg	24 / 24	0.0010 - 4.9	5.21	b	N	--	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	24 / 24	0.0051 - 4.5	1.52	b	Y	3	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	24 / 24	0.0028 - 6.6	59.8	b	N	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	23 / 24	0.0012 - 2.8	119	b	N	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	23 / 24	0.0018 - 5.3	148	b	N	--	-- [2]
85-68-7	Butyl benzyl phthalate	mg/kg	4 / 22	0.064 - 1.8	0.239	b	Y	8	Y - HQ>1
92-52-4	Biphenyl	mg/kg	9 / 18	0.0033 - 0.029	NA		--	--	Y - NESV
111-44-4	bis(2-Chloroethyl) ether	mg/kg	1 / 24	-- - 0.0022	23.7	b	N	--	N
108-60-1	bis(2-Chloroisopropyl) ether	mg/kg	1 / 24	-- - 1.0	19.9	b	N	--	N
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	5 / 24	0.47 - 54	0.925	b	Y	58	Y - HQ>1
86-74-8	Carbazole	mg/kg	14 / 18	0.016 - 0.76	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	24 / 24	0.0017 - 4.7	4.73	b	N	--	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	16 / 24	0.073 - 1.1	18.4	b	N	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	12 / 24	0.0048 - 0.28	NA		--	--	Y - NESV
84-66-2	Diethyl phthalate	mg/kg	3 / 24	0.0030 - 0.20	24.8	b	N	--	N
131-11-3	Dimethyl phthalate	mg/kg	1 / 24	-- - 0.069	734	b	N	--	N
84-74-2	di-n-Butyl phthalate	mg/kg	3 / 24	0.069 - 1.7	0.15	b	Y	11	Y - HQ>1
117-84-0	di-n-Octyl phthalate	mg/kg	2 / 20	0.12 - 0.55	709	b	N	--	N
206-44-0	Fluoranthene	mg/kg	24 / 24	0.0015 - 9.7	122	b	N	--	-- [2]
86-73-7	Fluorene	mg/kg	19 / 24	0.0024 - 0.43	122	b	N	--	-- [2]
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	24 / 24	0.0008 - 3.3	109	b	N	--	-- [2]
106-44-5	4-Methylphenol	mg/kg	7 / 24	0.0039 - 0.82	163	b	N	--	N
91-20-3	Naphthalene	mg/kg	16 / 24	0.0072 - 0.21	0.0994	b	Y	2	-- [2]
87-86-5	Pentachlorophenol	mg/kg	3 / 24	0.0049 - 0.023	2.1	a	N	--	N
85-01-8	Phenanthrene	mg/kg	24 / 24	0.00048 - 7.6	47.5	b	N	--	-- [2]
108-95-2	Phenol	mg/kg	1 / 24	-- - 0.0070	120	b	N	--	N
129-00-0	Pyrene	mg/kg	23 / 24	0.0049 - 8.8	78.5	b	N	--	-- [2]
--	LMW PAHs [2]	mg/kg	24 / 24	0.00048 - 9.4	100	a	N	--	N
--	HMW PAHs [2]	mg/kg	24 / 24	0.021 - 46	1.1	a	Y	42	Y - HQ>1
Pesticides									
309-00-2	Aldrin	mg/kg	1 / 9	-- - 0.0017	NA		--	--	Y - NESV
319-84-6	alpha-BHC	mg/kg	2 / 9	0.0011 - 0.0030	0.0994	b	N	--	N
319-85-7	beta-BHC	mg/kg	1 / 8	-- - 0.0020	NA		--	--	Y - NESV
57-74-9	Chlordane, Total	mg/kg	2 / 9	0.024 - 0.0350	NA		--	--	Y - NESV
60-57-1	Dieldrin	mg/kg	1 / 9	-- - 0.026	0.0049	a	Y	5	Y - HQ>1
--	Total DDx [3]	mg/kg	5 / 9	-- - 0.10	0.021	a	Y	5	Y - HQ>1
33213-65-9	beta-Endosulfan	mg/kg	1 / 9	-- - 0.014	0.119	b	N	--	N
72-20-8	Endrin	mg/kg	2 / 9	0.0049 - 0.013	0.0101	b	Y	1	N
7421-93-4	Endrin aldehyde	mg/kg	2 / 9	0.0087 - 0.010	0.0105	b	N	--	N
53494-70-5	Endrin ketone	mg/kg	2 / 9	0.0044 - 0.0058	NA		--	--	Y - NESV
76-44-8	Heptachlor	mg/kg	2 / 9	0.0014 - 0.020	0.00598	b	Y	3	Y - HQ>1
1024-57-3	Heptachlor epoxide	mg/kg	1 / 8	-- - 0.0065	0.152	b	N	--	N
72-43-5	Methoxychlor	mg/kg	1 / 8	-- - 0.020	0.0199	b	Y	1	N
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	115 / 132	0.0062 - 14	0.000332	b	Y	42,169	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	24 / 24	4,100 - 21,400	NA		--	--	Y - NESV
7440-36-0	Antimony	mg/kg	9 / 24	11 - 42	0.27	a	Y	156	Y - HQ>1
7440-38-2	Arsenic	mg/kg	24 / 24	1.0 - 39	43	a	N	--	N
7440-39-3	Barium	mg/kg	24 / 24	52 - 1,200	2000	a	N	--	N
7440-41-7	Beryllium	mg/kg	18 / 24	0.090 - 0.78	21	a	N	--	N
7440-43-9	Cadmium	mg/kg	16 / 24	1.0 - 14	0.36	a	Y	39	Y - HQ>1
7440-70-2	Calcium	mg/kg	24 / 24	309 - 18,200	NA		--	--	N
7440-47-3	Chromium	mg/kg	24 / 24	8.6 - 242	26	a	Y	9	Y - HQ>1
7440-48-4	Cobalt	mg/kg	24 / 24	3.0 - 34	120	a	N	--	N
7440-50-8	Copper	mg/kg	24 / 24	3.9 - 12,000	28	a	Y	429	Y - HQ>1
7439-89-6	Iron	mg/kg	24 / 24	8,600 - 282,000	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	24 / 24	10 - 9,950	11	a	Y	905	Y - HQ>1
7439-95-4	Magnesium	mg/kg	24 / 24	628 - 4,230	NA		--	--	N
7439-96-5	Manganese	mg/kg	24 / 24	56 - 1,390	4000	a	N	--	N
7439-97-6	Mercury	mg/kg	24 / 24	0.020 - 5.7	0.00051	c	Y	11,176	Y - HQ>1
7440-02-0	Nickel	mg/kg	24 / 24	6.7 - 235	130	a	Y	2	Y - HQ>1
7440-09-7	Potassium	mg/kg	24 / 24	279 - 1,620	NA		--	--	N
7782-49-2	Selenium	mg/kg	14 / 24	0.071 - 9.2	0.63	a	Y	15	Y - HQ>1
7440-22-4	Silver	mg/kg	21 / 24	0.48 - 28	4.2	a	Y	7	Y - HQ>1
7440-23-5	Sodium	mg/kg	24 / 24	99 - 319	NA		--	--	N
7440-28-0	Thallium	mg/kg	4 / 24	1.2 - 4.0	0.0569	b	Y	70	Y - HQ>1
7440-62-2	Vanadium	mg/kg	23 / 24	13 - 40	7.8	a	Y	5	Y - HQ>1
7440-66-6	Zinc	mg/kg	24 / 24	20 - 3,680	46	a	Y	80	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	17 / 18	0.067 - 2.6	1.33	b	Y	2	Y - HQ>1

Notes:

[1] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/).

[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[3] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[4] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor

[5] Screening value for chromium $^{+3}$ based on exposure to birds.

NA = Not Available
Y - NESV = Chemical selected as a COPEC because no ESV available.
Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-20: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB4 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	12 / 55	0.04 - 0.56	2.5	b	N	--	N
75-15-0	Carbon disulfide	mg/kg	2 / 55	0.0041 - 0.0059	0.0941	b	N	--	N
56-23-5	Carbon tetrachloride	mg/kg	1 / 50	-- - 0.01	2.98	b	N	--	N
67-66-3	Chloroform	mg/kg	1 / 55	-- - 0.0011	1.19	b	N	--	N
74-87-3	Chloromethane	mg/kg	1 / 55	-- - 0.0046	10.4	b	N	--	N
110-82-7	Cyclohexane	mg/kg	3 / 38	0.0012 - 0.002	NA		--	--	Y - NESV
75-34-3	1,1-Dichloroethane	mg/kg	1 / 43	-- - 0.0041	20.1	b	N	--	N
75-35-4	1,1-Dichloroethene	mg/kg	4 / 55	0.00066 - 0.0011	8.28	b	N	--	N
156-59-2	cis-1,2-Dichloroethene	mg/kg	2 / 55	0.00094 - 0.0023	NA		--	--	Y - NESV
10061-01-5	cis-1,3-Dichloropropene	mg/kg	2 / 50	0.0012 - 0.0038	0.398	b	N	--	N
10061-02-6	trans-1,3-Dichloropropene	mg/kg	2 / 50	0.0009 - 0.0025	0.398	b	N	--	N
100-41-4	Ethylbenzene	mg/kg	2 / 50	0.002 - 0.011	5.16	b	N	--	N
591-78-6	2-Hexanone	mg/kg	10 / 48	0.0072 - 0.16	12.6	b	N	--	N
79-20-9	Methyl acetate	mg/kg	1 / 43	-- - 0.0086	NA		--	--	Y - NESV
78-93-3	Methyl ethyl ketone	mg/kg	19 / 55	0.0094 - 0.22	89.6	b	N	--	N
108-10-1	Methyl isobutyl ketone	mg/kg	5 / 49	0.001 - 0.0027	443	b	N	--	N
108-87-2	Methylcyclohexane	mg/kg	1 / 39	-- - 0.0042	NA		--	--	Y - NESV
75-09-2	Methylene chloride	mg/kg	5 / 55	0.03 - 0.05	4.05	b	N	--	N
100-42-5	Styrene	mg/kg	1 / 50	-- - 0.014	4.69	b	N	--	N
108-88-3	Toluene	mg/kg	7 / 51	0.0012 - 0.053	5.45	b	N	--	N
71-55-6	1,1,1-Trichloroethane	mg/kg	1 / 50	-- - 0.01	29.8	b	N	--	N
75-69-4	Trichlorofluoromethane	mg/kg	7 / 55	0.01 - 0.02	16.4	b	N	--	N
179601-23-1	m, p Xylenes	mg/kg	5 / 50	0.002 - 0.045	NA		--	--	Y - NESV
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	8 / 59	0.0035 - 0.34	682	b	N	--	-- [2]
208-96-8	Acenaphthylene	mg/kg	12 / 59	0.001 - 0.67	682	b	N	--	-- [2]
120-12-7	Anthracene	mg/kg	25 / 59	0.0078 - 0.76	1480	b	N	--	-- [2]
56-55-3	Benzo(a)anthracene	mg/kg	49 / 59	0.04 - 6.4	5.21	b	Y	1	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	50 / 59	0.023 - 6.2	1.52	b	Y	4	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	52 / 59	0.022 - 9.9	59.8	b	N	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	48 / 59	0.019 - 3.6	119	b	N	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	46 / 59	0.032 - 2.2	148	b	N	--	-- [2]
85-68-7	Butyl benzyl phthalate	mg/kg	33 / 59	0.063 - 36	0.239	b	Y	151	Y - HQ>1
92-52-4	Biphenyl	mg/kg	1 / 47	-- - 0.13	NA		--	--	Y - NESV
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	36 / 59	0.035 - 25	0.925	b	Y	27	Y - HQ>1
86-74-8	Carbazole	mg/kg	3 / 47	0.06 - 0.25	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	51 / 59	0.024 - 8.5	4.73	b	Y	2	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	7 / 59	0.033 - 1.6	18.4	b	N	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	2 / 59	0.083 - 0.22	NA		--	--	Y - NESV
91-94-1	3,3'-Dichlorobenzidine	mg/kg	1 / 57	-- - 0.17	0.646	b	N	--	N
84-74-2	di-n-Butyl phthalate	mg/kg	11 / 59	0.02 - 2.3	0.15	b	Y	15	Y - HQ>1
117-84-0	di-n-Octyl phthalate	mg/kg	8 / 58	0.089 - 1.2	709	b	N	--	N
206-44-0	Fluoranthene	mg/kg	52 / 59	0.026 - 11	122	b	N	--	-- [2]
86-73-7	Fluorene	mg/kg	7 / 59	0.0032 - 0.41	122	b	N	--	-- [2]
118-74-1	Hexachlorobenzene	mg/kg	2 / 58	0.079 - 0.26	0.199	b	Y	1	N
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	46 / 59	0.036 - 3.7	109	b	N	--	-- [2]
91-57-6	2-Methylnaphthalene	mg/kg	12 / 59	0.0069 - 0.51	3.24	b	N	--	N
106-44-5	4-Methylphenol	mg/kg	1 / 59	-- - 0.34	163	b	N	--	N
91-20-3	Naphthalene	mg/kg	14 / 59	0.0061 - 0.37	0.0994	b	Y	4	-- [2]
100-01-6	4-Nitroaniline	mg/kg	1 / 59	-- - 8.7	21.9	b	N	--	N
85-01-8	Phenanthrene	mg/kg	44 / 59	0.04 - 5.7	47.5	b	N	--	-- [2]
129-00-0	Pyrene	mg/kg	51 / 59	0.028 - 11	78.5	b	N	--	-- [2]
--	LMW PAHs [2]	mg/kg	44 / 59	0.040 - 8.0	100	a	N	--	N
--	HMW PAHs [2]	mg/kg	52 / 59	0.080 - 62	1.1	a	Y	57	Y - HQ>1
Pesticides									
309-00-2	Aldrin	mg/kg	10 / 46	0.000042 - 0.041	NA		--	--	Y - NESV
319-84-6	alpha-BHC	mg/kg	7 / 55	0.00004 - 0.00093	0.0994	b	N	--	N
319-85-7	beta-BHC	mg/kg	2 / 55	0.00032 - 0.00058	NA		--	--	Y - NESV
319-86-8	delta-BHC	mg/kg	10 / 55	0.000038 - 0.056	9.94	b	N	--	N
58-89-9	gamma-BHC	mg/kg	8 / 55	0.00011 - 0.01	NA		--	--	Y - NESV
57-74-9	Chlordane, Total	mg/kg	34 / 55	0.00049 - 1.1	NA		--	--	Y - NESV
60-57-1	Dieldrin	mg/kg	34 / 55	0.002 - 2.4	0.0049	a	Y	490	Y - HQ>1
--	Total DDx [3]	mg/kg	40 / 55	0.0037 - 2.0	0.021	a	Y	95	Y - HQ>1
959-98-8	alpha-Endosulfan	mg/kg	8 / 54	0.00013 - 0.082	0.119	b	N	--	N
33213-65-9	beta-Endosulfan	mg/kg	8 / 44	0.0087 - 0.59	0.119	b	Y	5	Y - HQ>1
1031-07-8	Endosulfan sulfate	mg/kg	6 / 53	0.00038 - 0.022	0.0358	b	N	--	N
72-20-8	Endrin	mg/kg	3 / 39	0.0022 - 0.01	0.0101	b	N	--	N
7421-93-4	Endrin aldehyde	mg/kg	18 / 54	0.00027 - 0.13	0.0105	b	Y	12	Y - HQ>1
53494-70-5	Endrin ketone	mg/kg	2 / 40	0.017 - 0.065	NA		--	--	Y - NESV
76-44-8	Heptachlor	mg/kg	1 / 55	-- - 0.017	0.00598	b	Y	3	Y - HQ>1
1024-57-3	Heptachlor epoxide	mg/kg	7 / 52	0.00018 - 0.0062	0.152	b	N	--	N
72-43-5	Methoxychlor	mg/kg	8 / 55	0.0023 - 0.043	0.0199	b	Y	2	Y - HQ>1

Table G-20: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB4 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	285 / 305	0.027 - 80	0.000332	b	Y	239,458	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	59 / 59	1,430 - 30,000	NA		--	--	Y - NESV
7440-36-0	Antimony	mg/kg	13 / 59	1.2 - 4.0	0.27	a	Y	15	Y - HQ>1
7440-38-2	Arsenic	mg/kg	54 / 59	1.4 - 33	43	a	N	--	N
7440-39-3	Barium	mg/kg	59 / 59	11 - 1,210	2000	a	N	--	N
7440-41-7	Beryllium	mg/kg	21 / 59	0.48 - 2.3	21	a	N	--	N
7440-43-9	Cadmium	mg/kg	45 / 59	1.1 - 38	0.36	a	Y	106	Y - HQ>1
7440-70-2	Calcium	mg/kg	58 / 59	570 - 23,000	NA		--	--	N
7440-47-3	Chromium	mg/kg	55 / 59	2.5 - 304	26	a	Y	12	Y - HQ>1
7440-48-4	Cobalt	mg/kg	54 / 59	1.2 - 24	120	a	N	--	N
7440-50-8	Copper	mg/kg	58 / 59	3.2 - 520	28	a	Y	19	Y - HQ>1
7439-89-6	Iron	mg/kg	59 / 59	1,970 - 75,900	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	59 / 59	1.9 - 1,245	11	a	Y	113	Y - HQ>1
7439-95-4	Magnesium	mg/kg	59 / 59	261 - 6,200	NA		--	--	N
7439-96-5	Manganese	mg/kg	59 / 59	12 - 1,800	4000	a	N	--	N
7439-97-6	Mercury	mg/kg	54 / 59	0.028 - 1.1	0.00051	c	Y	2,157	Y - HQ>1
7440-02-0	Nickel	mg/kg	59 / 59	1.2 - 72	130	a	N	--	N
7440-09-7	Potassium	mg/kg	36 / 59	203 - 1,790	NA		--	--	N
7782-49-2	Selenium	mg/kg	13 / 43	0.20 - 5.0	0.63	a	Y	8	Y - HQ>1
7440-22-4	Silver	mg/kg	42 / 59	1.2 - 63	4.2	a	Y	15	Y - HQ>1
7440-23-5	Sodium	mg/kg	18 / 59	63 - 457	NA		--	--	N
7440-28-0	Thallium	mg/kg	1 / 59	-- - 0.60	0.0569	b	Y	11	Y - HQ>1
7440-62-2	Vanadium	mg/kg	55 / 59	5.0 - 95	7.8	a	Y	12	Y - HQ>1
7440-66-6	Zinc	mg/kg	59 / 59	5.0 - 570	46	a	Y	12	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	14 / 47	0.067 - 0.85	1.33	b	N	--	N

Notes:

[1] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).

b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).

c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at:

[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on

[3] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[4] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254,

[5] Screening value for chromium $^{+3}$ based on exposure to birds.

NA = Not Available

Y - NESV = Chemical selected as a COPEC because no ESV available.

Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-21: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB5 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
67-64-1	Acetone	mg/kg	8 / 18	0.058 - 0.4	2.5	b	N	--	N
110-82-7	Cyclohexane	mg/kg	1 / 10	-- - 0.015	NA		--	--	Y - NESV
156-59-2	cis-1,2-Dichloroethene	mg/kg	2 / 19	0.1 - 22	NA		--	--	Y - NESV
156-60-5	trans-1,2-Dichloroethene	mg/kg	2 / 19	0.012 - 0.97	0.784	b	Y	1	N
100-41-4	Ethylbenzene	mg/kg	1 / 18	-- - 0.002	5.16	b	N	--	N
78-93-3	Methyl ethyl ketone	mg/kg	1 / 19	-- - 0.003	89.6	b	N	--	N
108-10-1	Methyl isobutyl ketone	mg/kg	1 / 18	-- - 0.0011	443	b	N	--	N
75-09-2	Methylene chloride	mg/kg	1 / 18	-- - 1.7	4.05	b	N	--	N
108-88-3	Toluene	mg/kg	1 / 17	-- - 0.005	5.45	b	N	--	N
75-69-4	Trichlorofluoromethane	mg/kg	8 / 18	0.003 - 0.05	16.4	b	N	--	N
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	10 / 21	0.012 - 0.84	682	b	N	--	-- [2]
208-96-8	Acenaphthylene	mg/kg	9 / 21	0.016 - 0.96	682	b	N	--	-- [2]
98-86-2	Acetophenone	mg/kg	5 / 21	0.13 - 0.29	300	b	N	--	N
120-12-7	Anthracene	mg/kg	12 / 21	0.026 - 2.3	1480	b	N	--	-- [2]
100-52-7	Benzaldehyde	mg/kg	6 / 13	0.03 - 0.95	NA		--	--	Y - NESV
56-55-3	Benzo(a)anthracene	mg/kg	17 / 21	0.039 - 9.5	5.21	b	Y	2	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	19 / 21	0.02 - 9.7	1.52	b	Y	6	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	20 / 21	0.026 - 15	59.8	b	N	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	16 / 21	0.027 - 6.4	119	b	N	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	15 / 21	0.01 - 4.2	148	b	N	--	-- [2]
85-68-7	Butyl benzyl phthalate	mg/kg	19 / 21	0.05 - 25	0.239	b	Y	105	Y - HQ>1
92-52-4	Biphenyl	mg/kg	6 / 13	0.008 - 0.099	NA		--	--	Y - NESV
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	13 / 21	0.23 - 110	0.925	b	Y	119	Y - HQ>1
86-74-8	Carbazole	mg/kg	6 / 13	0.038 - 0.33	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	19 / 21	0.023 - 11	4.73	b	Y	2	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	7 / 21	0.092 - 1.0	18.4	b	N	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	13 / 21	0.038 - 0.66	NA		--	--	Y - NESV
84-66-2	Diethyl phthalate	mg/kg	3 / 21	0.0066 - 78	24.8	b	Y	3	Y - HQ>1
131-11-3	Dimethyl phthalate	mg/kg	3 / 21	0.031 - 3.6	734	b	N	--	N
84-74-2	di-n-Butyl phthalate	mg/kg	8 / 21	0.024 - 2.3	0.15	b	Y	15	Y - HQ>1
117-84-0	di-n-Octyl phthalate	mg/kg	7 / 21	0.027 - 7.8	709	b	N	--	N
206-44-0	Fluoranthene	mg/kg	20 / 21	0.024 - 12	122	b	N	--	-- [2]
86-73-7	Fluorene	mg/kg	10 / 21	0.021 - 0.89	122	b	N	--	-- [2]
118-74-1	Hexachlorobenzene	mg/kg	2 / 21	0.007 - 0.014	0.199	b	N	--	N
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	16 / 21	0.033 - 6.0	109	b	N	--	-- [2]
91-57-6	2-Methylnaphthalene	mg/kg	13 / 21	0.022 - 1.7	3.24	b	N	--	N
106-44-5	4-Methylphenol	mg/kg	5 / 21	0.0054 - 0.24	163	b	N	--	N
91-20-3	Naphthalene	mg/kg	12 / 21	0.017 - 1.2	0.0994	b	Y	12	-- [2]
87-86-5	Pentachlorophenol	mg/kg	2 / 21	0.001 - 0.0045	2.1	a	N	--	N
85-01-8	Phenanthrene	mg/kg	16 / 21	0.04 - 9.4	47.5	b	N	--	-- [2]
108-95-2	Phenol	mg/kg	3 / 21	0.02 - 0.46	120	b	N	--	N
129-00-0	Pyrene	mg/kg	20 / 21	0.023 - 16	78.5	b	N	--	-- [2]
120-82-1	1,2,4-Trichlorobenzene	mg/kg	5 / 14	0.12 - 3.2	11.1	b	N	--	N
--	LMW PAHs [2]	mg/kg	16 / 21	0.04 - 14	100	a	N	--	N
--	HMW PAHs [2]	mg/kg	21 / 21	0.047 - 90	1.1	a	Y	82	Y - HQ>1
Pesticides									
309-00-2	Aldrin	mg/kg	1 / 19	-- - 0.00078	NA		--	--	Y - NESV
319-84-6	alpha-BHC	mg/kg	2 / 19	0.000 - 0.000047	0.0994	b	N	--	N
319-85-7	beta-BHC	mg/kg	3 / 19	0.000 - 0.00031	NA		--	--	Y - NESV
58-89-9	gamma-BHC	mg/kg	2 / 19	0.000 - 0.0004	NA		--	--	Y - NESV
57-74-9	Chlordane, Total	mg/kg	7 / 19	0.0014 - 0.55	NA		--	--	Y - NESV
60-57-1	Dieldrin	mg/kg	9 / 18	0.003 - 16	0.0049	a	Y	3,265	Y - HQ>1
--	Total DDx [3]	mg/kg	10 / 19	0.012 - 56	0.021	a	Y	2,676	Y - HQ>1
959-98-8	alpha-Endosulfan	mg/kg	1 / 19	-- - 0.0043	0.119	b	N	--	N
33213-65-9	beta-Endosulfan	mg/kg	2 / 14	0.003 - 0.0087	0.119	b	N	--	N
1031-07-8	Endosulfan sulfate	mg/kg	2 / 19	0.000 - 0.0019	0.0358	b	N	--	N
7421-93-4	Endrin aldehyde	mg/kg	6 / 19	0.001 - 5.2	0.0105	b	Y	491	Y - HQ>1
1024-57-3	Heptachlor epoxide	mg/kg	7 / 19	0.000 - 12	0.152	b	Y	78	Y - HQ>1
72-43-5	Methoxychlor	mg/kg	2 / 19	0.001 - 0.0016	0.0199	b	N	--	N
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	366 / 437	0.011 - 924	0.000332	b	Y	2,783,133	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	21 / 21	2,200 - 35,800	NA		--	--	Y - NESV
7440-36-0	Antimony	mg/kg	12 / 21	0.140 - 19	0.27	a	Y	70	Y - HQ>1
7440-38-2	Arsenic	mg/kg	21 / 21	2.8 - 38	43	a	N	--	N
7440-39-3	Barium	mg/kg	21 / 21	46 - 1,500	2000	a	N	--	N
7440-41-7	Beryllium	mg/kg	16 / 21	0.250 - 11	21	a	N	--	N
7440-43-9	Cadmium	mg/kg	16 / 21	1.4 - 40.2	0.36	a	Y	112	Y - HQ>1
7440-70-2	Calcium	mg/kg	20 / 21	218 - 8,600	NA		--	--	N
7440-47-3	Chromium	mg/kg	21 / 21	7.7 - 78	26	a	Y	3	Y - HQ>1
7440-48-4	Cobalt	mg/kg	21 / 21	2.1 - 30	120	a	N	--	N
7440-50-8	Copper	mg/kg	18 / 21	12 - 960	28	a	Y	34	Y - HQ>1
7439-89-6	Iron	mg/kg	21 / 21	6,500 - 88,000	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	21 / 21	26 - 1,000	11	a	Y	91	Y - HQ>1
7439-95-4	Magnesium	mg/kg	21 / 21	250 - 5,730	NA		--	--	N
7439-96-5	Manganese	mg/kg	18 / 21	38 - 1,050	4000	a	N	--	N
7439-97-6	Mercury	mg/kg	19 / 21	0.125 - 1.5	0.00051	c	Y	2,941	Y - HQ>1
7440-02-0	Nickel	mg/kg	21 / 21	7.2 - 93	130	a	N	--	N
7440-09-7	Potassium	mg/kg	19 / 21	179 - 1,430	NA		--	--	N
7782-49-2	Selenium	mg/kg	14 / 21	1.6 - 7.9	0.63	a	Y	13	Y - HQ>1
7440-22-4	Silver	mg/kg	16 / 21	2.2 - 14	4.2	a	Y	3	Y - HQ>1
7440-23-5	Sodium	mg/kg	15 / 21	80 - 774	NA		--	--	N
7440-28-0	Thallium	mg/kg	1 / 21	-- - 1.2	0.0569	b	Y	21	Y - HQ>1
7440-62-2	Vanadium	mg/kg	21 / 21	13 - 88	7.8	a	Y	11	Y - HQ>1
7440-66-6	Zinc	mg/kg	21 / 21	31 - 1,000	46	a	Y	22	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	2 / 13	0.58 - 0.70	1.33	b	N	--	N

Notes:
[1] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were selected
a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at:
[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based on
[3] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.
[4] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254,
[5] Screening value for chromium $^{+3}$ based on exposure to birds.
NA = Not Available
Y - NESV = Chemical selected as a COPEC because no ESV available.
Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

Table G-22: Selection of COPECs/Screening-Level Evaluation Surface Soil EU BB6 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number		Units	Detection Frequency	Range of Detected Concentrations	Ecological Screening Value [1]		Max Concentration Exceeds Screening Value ? [Y/N]	Screening-Level HQ	Identified as COPEC [Y/N]
Volatile Organic Chemicals									
78-93-3	Methyl ethyl ketone	mg/kg	1 / 2	-- - 0.0048	89.6	b	N	--	N
Semi-Volatile Organic Chemicals									
83-32-9	Acenaphthene	mg/kg	6 / 6	0.0014 - 0.10	682	b	N	--	-- [2]
208-96-8	Acenaphthylene	mg/kg	5 / 6	0.0018 - 0.017	682	b	N	--	-- [2]
98-86-2	Acetophenone	mg/kg	2 / 6	0.0076 - 0.0080	300	b	N	--	N
120-12-7	Anthracene	mg/kg	6 / 6	0.0026 - 0.43	1480	b	N	--	-- [2]
100-52-7	Benzaldehyde	mg/kg	2 / 6	0.0088 - 0.014	NA		--	--	Y - NESV
56-55-3	Benzo(a)anthracene	mg/kg	6 / 6	0.027 - 2.0	5.21	b	N	--	-- [2]
50-32-8	Benzo(a)pyrene	mg/kg	5 / 6	0.13 - 1.9	1.52	b	Y	1	-- [2]
205-99-2	Benzo(b)fluoranthene	mg/kg	6 / 6	0.060 - 2.3	59.8	b	N	--	-- [2]
191-24-2	Benzo(g,h,i)perylene	mg/kg	5 / 6	0.097 - 1.0	119	b	N	--	-- [2]
207-08-9	Benzo(k)fluoranthene	mg/kg	5 / 6	0.076 - 0.90	148	b	N	--	-- [2]
85-68-7	Butyl benzyl phthalate	mg/kg	4 / 6	0.041 - 0.16	0.239	b	N	--	N
92-52-4	Biphenyl	mg/kg	1 / 6	-- - 0.0038	NA		--	--	Y - NESV
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	4 / 6	0.16 - 6.1	0.925	b	Y	7	Y - HQ>1
86-74-8	Carbazole	mg/kg	2 / 6	0.0053 - 0.039	NA		--	--	Y - NESV
218-01-9	Chrysene	mg/kg	6 / 6	0.056 - 1.9	4.73	b	N	--	-- [2]
53-70-3	Dibenzo(a,h)anthracene	mg/kg	5 / 6	0.035 - 0.30	18.4	b	N	--	-- [2]
132-64-9	Dibenzofuran	mg/kg	1 / 6	-- - 0.019	NA		--	--	Y - NESV
117-84-0	di-n-Octyl phthalate	mg/kg	2 / 6	0.055 - 0.16	709	b	N	--	N
206-44-0	Fluoranthene	mg/kg	6 / 6	0.024 - 3.5	122	b	N	--	-- [2]
86-73-7	Fluorene	mg/kg	6 / 6	0.0015 - 0.14	122	b	N	--	-- [2]
193-39-5	Indeno(1,2,3-c,d)pyrene	mg/kg	6 / 6	0.041 - 1.4	109	b	N	--	-- [2]
91-57-6	2-Methylnaphthalene	mg/kg	6 / 6	0.0026 - 0.020	3.24	b	N	--	N
91-20-3	Naphthalene	mg/kg	3 / 6	0.0058 - 0.015	0.0994	b	N	--	-- [2]
85-01-8	Phenanthrene	mg/kg	6 / 6	0.026 - 2.0	47.5	b	N	--	-- [2]
129-00-0	Pyrene	mg/kg	5 / 6	0.19 - 5.4	78.5	b	N	--	-- [2]
--	LMW PAHs [2]	mg/kg	6 / 6	0.032 - 2.7	100	a	N	--	N
--	HMW PAHs [2]	mg/kg	6 / 6	0.21 - 21	1.1	a	Y	19	Y - HQ>1
Pesticides									
309-00-2	Aldrin	mg/kg	1 / 2	-- - 0.0037	NA		--	--	Y - NESV
57-74-9	Chlordane, Total	mg/kg	2 / 2	0.0052 - 0.0080	NA		--	--	Y - NESV
60-57-1	Dieldrin	mg/kg	1 / 1	-- - 0.016	0.0049	a	Y	3	Y - HQ>1
--	Total DDx [3]	mg/kg	2 / 2	0.037 - 0.061	0.021	a	Y	3	Y - HQ>1
33213-65-9	beta-Endosulfan	mg/kg	1 / 2	-- - 0.0066	0.119	b	N	--	N
53494-70-5	Endrin ketone	mg/kg	1 / 2	-- - 0.004	NA		--	--	Y - NESV
1024-57-3	Heptachlor epoxide	mg/kg	1 / 1	-- - 0.004	0.152	b	N	--	N
Polychlorinated Biphenyls									
--	Total PCB Aroclors [3]	mg/kg	6 / 6	0.13 - 62	0.000332	b	Y	186,747	Y - HQ>1
Metals									
7429-90-5	Aluminum	mg/kg	6 / 6	8,040 - 16,900	NA		--	--	Y - NESV
7440-38-2	Arsenic	mg/kg	6 / 6	1.3 - 3.0	43	a	N	--	N
7440-39-3	Barium	mg/kg	6 / 6	76 - 187	2000	a	N	--	N
7440-41-7	Beryllium	mg/kg	4 / 6	0.44 - 0.84	21	a	N	--	N
7440-43-9	Cadmium	mg/kg	3 / 6	1.0 - 9.4	0.36	a	Y	26	Y - HQ>1
7440-70-2	Calcium	mg/kg	6 / 6	812 - 6,420	NA		--	--	N
7440-47-3	Chromium	mg/kg	6 / 6	13 - 20	26	a	N	--	N
7440-48-4	Cobalt	mg/kg	6 / 6	2.8 - 7.4	120	a	N	--	N
7440-50-8	Copper	mg/kg	6 / 6	4.7 - 36	28	a	Y	1	N
7439-89-6	Iron	mg/kg	6 / 6	16,500 - 28,600	NA		--	--	Y - NESV
7439-92-1	Lead	mg/kg	6 / 6	32 - 137	11	a	Y	12	Y - HQ>1
7439-95-4	Magnesium	mg/kg	6 / 6	2,420 - 6,450	NA		--	--	N
7439-96-5	Manganese	mg/kg	6 / 6	110 - 798	4000	a	N	--	N
7439-97-6	Mercury	mg/kg	6 / 6	0.048 - 0.19	0.00051	c	Y	373	Y - HQ>1
7440-02-0	Nickel	mg/kg	6 / 6	7.0 - 20	130	a	N	--	N
7440-09-7	Potassium	mg/kg	6 / 6	741 - 2,100	NA		--	--	N
7440-22-4	Silver	mg/kg	4 / 6	1.3 - 2.8	4.2	a	N	--	N
7440-23-5	Sodium	mg/kg	3 / 6	169 - 245	NA		--	--	N
7440-62-2	Vanadium	mg/kg	6 / 6	13 - 24	7.8	a	Y	3	Y - HQ>1
7440-66-6	Zinc	mg/kg	6 / 6	23 - 148	46	a	Y	3	Y - HQ>1
Other									
57-12-5	Cyanide	mg/kg	4 / 6	0.21 - 6.1	1.33	b	Y	5	Y - HQ>1

Notes:
[1] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were
a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at:
[2] While the detection frequency, range of detected concentrations, and available screening values were presented for individual PAHs, selection of PAHs as COPECs was based
[3] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.
[4] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor
[5] Screening value for chromium $^{+3}$ based on exposure to birds.
NA = Not Available
Y - NESV = Chemical selected as a COPEC because no ESV available.
Y - HQ>1 = Chemical selected as a COPEC because screening-level HQ is greater than 1.

COPEC Refinement

Table G-23: Refinement of COPECs/Surface Sediment EU GB
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals														
120-12-7	Anthracene	mg/kg	1 / 7	-- - 0.15	--	i	0.0572	a	0.15	Y	3	--	--	Y, 1
56-55-3	Benzo(a)anthracene	mg/kg	3 / 7	0.18 - 0.74	0.44	c	0.108	a	0.44	Y	4	--	--	Y, 1
50-32-8	Benzo(a)pyrene	mg/kg	3 / 7	0.18 - 0.77	0.45	c	0.15	a	0.45	Y	3	--	--	Y, 1
191-24-2	Benzo(g,h,i)perylene	mg/kg	1 / 7	-- - 0.37	--	i	0.17	b	0.37	Y	2	--	--	Y, 1
207-08-9	Benzo(k)fluoranthene	mg/kg	1 / 7	-- - 0.41	--	i	0.24	b	0.41	Y	2	--	--	Y, 1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	2 / 7	0.14 - 2.6	--	j	0.182	b	2.6	Y	14	--	--	Y, 1
218-01-9	Chrysene	mg/kg	3 / 7	0.20 - 0.83	0.49	c	0.166	a	0.49	Y	3	--	--	Y, 1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	1 / 7	-- - 0.13	--	i	0.033	b	0.13	Y	4	--	--	Y, 1
206-44-0	Fluoranthene	mg/kg	4 / 7	0.11 - 1.4	0.74	c	0.423	a	0.74	Y	2	--	--	Y, 1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	3 / 7	0.12 - 0.44	0.27	c	0.2	b	0.27	Y	1	--	--	N, 3
85-01-8	Phenanthrene	mg/kg	3 / 7	0.17 - 0.72	0.42	c	0.204	a	0.42	Y	2	--	--	Y, 1
129-00-0	Pyrene	mg/kg	3 / 7	0.34 - 1.6	0.92	c	0.195	a	0.92	Y	5	--	--	Y, 1
Metals														
7440-39-3	Barium	mg/kg	7 / 7	28 - 69			NA		--	--	--	7 / 7	87.6 - 173	N, 4
7440-41-7	Beryllium	mg/kg	1 / 7	-- - 0.67			NA		--	--	--	7 / 7	0.79 - 1.2	N, 4
7439-89-6	Iron	mg/kg	7 / 7	11,900 - 25,000			NA		--	--	--	7 / 7	23,600 - 32,100	N, 4
7439-92-1	Lead	mg/kg	7 / 7	12 - 70	47	b	35.8	a	47	Y	1	7 / 7	27 - 71	N, 4
7440-62-2	Vanadium	mg/kg	7 / 7	12 - 54			NA		--	--	--	7 / 7	26 - 49	Y, 2

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = 95% Student's-t UCL
b = 95% Approximate or Adjusted Gamma UCL
c = 95% Kaplan-Meier (t) UCL
d = 95% or 97.5% Chebyshev (Mean, Sd) UCL
e = 95% Kaplan-Meier (BCA) UCL
f = 95%, 97.5%, or 99% Kaplan-Meier (Chebyshev) UCL
g = 95% Kaplan-Meier (Percentile Bootstrap) UCL
h = 95% BCA (Bootstrap) UCL
i = Data set is too small (i.e., four or fewer samples or has only one detected value); therefore, the data set was not processed.
j = Data set consists of greater than 70% non-detected observations.

[2] Ecological screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).
b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivaelnt to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Reference area data from seven sediment samples collected within the Ambrose Brook channel."

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.

Table G-24: Refinement of COPECs/Surface Sediment EU BB1 [1]
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [2]		Ecological Screening Value [3]		EPC for COPEC Refinement [4]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [5]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
67-64-1	Acetone	mg/kg	7 / 23	0.010 - 0.44	0.084	e	0.0099	b	0.084	Y	8	--	--	Y, 1
1634-04-4	Methyl tert-butyl ether	mg/kg	1 / 23	-- - 0.0020			NA		--	--	--	--	--	N, 5
Semi-Volatile Organic Chemicals														
83-32-9	Acenaphthene	mg/kg	16 / 25	0.0023 - 0.85	0.22	e	0.00671	b	0.22	Y	33	--	--	Y, 1
208-96-8	Acenaphthylene	mg/kg	18 / 25	0.00092 - 3.1	1.5	f	0.00587	b	1.5	Y	248	--	--	Y, 1
98-86-2	Acetophenone	mg/kg	5 / 19	0.073 - 0.20			NA		--	--	--	--	--	Y, 2
120-12-7	Anthracene	mg/kg	19 / 25	0.0018 - 2.7	1.0	f	0.0572	a	1.0	Y	18	--	--	Y, 1
100-52-7	Benzaldehyde	mg/kg	2 / 18	0.062 - 0.50			NA		--	--	--	--	--	Y, 2
92-87-5	Benzidine	mg/kg	1 / 1	-- - 15			NA		--	--	--	--	--	Y, 2
56-55-3	Benzo(a)anthracene	mg/kg	24 / 25	0.011 - 8.3	3.4	f	0.108	a	3.4	Y	32	--	--	Y, 1
50-32-8	Benzo(a)pyrene	mg/kg	24 / 25	0.011 - 13	4.2	f	0.15	a	4.2	Y	28	--	--	Y, 1
191-24-2	Benzo(g,h,i)perylene	mg/kg	23 / 25	0.0080 - 9.0	2.7	f	0.17	b	2.7	Y	16	--	--	Y, 1
207-08-9	Benzo(k)fluoranthene	mg/kg	21 / 25	0.0092 - 9.1	3.0	f	0.24	b	3.0	Y	12	--	--	Y, 1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	14 / 25	0.092 - 1.4	0.51	c	0.182	b	0.51	Y	3	--	--	Y, 1
86-74-8	Carbazole	mg/kg	6 / 18	0.059 - 0.29			NA		--	--	--	--	--	Y, 2
218-01-9	Chrysene	mg/kg	24 / 25	0.015 - 9.4	3.8	f	0.166	a	3.8	Y	23	--	--	Y, 1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	18 / 25	0.0027 - 2.4	0.75	f	0.033	b	0.75	Y	23	--	--	Y, 1
206-44-0	Fluoranthene	mg/kg	24 / 25	0.033 - 16	6.8	f	0.423	a	6.8	Y	16	--	--	Y, 1
86-73-7	Fluorene	mg/kg	17 / 25	0.00081 - 2.3	0.34	e	0.0774	a	0.34	Y	4	--	--	Y, 1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	23 / 25	0.010 - 7.5	2.5	f	0.2	b	2.5	Y	12	--	--	Y, 1
99-87-6	p-Isopropyltouene	mg/kg	1 / 7	-- - 0.0010			NA		--	--	--	--	--	Y, 2
91-57-6	2-Methylnaphthalene	mg/kg	14 / 25	0.0011 - 0.14	0.033	e	0.0202	b	0.033	Y	2	--	--	Y, 1
106-44-5 / 15831-10-4 / 65794-96-9	3- & 4-Methylphenol	mg/kg	2 / 25	0.150 - 0.38	--	i	0.0202	b [8]	0.38	Y	19	--	--	Y, 1
91-20-3	Naphthalene	mg/kg	15 / 25	0.0010 - 0.97	0.55	f	0.176	a	0.55	Y	3	--	--	Y, 1
85-01-8	Phenanthrene	mg/kg	24 / 25	0.010 - 17	5.0	f	0.204	a	5.0	Y	25	--	--	Y, 1
129-00-0	Pyrene	mg/kg	23 / 25	0.021 - 15	6.5	f	0.195	a	6.5	Y	33	--	--	Y, 1
Pesticides														
319-85-7	beta-BHC	mg/kg	1 / 16	-- - 0.011	--	j	0.005	b	0.011	Y	2	--	--	Y, 1
57-74-9	Chlordane, total	mg/kg	14 / 23	0.0022 - 0.092	0.020	e	0.00324	a	0.020	Y	6	--	--	Y, 1
60-57-1	Dieldrin	mg/kg	4 / 20	0.0038 - 0.030	--	i	0.0019	a	0.030	Y	16	--	--	Y, 1
--	Total DDx [6]	mg/kg	12 / 23	0.0018 - 0.060	0.017	c	0.00528	a	0.017	Y	3	--	--	Y, 1
72-20-8	Endrin	mg/kg	3 / 22	0.00098 - 0.017	--	i	0.00222	a	0.017	Y	8	--	--	Y, 1
53494-70-5	Endrin ketone	mg/kg	4 / 23	0.0019 - 0.020			NA		--	--	--	--	--	Y, 2
76-44-8	Heptachlor	mg/kg	2 / 23	0.0013 - 0.0014	--	i	0.0006	b	0.0014	Y	2	--	--	Y, 1
1024-57-3	Heptachlor epoxide	mg/kg	2 / 13	0.0019 - 0.0069	--	i	0.00247	a	0.0069	Y	3	--	--	Y, 1
72-43-5	Methoxychlor	mg/kg	5 / 23	0.0040 - 0.057	--	i	0.0136	b	0.057	Y	4	--	--	Y, 1
Polychlorinated Biphenyls														
--	Total PCB Aroclors [7]	mg/kg	25 / 29	0.030 - 11	6.4	f	0.0598	a	6.4	Y	107	--	--	Y, 1

Table G-24: Refinement of COPECs/Surface Sediment EU BB1 [1]
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [2]		Ecological Screening Value [3]		EPC for COPEC Refinement [4]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [5]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Metals														
7429-90-5	Aluminum	mg/kg	25 / 25	3,090 - 72,500	22,417	d	25,500	c	22,417	N	--	7 / 7	5,030 - 8,310	N, 6
7440-36-0	Antimony	mg/kg	1 / 25	-- - 1.1			NA		--	--	--	1 / 7	-- - 1.2	N, 4, 5
7440-38-2	Arsenic	mg/kg	24 / 25	0.62 - 23	8.2	f	9.79	a	8.2	N	--	7 / 7	6.6 - 10.1	N, 6
7440-39-3	Barium	mg/kg	25 / 25	41 - 531			NA		--	--	--	7 / 7	88 - 173	Y, 2
7440-41-7	Beryllium	mg/kg	7 / 25	0.28 - 1.4			NA		--	--	--	7 / 7	0.79 - 1.2	Y, 2
7440-43-9	Cadmium	mg/kg	17 / 25	0.66 - 5.2	2.1	g	0.99	a	2.1	Y	2	1 / 7	-- - 1.1	Y, 1
7440-47-3	Chromium	mg/kg	25 / 25	8.1 - 95	43	d	43.4	a	43	N	--	7 / 7	20 - 32.4	N, 6
7440-50-8	Copper	mg/kg	25 / 25	5.0 - 829	112	b	31.6	a	112	Y	4	7 / 7	10 - 53.5	Y, 1
7439-89-6	Iron	mg/kg	25 / 25	7,740 - 281,000			NA		--	--	--	7 / 7	23,600 - 32,100	Y, 2
7439-92-1	Lead	mg/kg	25 / 25	8.8 - 389	148	b	35.8	a	148	Y	4	7 / 7	27.2 - 71.4	Y, 1
7439-96-5	Manganese	mg/kg	25 / 25	92 - 2,410	710	d	630	c	710	Y	1	7 / 7	345 - 975	N, 3
7439-97-6	Mercury	mg/kg	8 / 25	0.040 - 0.54	0.15	c	0.18	a	0.15	N	--	0 / 7	--	N, 6
7440-02-0	Nickel	mg/kg	23 / 23	7.7 - 94	37	d	22.7	a	37	Y	2	7 / 7	23.5 - 39.9	Y, 1
7782-49-2	Selenium	mg/kg	4 / 25	0.67 - 1.1			NA		--	--	--	4 / 7	0.11 - 0.44	Y, 2
7440-22-4	Silver	mg/kg	5 / 25	0.38 - 2.3	--	i	0.5	b	2.3	Y	5	1 / 7	-- - 0.22	Y, 1
7440-62-2	Vanadium	mg/kg	25 / 25	8.3 - 77			NA		--	--	--	7 / 7	25.5 - 49	Y, 2
7440-66-6	Zinc	mg/kg	25 / 25	25 - 600	243	h	121	a	243	Y	2	7 / 7	100 - 411	Y, 1
Other														
57-12-5	Cyanide	mg/kg	12 / 18	0.14 - 4.3	1.4	e	0.0001	b	1.42	Y	14,160	--	--	Y, 1

Notes:

[1] The analytical results from the Phase II (June 1997) and Phase III (August 1997) sampling events conducted as part of the USEPA's 1997 Ecological Evaluation were manually entered into the project database from data tables for each sampling event that present only detected chemicals. In so doing, data for chemicals not detected in one sampling event but detected in the other sampling event were omitted from the database. As a result, the frequency of detection for some chemicals is less than otherwise indicated and the EPCs for those chemicals selected as COPECs for further evaluation may be overstated.

[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = 95% Student's-t UCL
b = 95% Approximate or Adjusted Gamma UCL
c = 95% Kaplan-Meier (t) UCL
d = 95% or 97.5% Chebyshev (Mean, Sd) UCL
e = 95% Kaplan-Meier (BCA) UCL
f = 95%, 97.5%, or 99% Kaplan-Meier (Chebyshev) UCL
g = 95% Kaplan-Meier (Percentile Bootstrap) UCL
h = 95% BCA (Bootstrap) UCL
i = Data set consists of greater than 70% non-detected observations.
j = Data set is too small (i.e., four or fewer samples or has only one detected value); therefore, the data set was not processed.

[3] Ecological screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).
b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[4] Exposure point concentrations (EPC) for the COPEC refinement are equivaelnt to 95% UCL concentrations, where available, or maximum detected concentrations.

[5] Reference area data from seven sediment samples collected within the Ambrose Brook channel."

[6] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[7] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[8] Screening value for 4-methylphenol.

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-25: Refinement of COPECs/Surface Sediment EU BB2
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
67-64-1	Acetone	mg/kg	2 / 11	2.3 - 3.0	--	i	0.0099	b	3.0	Y	303	--	--	Y, 1
78-93-3	Methyl ethyl ketone	mg/kg	7 / 11	0.0068 - 0.092	0.045	c	0.0424	b	0.045	Y	1	--	--	N, 3
Semi-Volatile Organic Chemicals														
83-32-9	Acenaphthene	mg/kg	7 / 11	0.014 - 0.13	0.086	c	0.00671	b	0.086	Y	13	--	--	Y, 1
208-96-8	Acenaphthylene	mg/kg	7 / 11	0.0026 - 0.024	0.017	c	0.00587	b	0.017	Y	3	--	--	Y, 1
120-12-7	Anthracene	mg/kg	9 / 11	0.0030 - 0.30	0.21	c	0.0572	a	0.21	Y	4	--	--	Y, 1
100-52-7	Benzaldehyde	mg/kg	5 / 9	0.075 - 0.22			NA		--	--	--	--	--	Y, 2
92-87-5	Benzidine	mg/kg	2 / 2	17 - 19			NA		--	--	--	--	--	Y, 2
56-55-3	Benzo(a)anthracene	mg/kg	10 / 11	0.16 - 3.4	2.1	g	0.108	a	2.1	Y	20	--	--	Y, 1
50-32-8	Benzo(a)pyrene	mg/kg	10 / 11	0.18 - 3.5	2.4	g	0.15	a	2.4	Y	16	--	--	Y, 1
191-24-2	Benzo(g,h,i)perylene	mg/kg	9 / 11	0.20 - 2.4	1.6	c	0.17	b	1.6	Y	9	--	--	Y, 1
207-08-9	Benzo(k)fluoranthene	mg/kg	10 / 11	0.14 - 4.5	2.4	g	0.24	b	2.4	Y	10	--	--	Y, 1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	11 / 11	0.15 - 47	26	a	0.182	b	26	Y	141	--	--	Y, 1
86-74-8	Carbazole	mg/kg	2 / 9	0.078 - 0.18			NA		--	--	--	--	--	Y, 2
218-01-9	Chrysene	mg/kg	10 / 11	0.25 - 4.0	2.8	c	0.166	a	2.8	Y	17	--	--	Y, 1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	8 / 11	0.048 - 1.0	0.62	c	0.033	b	0.62	Y	19	--	--	Y, 1
206-44-0	Fluoranthene	mg/kg	10 / 11	0.35 - 6.5	3.7	g	0.423	a	3.7	Y	9	--	--	Y, 1
86-73-7	Fluorene	mg/kg	8 / 11	0.014 - 0.21	0.14	c	0.0774	a	0.14	Y	2	--	--	Y, 1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	9 / 11	0.26 - 3.1	2.1	c	0.2	b	2.1	Y	11	--	--	Y, 1
91-57-6	2-Methylnaphthalene	mg/kg	8 / 11	0.010 - 0.065	0.045	c	0.0202	b	0.045	Y	2	--	--	Y, 1
65794-96-9	3- & 4-Methylphenol	mg/kg	1 / 11	-- - 0.98	--	j	0.0202	b [7]	0.98	Y	49	--	--	Y, 1
91-20-3	Naphthalene	mg/kg	9 / 11	0.0071 - 0.42	0.24	f	0.176	a	0.24	Y	1	--	--	N, 3
85-01-8	Phenanthrene	mg/kg	10 / 11	0.18 - 2.0	1.4	g	0.204	a	1.4	Y	7	--	--	Y, 1
129-00-0	Pyrene	mg/kg	10 / 11	0.36 - 6.6	4.4	g	0.195	a	4.4	Y	22	--	--	Y, 1
Pesticides														
319-85-7	beta-BHC	mg/kg	6 / 10	0.0077 - 0.023	0.016	c	0.005	b	0.016	Y	3	--	--	Y, 1
57-74-9	Chlordane, Total	mg/kg	9 / 11	0.0057 - 0.065	0.045	c	0.00324	a	0.045	Y	14	--	--	Y, 1
--	Total DDx [5]	mg/kg	9 / 11	0.0046 - 0.11	0.069	c	0.00528	a	0.069	Y	13	--	--	Y, 1
72-20-8	Endrin	mg/kg	6 / 10	0.0094 - 0.039	0.031	c	0.00222	a	0.031	Y	14	--	--	Y, 1
53494-70-5	Endrin ketone	mg/kg	1 / 11	-- - 0.0059			NA		--	--	--	--	--	Y, 2
72-43-5	Methoxychlor	mg/kg	2 / 8	0.079 - 0.12	0.10	c	0.0136	b	0.10	Y	8	--	--	Y, 1
Polychlorinated Biphenyls														
--	Total PCB Aroclors [6]	mg/kg	11 / 11	0.27 - 4.7	3.5	a	0.0598	a	3.5	Y	59	--	--	Y, 1

Table G-25: Refinement of COPECs/Surface Sediment EU BB2
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Metals														
7440-36-0	Antimony	mg/kg	2 / 11	2.6 - 2.7			NA		--	--	--	2 / 3	1.5 - 1.6	Y, 2
7440-39-3	Barium	mg/kg	10 / 10	49 - 1,320			NA		--	--	--	3 / 3	124 - 273	Y, 2
7440-41-7	Beryllium	mg/kg	2 / 11	0.78 - 1.1			NA		--	--	--	3 / 3	0.72 - 1.2	N, 4
7440-43-9	Cadmium	mg/kg	11 / 11	1.4 - 68	30	b	0.99	a	30	Y	30	2 / 3	1.8 - 3.0	Y, 1
7440-47-3	Chromium	mg/kg	11 / 11	9.6 - 78	48	a	43.4	a	48	Y	1	3 / 3	28 - 49	N, 3
7440-50-8	Copper	mg/kg	11 / 11	5.3 - 220	105	a	31.6	a	105	Y	3	3 / 3	27 - 147	Y, 1
7439-89-6	Iron	mg/kg	11 / 11	11,900 - 36,100			NA		--	--	--	3 / 3	27,200 - 38,800	N, 4
7439-92-1	Lead	mg/kg	11 / 11	16 - 290	212	a	35.8	a	212	Y	6	3 / 3	45 - 173	Y, 1
7439-97-6	Mercury	mg/kg	11 / 11	0.032 - 0.91	0.51	a	0.18	a	0.51	Y	3	0 / 3	--	Y, 1
7440-02-0	Nickel	mg/kg	11 / 11	5.6 - 51	33	b	22.7	a	33	Y	1	3 / 3	32 - 37	N, 3
7782-49-2	Selenium	mg/kg	2 / 11	3.7 - 3.8			NA		--	--	--	3 / 3	0.15 - 0.94	Y, 2
7440-22-4	Silver	mg/kg	9 / 11	1.5 - 35	15	e	0.5	b	15	Y	29	2 / 3	0.42 - 0.93	Y, 1
7440-62-2	Vanadium	mg/kg	11 / 11	5.1 - 51			NA		--	--	--	3 / 3	34 - 47	Y, 2
7440-66-6	Zinc	mg/kg	11 / 11	43 - 670	369	a	121	a	369	Y	3	3 / 3	210 - 761	N, 4
Other														
57-12-5	Cyanide	mg/kg	5 / 9	0.85 - 2.7	1.8	c	0.0001	b	1.8	Y	17,830	--	--	Y, 1

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = 95% Student's-t UCL
b = 95% Approximate or Adjusted Gamma UCL
c = 95% Kaplan-Meier (t) UCL
d = 95% or 97.5% Chebyshev (Mean, Sd) UCL
e = 95% Kaplan-Meier (BCA) UCL
f = 95%, 97.5%, or 99% Kaplan-Meier (Chebyshev) UCL
g = 95% Kaplan-Meier (Percentile Bootstrap) UCL
h = 95% BCA (Bootstrap) UCL
i = Data set consists of greater than 70% non-detected observations.
j = Data set is too small (i.e., four or fewer samples or has only one detected value); therefore, the data set was not processed.

[2] Ecological screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).
b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivaelnt to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Reference area data from three sediment samples collected from Lake Nelson."

[5] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[6] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[7] Screening value for 4-methylphenol.

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.

Table G-26: Refinement of COPECs/Surface Sediment EU BB3
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
67-64-1	Acetone	mg/kg	8 / 16	0.086 - 7.7	2.0	c	0.0099	b	2.0	Y	206	--	--	Y, 1
75-00-3	Chloroethane	mg/kg	1 / 16	-- - 0.030			NA		--	--	--	--	--	Y, 2
74-87-3	Chloromethane	mg/kg	2 / 16	0.070 - 0.13			NA		--	--	--	--	--	Y, 2
156-59-2	cis-1,2-Dichloroethene	mg/kg	1 / 16	-- - 0.0019			NA		--	--	--	--	--	Y, 2
Semi-Volatile Organic Chemicals														
83-32-9	Acenaphthene	mg/kg	9 / 16	0.028 - 3.1	0.18	c	0.00671	b	0.18	Y	27	--	--	Y, 1
208-96-8	Acenaphthylene	mg/kg	9 / 16	0.0023 - 0.60	--	k	0.00587	b	0.60	Y	102	--	--	Y, 1
98-86-2	Acetophenone	mg/kg	3 / 16	0.10 - 0.24			NA		--	--	--	--	--	Y, 2
120-12-7	Anthracene	mg/kg	14 / 16	0.0056 - 3.9	1.7	f	0.0572	a	1.7	Y	29	--	--	Y, 1
92-87-5	Benzidine	mg/kg	5 / 6	4.6 - 81			NA		--	--	--	--	--	Y, 2
56-55-3	Benzo(a)anthracene	mg/kg	15 / 16	0.0068 - 8.3	4.8	f	0.108	a	4.8	Y	45	--	--	Y, 1
50-32-8	Benzo(a)pyrene	mg/kg	15 / 16	0.0063 - 6.4	--	k	0.15	a	6.4	Y	43	--	--	Y, 1
191-24-2	Benzo(g,h,i)perylene	mg/kg	15 / 16	0.011 - 3.1	1.9	g	0.17	b	1.9	Y	11	--	--	Y, 1
65-85-0	Benzoic acid	mg/kg	1 / 6	-- - 0.30			NA		--	--	--	--	--	Y, 2
207-08-9	Benzo(k)fluoranthene	mg/kg	13 / 16	0.0061 - 5.2	2.9	f	0.24	b	2.9	Y	12	--	--	Y, 1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	12 / 16	0.22 - 38	19	f	0.182	b	19	Y	103	--	--	Y, 1
86-74-8	Carbazole	mg/kg	5 / 10	0.11 - 0.36			NA		--	--	--	--	--	Y, 2
218-01-9	Chrysene	mg/kg	15 / 16	0.011 - 7.3	3.4	g	0.166	a	3.4	Y	21	--	--	Y, 1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	10 / 16	0.0041 - 0.86	0.53	g	0.033	b	0.53	Y	16	--	--	Y, 1
84-74-2	di-n-Butyl phthalate	mg/kg	7 / 16	0.18 - 2.4	1.2	c	1.114	b	1.2	Y	1	--	--	N, 3
206-44-0	Fluoranthene	mg/kg	15 / 16	0.013 - 12	5.3	g	0.423	a	5.3	Y	13	--	--	Y, 1
86-73-7	Fluorene	mg/kg	9 / 16	0.038 - 1.4	0.41	e	0.0774	a	0.41	Y	5	--	--	Y, 1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	15 / 16	0.0094 - 3.4	2.2	g	0.2	b	2.2	Y	11	--	--	Y, 1
91-57-6	2-Methylnaphthalene	mg/kg	9 / 16	0.0080 - 0.12	0.061	c	0.0202	b	0.061	Y	3	--	--	Y, 1
106-44-5 / 15831-10-4 / 65794-96-9	3- & 4-Methylphenol	mg/kg	1 / 16	-- - 13	--	i	0.0202	b [7]	13	Y	644	--	--	Y, 1
85-01-8	Phenanthrene	mg/kg	14 / 16	0.014 - 14	6.1	f	0.204	a	6.1	Y	30	--	--	Y, 1
129-00-0	Pyrene	mg/kg	16 / 16	0.032 - 17	8.9	b	0.195	a	8.9	Y	46	--	--	Y, 1
Pesticides														
319-84-6	alpha-BHC	mg/kg	6 / 15	0.00088 - 0.012	0.0057	c	0.006	b	0.0057	N	--	--	--	N, 6
319-85-7	beta-BHC	mg/kg	4 / 13	0.013 - 0.048	0.027	c	0.005	b	0.027	Y	5	--	--	Y, 1
58-89-9	gamma-BHC	mg/kg	5 / 16	0.0019 - 0.0092	0.0051	c	0.00237	a	0.0051	Y	2	--	--	Y, 1
57-74-9	Chlordane, Total	mg/kg	9 / 15	0.0023 - 0.22	0.091	e	0.00324	a	0.09	Y	28	--	--	Y, 1
60-57-1	Dieldrin	mg/kg	2 / 10	0.030 - 0.30	--	j	0.0019	a	0.30	Y	158	--	--	Y, 1
--	Total DDx [5]	mg/kg	12 / 16	0.0036 - 0.14	0.084	c	0.00528	a	0.084	Y	16	--	--	Y, 1
959-98-8	alpha-Endosulfan	mg/kg	2 / 14	0.026 - 0.040	--	i	0.00326	b	0.040	Y	12	--	--	Y, 1
33213-65-9	beta-Endosulfan	mg/kg	1 / 12	-- - 0.010	--	j	0.00194	b	0.010	Y	5	--	--	Y, 1
72-20-8	Endrin	mg/kg	5 / 14	0.011 - 0.058	0.027	c	0.00222	a	0.027	Y	12	--	--	Y, 1
53494-70-5	Endrin ketone	mg/kg	2 / 16	0.0025 - 0.010			NA		--	--	--	--	--	Y, 2
76-44-8	Heptachlor	mg/kg	1 / 16	-- - 0.0029	--	j	0.0006	b	0.0029	Y	5	--	--	Y, 1
72-43-5	Methoxychlor	mg/kg	2 / 14	0.015 - 0.028	--	i	0.0136	b	0.028	Y	2	--	--	Y, 1
Polychlorinated Biphenyls														
--	Total PCB Aroclors [6]	mg/kg	32 / 42	0.020 - 25	6.5	f	0.0598	a	6.5	Y	108	--	--	Y, 1

Table G-26: Refinement of COPECs/Surface Sediment EU BB3
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Metals														
7440-36-0	Antimony	mg/kg	6 / 16	0.38 - 2.9			NA		--	--	--	1 / 7	-- - 1.2	Y, 2
7440-39-3	Barium	mg/kg	16 / 16	23 - 340			NA		--	--	--	7 / 7	88 - 173	Y, 2
7440-41-7	Beryllium	mg/kg	7 / 16	0.20 - 2.9			NA		--	--	--	7 / 7	0.79 - 1.2	Y, 2
7440-43-9	Cadmium	mg/kg	15 / 16	0.67 - 16	13	f	0.99	a	13	Y	13	1 / 7	-- - 1.1	Y, 1
7440-47-3	Chromium	mg/kg	16 / 16	6.4 - 76	40	b	43.4	a	40	N	--	7 / 7	20 - 32.4	N, 6
7440-50-8	Copper	mg/kg	16 / 16	3.2 - 170	90	b	31.6	a	90	Y	3	7 / 7	10 - 53.5	Y, 1
7439-89-6	Iron	mg/kg	16 / 16	7,300 - 30,300			NA		--	--	--	7 / 7	23,600 - 32,100	N, 4
7439-92-1	Lead	mg/kg	16 / 16	5.5 - 350	160	a	35.8	a	160	Y	4	7 / 7	27 - 71	Y, 1
7439-97-6	Mercury	mg/kg	11 / 16	0.012 - 2.1	0.65	e	0.18	a	0.65	Y	4	0 / 7	--	Y, 1
7440-02-0	Nickel	mg/kg	16 / 16	5.1 - 42	25	a	22.7	a	25	Y	1	7 / 7	23.5 - 39.9	N, 3
7782-49-2	Selenium	mg/kg	6 / 16	0.63 - 3.3			NA		--	--	--	4 / 7	0.11 - 0.44	Y, 2
7440-22-4	Silver	mg/kg	12 / 16	0.13 - 11	7.5	a	0.5	b	7.5	Y	15	1 / 7	-- - 0.22	Y, 1
7440-62-2	Vanadium	mg/kg	16 / 16	8.9 - 52			NA		--	--	--	7 / 7	25.5 - 49	Y, 2
7440-66-6	Zinc	mg/kg	16 / 16	14 - 590	287	b	121	a	287	Y	2	7 / 7	100 - 411	Y, 1
Other														
57-12-5	Cyanide	mg/kg	8 / 10	0.10 - 0.84	0.49	c	0.0001	b	0.49	Y	4,890	--	--	Y, 1

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = 95% Student's-t UCL
b = 95% Approximate or Adjusted Gamma UCL
c = 95% Kaplan-Meier (t) UCL
d = 95% or 97.5% Chebyshev (Mean, Sd) UCL
e = 95% Kaplan-Meier (BCA) UCL
f = 95%, 97.5%, or 99% Kaplan-Meier (Chebyshev) UCL
g = 95% Kaplan-Meier (Percentile Bootstrap) UCL
h = 95% BCA (Bootstrap) UCL
i = Data set is too small (i.e., four or fewer samples or has only one detected value); therefore, the data set was not processed.
j = Data set consists of greater than 70% non-detected observations.
k = Calculated 95% UCL concentration exceeds the maximum detected concentration; maximum concentration used.

[2] Ecological screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).
b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivaelnt to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Reference area data from seven sediment samples collected within the Ambrose Brook channel."

[5] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[6] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[7] Screening value for 4-methylphenol.

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-27: Refinement of COPECs/Surface Sediment EU BB4
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
67-64-1	Acetone	mg/kg	2 / 14	0.69 - 1.1	--	i	0.0099	b	1.1	Y	111	--	--	Y, 1
156-59-2	cis-1,2-Dichloroethene	mg/kg	1 / 14	-- - 0.0022			NA		--	--	--	--	--	Y, 2
Semi-Volatile Organic Chemicals														
83-32-9	Acenaphthene	mg/kg	13 / 15	0.0027 - 0.19	0.11	c	0.00671	b	0.11	Y	17	--	--	Y, 1
208-96-8	Acenaphthylene	mg/kg	9 / 15	0.0014 - 0.026	0.010	c	0.00587	b	0.010	Y	2	--	--	Y, 1
98-86-2	Acetophenone	mg/kg	5 / 15	0.11 - 0.27			NA		--	--	--	--	--	Y, 2
120-12-7	Anthracene	mg/kg	15 / 15	0.0064 - 0.49	0.31	a	0.0572	a	0.31	Y	5	--	--	Y, 1
92-87-5	Benzidine	mg/kg	2 / 2	18 - 20			NA		--	--	--	--	--	Y, 2
56-55-3	Benzo(a)anthracene	mg/kg	15 / 15	0.051 - 2.9	1.7	a	0.108	a	1.7	Y	16	--	--	Y, 1
50-32-8	Benzo(a)pyrene	mg/kg	15 / 15	0.059 - 2.6	1.6	a	0.15	a	1.6	Y	10	--	--	Y, 1
191-24-2	Benzo(g,h,i)perylene	mg/kg	14 / 15	0.13 - 1.9	1.5	f	0.17	b	1.5	Y	9	--	--	Y, 1
65-85-0	Benzoic acid	mg/kg	2 / 2	0.50 - 0.57			NA		--	--	--	--	--	Y, 2
207-08-9	Benzo(k)fluoranthene	mg/kg	15 / 15	0.037 - 1.5	0.98	a	0.24	b	0.98	Y	4	--	--	Y, 1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	15 / 15	0.10 - 26	9.9	b	0.182	b	9.9	Y	54	--	--	Y, 1
85-68-7	Butyl benzyl phthalate	mg/kg	12 / 15	0.093 - 3.2	1.6	f	1.97	b	1.6	N	--	--	--	N, 6
86-74-8	Carbazole	mg/kg	6 / 13	0.061 - 0.22			NA		--	--	--	--	--	Y, 2
218-01-9	Chrysene	mg/kg	15 / 15	0.066 - 2.9	1.8	a	0.166	a	1.8	Y	11	--	--	Y, 1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	13 / 15	0.014 - 0.46	0.22	e	0.033	b	0.22	Y	7	--	--	Y, 1
84-74-2	di-n-Butyl phthalate	mg/kg	3 / 15	0.1900 - 3.9	--	i	1.114	b	3.9	Y	4	--	--	Y, 1
206-44-0	Fluoranthene	mg/kg	15 / 15	0.093 - 4.6	2.8	a	0.423	a	2.8	Y	7	--	--	Y, 1
86-73-7	Fluorene	mg/kg	13 / 15	0.0043 - 0.26	0.14	g	0.0774	a	0.14	Y	2	--	--	Y, 1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	15 / 15	0.069 - 2.2	1.2	a	0.2	b	1.2	Y	6	--	--	Y, 1
99-87-6	p-Isopropyltouene	mg/kg	1 / 2	-- - 0.080			NA		--	--	--	--	--	Y, 2
91-57-6	2-Methylnaphthalene	mg/kg	11 / 15	0.0047 - 0.08	0.059	f	0.0202	b	0.059	Y	3	--	--	Y, 1
85-01-8	Phenanthrene	mg/kg	15 / 15	0.036 - 3.0	1.6	a	0.204	a	1.6	Y	8	--	--	Y, 1
108-95-2	Phenol	mg/kg	1 / 15	-- - 0.12	--	j	0.0491	b	0.12	Y	2	--	--	Y, 1
129-00-0	Pyrene	mg/kg	14 / 15	1.0 - 8.1	3.5	e	0.195	a	3.5	Y	18	--	--	Y, 1
Pesticides														
319-84-6	alpha-BHC	mg/kg	11 / 15	0.0015 - 0.017	0.0068	e	0.006	b	0.0068	Y	1	--	--	N, 3
319-85-7	beta-BHC	mg/kg	5 / 9	0.0061 - 0.019	0.014	c	0.005	b	0.014	Y	3	--	--	Y, 1
58-89-9	gamma-BHC	mg/kg	10 / 15	0.0012 - 0.024	0.0074	e	0.00237	a	0.0074	Y	3	--	--	Y, 1
57-74-9	Chlordane, Total	mg/kg	11 / 14	0.008 0.116	0.050	e	0.00324	a	0.050	Y	15	--	--	Y, 1
60-57-1	Dieldrin	mg/kg	1 / 4	-- - 0.015	--	j	0.0019	a	0.015	Y	8	--	--	Y, 1
--	Total DDx [5]	mg/kg	11 / 15	0.027 - 0.18	0.068	e	0.00528	a	0.068	Y	13	--	--	Y, 1
959-98-8	alpha-Endosulfan	mg/kg	1 / 10	-- - 0.0073	--	j	0.00326	b	0.0073	Y	2	--	--	Y, 1
33213-65-9	beta-Endosulfan	mg/kg	2 / 4	0.0010 - 0.025	--	j	0.00194	b	0.025	Y	13	--	--	Y, 1
72-20-8	Endrin	mg/kg	7 / 11	0.011 - 0.11	0.045	g	0.00222	a	0.045	Y	20	--	--	Y, 1
53494-70-5	Endrin ketone	mg/kg	4 / 14	0.0075 - 0.013			NA		--	--	--	--	--	Y, 2
1024-57-3	Heptachlor epoxide	mg/kg	1 / 4	-- - 0.034	--	j	0.00247	a	0.034	Y	14	--	--	Y, 1
72-43-5	Methoxychlor	mg/kg	3 / 12	0.016 - 0.032	--	i	0.0136	b	0.032	Y	2	--	--	Y, 1
Polychlorinated Biphenyls														
--	Total PCB Aroclors [6]	mg/kg	49 / 55	0.055 - 39	8.4	f	0.0598	a	8.4	Y	140	--	--	Y, 1

Table G-27: Refinement of COPECs/Surface Sediment EU BB4
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Metals														
7440-36-0	Antimony	mg/kg	2 / 12	1.1 - 1.9			NA		--	--	--	1 / 7	-- - 1.2	Y, 2
7440-39-3	Barium	mg/kg	15 / 15	38 - 260			NA		--	--	--	7 / 7	88 - 173	Y, 2
7440-41-7	Beryllium	mg/kg	2 / 15	0.53 - 0.84			NA		--	--	--	7 / 7	0.79 - 1.2	N, 4
7440-43-9	Cadmium	mg/kg	13 / 15	0.78 - 12	6.4	f	0.99	a	6.4	Y	6	1 / 7	-- - 1.1	Y, 1
7440-50-8	Copper	mg/kg	15 / 15	6.6 - 130	66	d	31.6	a	66	Y	2	7 / 7	10 - 53.5	Y, 1
7439-89-6	Iron	mg/kg	15 / 15	7,950 - 28,000			NA		--	--	--	7 / 7	23,600 - 32,100	N, 4
7439-92-1	Lead	mg/kg	15 / 15	16 - 250	101	b	35.8	a	101	Y	3	7 / 7	27 - 71	Y, 1
7439-96-5	Manganese	mg/kg	15 / 15	72 - 3,060	1,339	d	630	c	1,339	Y	2	7 / 7	345 - 975	Y, 1
7439-97-6	Mercury	mg/kg	6 / 15	0.016 - 0.35	0.11	c	0.18	a	0.11	N	--	0 / 7	--	N, 6
7440-02-0	Nickel	mg/kg	15 / 15	6.7 - 37	16	a	22.7	a	16	N	--	7 / 7	23.5 - 39.9	N, 4, 6
7782-49-2	Selenium	mg/kg	3 / 15	0.15 - 3.3			NA		--	--	--	4 / 7	0.11 - 0.44	Y, 2
7440-22-4	Silver	mg/kg	7 / 15	0.71 - 5.2	2.0	c	0.5	b	2.0	Y	4	1 / 7	-- - 0.22	Y, 1
7440-62-2	Vanadium	mg/kg	15 / 15	7.8 - 46			NA		--	--	--	7 / 7	25.5 - 49	N, 4
7440-66-6	Zinc	mg/kg	15 / 15	32 - 460	233	d	121	a	233	Y	2	7 / 7	100 - 411	Y, 1
Other														
57-12-5	Cyanide	mg/kg	8 / 13	0.12 - 0.79	0.35	e	0.0001	b	0.35	Y	3,480	--	--	Y, 1

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = 95% Student's-t UCL
b = 95% Approximate or Adjusted Gamma UCL
c = 95% Kaplan-Meier (t) UCL
d = 95% or 97.5% Chebyshev (Mean, Sd) UCL
e = 95% Kaplan-Meier (BCA) UCL
f = 95%, 97.5%, or 99% Kaplan-Meier (Chebyshev) UCL
g = 95% Kaplan-Meier (Percentile Bootstrap) UCL
h = 95% BCA (Bootstrap) UCL
i = Data set consists of greater than 70% non-detected observations.
j = Data set is too small (i.e., four or fewer samples or has only one detected value); therefore, the data set was not processed.

[2] Ecological screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).
b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivaelnt to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Reference area data from seven sediment samples collected within the Ambrose Brook channel."

[5] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[6] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-28: Refinement of COPECs/Surface Sediment EU BB5
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
67-64-1	Acetone	mg/kg	14 / 24	0.0043 - 3.6	0.66	e	0.0099	b	0.66	Y	67	--	--	Y, 1
75-34-3	1,1-Dichloroethane	mg/kg	1 / 24	-- - 0.0017	--	i	0.000575	b	0.00	Y	3	--	--	N, 5
156-59-2	cis-1,2-Dichloroethene	mg/kg	14 / 24	0.0012 - 61			NA		--	--	--	--	--	Y, 2
108-88-3	Toluene	mg/kg	2 / 24	0.040 - 1.9	--	j	1.22	b	1.9	Y	2	--	--	Y, 1
87-61-6	1,2,3-Trichlorobenzene	mg/kg	5 / 24	0.0018 - 0.074			NA		--	--	--	--	--	Y, 2
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	1 / 24	-- - 0.0015			NA		--	--	--	--	--	N, 5
75-01-4	Vinyl chloride	mg/kg	7 / 24	0.012 - 0.35	--	j	0.202	b	0.35	Y	2	--	--	Y, 1
Semi-Volatile Organic Chemicals														
83-32-9	Acenaphthene	mg/kg	16 / 24	0.0019 - 0.28	0.081	e	0.00671	b	0.081	Y	12	--	--	Y, 1
208-96-8	Acenaphthylene	mg/kg	12 / 24	0.0011 - 0.020	0.0065	c	0.00587	b	0.0065	Y	1	--	--	N, 3
98-86-2	Acetophenone	mg/kg	9 / 24	0.052 - 0.17			NA		--	--	--	--	--	Y, 2
120-12-7	Anthracene	mg/kg	16 / 24	0.00063 - 0.34	0.16	e	0.0572	a	0.16	Y	3	--	--	Y, 1
100-52-7	Benzaldehyde	mg/kg	1 / 18	-- - 0.15			NA		--	--	--	--	--	Y, 2
92-87-5	Benzidine	mg/kg	6 / 6	5.4 - 14	13	a	NA		13	--	--	--	--	Y, 2
56-55-3	Benzo(a)anthracene	mg/kg	24 / 24	0.0018 - 6.5	1.5	b	0.108	a	1.5	Y	14	--	--	Y, 1
50-32-8	Benzo(a)pyrene	mg/kg	22 / 24	0.022 - 5.5	1.9	f	0.15	a	1.9	Y	13	--	--	Y, 1
191-24-2	Benzo(g,h,i)perylene	mg/kg	23 / 24	0.0025 - 2.3	1.0	f	0.17	b	1.0	Y	6	--	--	Y, 1
65-85-0	Benzoic acid	mg/kg	2 / 6	0.35 - 0.48			NA		--	--	--	--	--	Y, 2
207-08-9	Benzo(k)fluoranthene	mg/kg	23 / 24	0.0015 - 2.5	0.99	f	0.24	b	0.99	Y	4	--	--	Y, 1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	24 / 24	0.39 - 300	136	b	0.182	b	136	Y	746	--	--	Y, 1
104-51-8	n-Butylbenzene	mg/kg	1 / 6	-- - 0.030			NA		--	--	--	--	--	Y, 2
85-68-7	Butyl benzyl phthalate	mg/kg	23 / 24	0.037 - 21	10	f	1.97	b	10	Y	5	--	--	Y, 1
86-74-8	Carbazole	mg/kg	4 / 18	0.090 - 0.20			NA		--	--	--	--	--	Y, 2
218-01-9	Chrysene	mg/kg	24 / 24	0.0028 - 6.6	1.7	b	0.166	a	1.7	Y	10	--	--	Y, 1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	16 / 24	0.0060 - 1.0	0.25	e	0.033	b	0.25	Y	8	--	--	Y, 1
606-20-2	2,6-Dinitrotoluene	mg/kg	1 / 24	-- - 0.47	--	i	0.0398	b	0.47	Y	12	--	--	N, 5
84-74-2	di-n-Butyl phthalate	mg/kg	16 / 24	0.087 - 4.4	1.1	e	1.114	b	1.1	Y	1	--	--	N, 3
206-44-0	Fluoranthene	mg/kg	24 / 24	0.0050 - 2.7	1.8	b	0.423	a	1.8	Y	4	--	--	Y, 1
86-73-7	Fluorene	mg/kg	17 / 24	0.0021 - 0.29	0.14	f	0.0774	a	0.14	Y	2	--	--	Y, 1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	24 / 24	0.0021 - 4.0	1.1	b	0.2	b	1.1	Y	6	--	--	Y, 1
91-57-6	2-Methylnaphthalene	mg/kg	16 / 24	0.0010 - 0.11	0.039	e	0.0202	b	0.039	Y	2	--	--	Y, 1
106-44-5 / 15831-10-4 / 65794-96-9	3- & 4-Methylphenol	mg/kg	3 / 24	0.57 - 37	--	j	0.0202	b [7]	37	Y	1,832	--	--	Y, 1
85-01-8	Phenanthrene	mg/kg	24 / 24	0.0026 - 1.6	0.98	b	0.204	a	0.98	Y	5	--	--	Y, 1
108-95-2	Phenol	mg/kg	1 / 24	-- - 0.090	--	i	0.0491	b	0.090	Y	2	--	--	N, 5
129-00-0	Pyrene	mg/kg	21 / 24	0.011 - 9.3	3.5	f	0.195	a	3.5	Y	18	--	--	Y, 1
Pesticides														
319-84-6	alpha-BHC	mg/kg	12 / 24	0.00073 - 0.075	0.017	c	0.006	b	0.017	Y	3	--	--	Y, 1
58-89-9	gamma-BHC	mg/kg	4 / 22	0.0015 - 0.043	--	j	0.00237	a	0.043	Y	18	--	--	Y, 1
57-74-9	Chlordane, Total	mg/kg	16 24	0.0036 - 1.5	0.63	f	0.00324	a	0.63	Y	193	--	--	Y, 1
60-57-1	Dieldrin	mg/kg	11 / 20	0.0083 - 2.0	0.50	e	0.0019	a	0.50	Y	263	--	--	Y, 1
--	Total DDx [5]	mg/kg	16 / 24	0.0037 - 2.6	0.73	e	0.00528	a	0.73	Y	139	--	--	Y, 1
33213-65-9	beta-Endosulfan	mg/kg	5 / 18	0.0050 - 0.30	--	j	0.00194	b	0.30	Y	155	--	--	Y, 1
72-20-8	Endrin	mg/kg	8 / 24	0.014 - 0.85	0.17	c	0.00222	a	0.17	Y	77	--	--	Y, 1
53494-70-5	Endrin ketone	mg/kg	2 / 23	0.0012 - 0.020			NA		--	--	--	--	--	Y, 2
76-44-8	Heptachlor	mg/kg	1 / 24	-- - 0.0013	--	i	0.0006	b	0.0013	Y	2	--	--	N, 5
1024-57-3	Heptachlor epoxide	mg/kg	6 / 15	0.0045 - 1.3	0.27	c	0.00247	a	0.27	Y	107	--	--	Y, 1
72-43-5	Methoxychlor	mg/kg	2 / 24	0.047 - 0.091	--	j	0.0136	b	0.091	Y	7	--	--	Y, 1
Polychlorinated Biphenyls														
--	Total PCB Aroclors [6]	mg/kg	97 / 114	0.040 - 235	29	d	0.0598	a	29	Y	480	--	--	Y, 1

Table G-28: Refinement of COPECs/Surface Sediment EU BB5
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Metals														
7440-36-0	Antimony	mg/kg	7 / 23	1.5 - 3.5			NA		--	--	--	1 / 7	-- - 1.2	Y, 2
7440-39-3	Barium	mg/kg	24 / 24	42 - 420			NA		--	--	--	7 / 7	88 - 173	Y, 2
7440-41-7	Beryllium	mg/kg	10 / 24	0.61 - 1.5			NA		--	--	--	7 / 7	0.79 - 1.2	Y, 2
7440-43-9	Cadmium	mg/kg	20 / 24	0.81 - 35	25	d	0.99	a	25	Y	25	1 / 7	-- - 1.1	Y, 1
7440-50-8	Copper	mg/kg	24 / 24	2.3 - 152	72	b	31.6	a	72	Y	2	7 / 7	10 - 53.5	Y, 1
7439-89-6	Iron	mg/kg	24 / 24	8,990 - 75,600			NA		--	--	--	7 / 7	23,600 - 32,100	Y, 2
7439-92-1	Lead	mg/kg	24 / 24	8.6 - 340	188	b	35.8	a	188	Y	5	7 / 7	27 - 71	Y, 1
7439-96-5	Manganese	mg/kg	24 / 24	66 - 1,100	433	b	630	c	433	N	--	7 / 7	345 - 975	N, 6
7439-97-6	Mercury	mg/kg	20 / 24	0.0068 - 0.46	0.21	e	0.18	a	0.21	Y	1	0 / 7	--	N, 3
7440-02-0	Nickel	mg/kg	24 / 24	4.6 - 52	27	b	22.7	a	27	Y	1	7 / 7	23.5 - 39.9	N, 3
7782-49-2	Selenium	mg/kg	6 / 24	1.6 - 3.8			NA		--	--	--	4 / 7	0.11 - 0.44	Y, 2
7440-22-4	Silver	mg/kg	11 / 24	0.93 - 8.5	3.2	c	0.5	b	3.2	Y	6	1 / 7	-- - 0.22	Y, 1
7440-62-2	Vanadium	mg/kg	24 / 24	5.9 - 58			NA		--	--	--	7 / 7	25.5 - 49	Y, 2
7440-66-6	Zinc	mg/kg	24 / 24	12 - 630	259	b	121	a	259	Y	2	7 / 7	100 - 411	Y, 1
Other														
57-12-5	Cyanide	mg/kg	17 / 18	0.036 - 5.4	1.9	f	0.0001	b	1.9	Y	19,430	--	--	Y, 1

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = 95% Student's-t UCL
b = 95% Approximate or Adjusted Gamma UCL
c = 95% Kaplan-Meier (t) UCL
d = 95% or 97.5% Chebyshev (Mean, Sd) UCL
e = 95% Kaplan-Meier (BCA) UCL
f = 95%, 97.5%, or 99% Kaplan-Meier (Chebyshev) UCL
g = 95% Kaplan-Meier (Percentile Bootstrap) UCL
h = 95% BCA (Bootstrap) UCL
i = Data set is too small (i.e., four or fewer samples or has only one detected value); therefore, the data set was not processed.
j = Data set consists of greater than 70% non-detected observations.

[2] Ecological screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).
b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivaelnt to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Reference area data from seven sediment samples collected within the Ambrose Brook channel."

[5] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[6] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[7] Screening value for 4-methylphenol.

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-29: Refinement of COPECs/Surface Sediment EU BB6
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
67-64-1	Acetone	mg/kg	24 / 34	0.014 - 3.1	0.90	f	0.0099	b	0.90	Y	91	--	--	Y, 1
75-34-3	1,1-Dichloroethane	mg/kg	1 / 34	-- - 0.017	--	i	0.000575	b	0.017	Y	30	--	--	N, 5
78-93-3	Methyl ethyl ketone	mg/kg	16 / 34	0.0075 - 0.088	0.029	c	0.0424	b	0.029	N	--	--	--	N, 6
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	8 / 34	0.0022 - 0.012			NA		--	--	--	--	--	Y, 2
Semi-Volatile Organic Chemicals														
83-32-9	Acenaphthene	mg/kg	5 / 42	0.0076 - 0.053	--	j	0.00671	b	0.053	Y	8	--	--	Y, 1
208-96-8	Acenaphthylene	mg/kg	13 / 42	0.0014 - 0.10	0.037	c	0.00587	b	0.037	Y	6	--	--	Y, 1
120-12-7	Anthracene	mg/kg	22 / 42	0.017 - 0.16	0.060	g	0.0572	a	0.060	Y	1	--	--	N, 3
92-87-5	Benzidine	mg/kg	2 / 2	9.7 - 10			NA		--	--	--	--	--	Y, 2
56-55-3	Benzo(a)anthracene	mg/kg	34 / 42	0.029 - 1.4	0.31	e	0.108	a	0.31	Y	3	--	--	Y, 1
50-32-8	Benzo(a)pyrene	mg/kg	36 / 42	0.016 - 1.5	0.35	e	0.15	a	0.35	Y	2	--	--	Y, 1
191-24-2	Benzo(g,h,i)perylene	mg/kg	33 / 42	0.026 - 1.5	0.29	e	0.17	b	0.29	Y	2	--	--	Y, 1
207-08-9	Benzo(k)fluoranthene	mg/kg	29 / 42	0.032 - 0.63	0.21	g	0.24	b	0.21	N	--	--	--	N, 6
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	16 / 42	0.13 - 2.5	0.57	c	0.182	b	0.57	Y	3	--	--	Y, 1
86-74-8	Carbazole	mg/kg	2 / 40	0.055 - 0.057			NA		--	--	--	--	--	N, 5
218-01-9	Chrysene	mg/kg	37 / 42	0.024 - 1.6	0.38	e	0.166	a	0.38	Y	2	--	--	Y, 1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	21 / 42	0.027 - 0.13	0.060	c	0.033	b	0.060	Y	2	--	--	Y, 1
206-44-0	Fluoranthene	mg/kg	38 / 42	0.033 - 2.9	0.91	f	0.423	a	0.91	Y	2	--	--	Y, 1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	32 / 42	0.034 - 1.2	0.27	e	0.2	b	0.27	Y	1	--	--	N, 3
85-01-8	Phenanthrene	mg/kg	33 / 42	0.019 - 1.2	0.24	e	0.204	a	0.24	Y	1	--	--	N, 3
129-00-0	Pyrene	mg/kg	38 / 42	0.030 - 2.5	0.82	f	0.195	a	0.82	Y	4	--	--	Y, 1
Pesticides														
319-85-7	beta-BHC	mg/kg	3 / 34	0.0025 - 0.016	--	j	0.005	b	0.016	Y	3	--	--	Y, 1
57-74-9	Chlordane, total	mg/kg	21 / 34	0.0038 0.150	0.04	g	0.00324	a	0.04	Y	12	--	--	Y, 1
60-57-1	Dieldrin	mg/kg	6 / 34	0.0018 - 0.027	--	j	0.0019	a	0.027	Y	14	--	--	Y, 1
--	Total DDx [5]	mg/kg	11 / 34	0.0057 - 0.022	0.0088	c	0.00528	a	0.0088	Y	2	--	--	Y, 1
Polychlorinated Biphenyls														
--	Total PCB Aroclors [6]	mg/kg	11 / 42	0.080 - 0.46	--	j	0.0598	a	0.46	Y	8	--	--	Y, 1

Table G-29: Refinement of COPECs/Surface Sediment EU BB6
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Inorganic Compounds (Metals)														
7440-36-0	Antimony	mg/kg	2 / 42	1.3 - 1.5			NA		--	--	--	1 / 7	-- - 1.2	N, 5
7440-39-3	Barium	mg/kg	42 / 42	32 - 498			NA		--	--	--	7 / 7	88 - 173	Y, 2
7440-41-7	Beryllium	mg/kg	3 / 42	0.68 - 1.3			NA		--	--	--	7 / 7	0.79 - 1.2	Y, 2
7440-43-9	Cadmium	mg/kg	41 / 42	0.15 - 70	19	f	0.99	a	19	Y	19	1 / 7	-- - 1.1	Y, 1
7440-47-3	Chromium	mg/kg	42 / 42	6.1 - 73	30	d	43.4	a	30	N	--	7 / 7	20 - 32.4	N, 6
7440-50-8	Copper	mg/kg	42 / 42	3.9 - 179	68	d	31.6	a	68	Y	2	7 / 7	10 - 53.5	Y, 1
7439-89-6	Iron	mg/kg	42 / 42	4,530 - 28,500			NA		--	--	--	7 / 7	23,600 - 32,100	N, 4
7439-92-1	Lead	mg/kg	42 / 42	3.1 - 769	227	d	35.8	a	227	Y	6	7 / 7	27 - 71	Y, 1
7439-96-5	Manganese	mg/kg	42 / 42	39 - 1,125	363	d	630	c	363	N	--	7 / 7	345 - 975	N, 6
7439-97-6	Mercury	mg/kg	26 / 42	0.047 - 0.56	0.19	c	0.18	a	0.19	Y	1	0 / 7	--	N, 3
7440-02-0	Nickel	mg/kg	42 / 42	5.2 - 119	39	d	22.7	a	39	Y	2	7 / 7	23.5 - 39.9	Y, 1
7782-49-2	Selenium	mg/kg	2 / 42	1.7 - 1.8			NA		--	--	--	4 / 7	0.11 - 0.44	N, 5
7440-22-4	Silver	mg/kg	21 / 42	0.76 - 31	5.4	c	0.5	b	5.4	Y	11	1 / 7	-- - 0.22	Y, 1
7440-28-0	Thallium	mg/kg	28 / 42	0.028 - 0.16			NA		--	--	--	0 / 7	--	Y, 2
7440-62-2	Vanadium	mg/kg	42 / 42	6.0 - 54			NA		--	--	--	7 / 7	25.5 - 49	Y, 2
7440-66-6	Zinc	mg/kg	42 / 42	19 - 542	258	d	121	a	258	Y	2	7 / 7	100 - 411	Y, 1
Other														
57-12-5	Cyanide	mg/kg	1 / 12	-- - 0.19	--	i	0.0001	b	0.19	Y	1,900	--	--	Y, 1

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = 95% Student's-t UCL
b = 95% Approximate or Adjusted Gamma UCL
c = 95% Kaplan-Meier (t) UCL
d = 95% or 97.5% Chebyshev (Mean, Sd) UCL
e = 95% Kaplan-Meier (BCA) UCL
f = 95%, 97.5%, or 99% Kaplan-Meier (Chebyshev) UCL
g = 95% Kaplan-Meier (Percentile Bootstrap) UCL
h = 95% BCA (Bootstrap) UCL
i = Data set is too small (i.e., four or fewer samples or has only one detected value); therefore, the data set was not processed.
j = Data set consists of greater than 70% non-detected observations.

[2] Ecological screening values were selected based on the following hierarchy:

a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).
b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivaelnt to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Reference area data from seven sediment samples collected within the Ambrose Brook channel."

[5] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[6] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-30: Refinement of COPECs/Surface Sediment EU SL
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC, Rationale [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
67-64-1	Acetone	mg/kg	2 / 3	0.010 - 0.020	--	a	0.0099	b	0.020	Y	2	--	--	Y, 1
156-59-2	cis-1,2-Dichloroethene	mg/kg	1 / 3	-- - 0.039			NA		--	--	--	--	--	Y, 2
1634-04-4	Methyl tert-butyl ether	mg/kg	1 / 3	-- - 0.010			NA		--	--	--	--	--	Y, 2
Semi-Volatile Organic Chemicals														
83-32-9	Acenaphthene	mg/kg	1 / 3	-- - 0.049	--	a	0.00671	b	0.049	Y	7	--	--	Y, 1
98-86-2	Acetophenone	mg/kg	1 / 1	-- - 0.057			NA		--	--	--	--	--	Y, 2
120-12-7	Anthracene	mg/kg	1 / 3	-- - 0.15	--	a	0.0572	a	0.15	Y	3	--	--	Y, 1
56-55-3	Benzo(a)anthracene	mg/kg	3 / 3	0.75 - 3.9	--	a	0.108	a	3.9	Y	36	--	--	Y, 1
50-32-8	Benzo(a)pyrene	mg/kg	3 / 3	0.35 - 5.8	--	a	0.15	a	5.8	Y	39	--	--	Y, 1
191-24-2	Benzo(g,h,i)perylene	mg/kg	3 / 3	0.27 - 3.5	--	a	0.17	b	3.5	Y	21	--	--	Y, 1
207-08-9	Benzo(k)fluoranthene	mg/kg	3 / 3	0.35 - 5.2	--	a	0.24	b	5.2	Y	22	--	--	Y, 1
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	2 / 3	0.87 - 1.6	--	a	0.182	b	1.6	Y	9	--	--	Y, 1
86-74-8	Carbazole	mg/kg	1 / 1	-- - 0.069			NA		--	--	--	--	--	Y, 2
218-01-9	Chrysene	mg/kg	3 / 3	0.83 - 4.9	--	a	0.166	a	4.9	Y	30	--	--	Y, 1
53-70-3	Dibenzo(a,h)anthracene	mg/kg	2 / 3	0.059 - 1.3	--	a	0.033	b	1.3	Y	39	--	--	Y, 1
206-44-0	Fluoranthene	mg/kg	3 / 3	1.4 - 9.3	--	a	0.423	a	9.3	Y	22	--	--	Y, 1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	3 / 3	0.28 - 3.2	--	a	0.2	b	3.2	Y	16	--	--	Y, 1
99-87-6	p-Isopropyltouene	mg/kg	1 / 2	-- - 0.010			NA		--	--	--	--	--	Y, 2
85-01-8	Phenanthrene	mg/kg	3 / 3	0.87 - 4.1	--	a	0.204	a	4.1	Y	20	--	--	Y, 1
129-00-0	Pyrene	mg/kg	3 / 3	1.3 - 8.2	--	a	0.195	a	8.2	Y	42	--	--	Y, 1
Pesticides														
57-74-9	Chlordane, Total	mg/kg	14 / 22	0.0123 - 0.30	0.12	b	0.00324	a	0.12	Y	37	--	--	Y, 1
	Total DDx [5]	mg/kg	5 / 22	0.014 - 0.30	--	c	0.00528	a	0.30	Y	57	--	--	Y, 1
1024-57-3	Heptachlor epoxide	mg/kg	1 / 24	-- - 0.023	--	a	0.00247	a	0.023	Y	9	--	--	N, 5
Metals														
7440-39-3	Barium	mg/kg	3 / 3	55 - 110			NA		--	--	--	3 / 3	124 - 273	N, 4
7440-43-9	Cadmium	mg/kg	3 / 3	0.67 - 2.5	--	a	0.99	a	2.50	Y	3	2 / 3	1.8 - 3.0	N, 4
7440-50-8	Copper	mg/kg	3 / 3	20 - 81	--	a	31.6	a	81.0	Y	3	3 / 3	27 - 147	N, 4
7439-89-6	Iron	mg/kg	3 / 3	9,200 - 19,000			NA		--	--	--	3 / 3	27,200 - 38,800	N, 4
7439-92-1	Lead	mg/kg	3 / 3	53 - 290	--	a	35.8	a	290	Y	8	3 / 3	45 - 173	Y, 1
7439-97-6	Mercury	mg/kg	2 / 3	0.080 - 0.43	--	a	0.18	a	0.43	Y	2	0 / 3	--	Y, 1
7440-22-4	Silver	mg/kg	1 / 3	-- - 1.1	--	a	0.5	b	1.1	Y	2	2 / 3	0.42 - 0.93	Y, 1
7440-62-2	Vanadium	mg/kg	3 / 3	14 - 39			NA		--	--	--	3 / 3	34 - 47	N, 4
7440-66-6	Zinc	mg/kg	3 / 3	64 - 300	--	a	121	a	300	Y	2	3 / 3	210 - 761	N, 4
Other														
57-12-5	Cyanide	mg/kg	1 / 1	-- - 1.3	--	a	0.0001	b	1.3	Y	13,000	--	--	Y, 1

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = Data set is too small (i.e., four or fewer samples or has only one detected value); therefore, the data set was not processed.
b = 95% Kaplan-Meier (t) UCL
c = Data set consists of greater than 70% non-detected observations.

[2] Ecological screening values were selected based on the following hierarchy:
a = Consensus-based sediment quality guidelines, threshold effects concentrations (MacDonald, 2000).
b = USEPA Region 5 Ecological Screening Levels for sediment (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for sediment (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivaelnt to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Reference area data from three sediment samples collected from Lake Nelson."

[5] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.

Table G-31: Selection of COPECs/Herbivorous Semi-Aquatic Food Web Modeling - Surface Sediment EU GB
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Reference Area Data [3]		Identified as COPEC [Y/N]
					Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals							
LMW PAHs	LMW PAHs [1]	mg/kg	3 / 7	0.17 - 0.87	--	--	Y, 1
HMW PAHs	HMW PAHs [1]	mg/kg	4 / 7	0.11 - 7.9	--	--	Y, 1
Polychlorinated Biphenyls							
	Total PCB Aroclors [2]	mg/kg	3 / 7	0.016 - 0.089	--	--	Y, 1
Metals							
7440-38-2	Arsenic	mg/kg	7 / 7	1.1 - 2.6	7 / 7	6.6 - 10.1	N, 2
7440-43-9	Cadmium	mg/kg	2 / 7	0.58 - 0.81	1 / 7	-- - 1.1	N, 2
7440-47-3	Chromium	mg/kg	7 / 7	10 - 29	7 / 7	20 - 32.4	N, 2
7440-50-8	Copper	mg/kg	7 / 7	6.3 - 25	7 / 7	10 - 53.5	N, 2
7439-92-1	Lead	mg/kg	7 / 7	12 - 70	7 / 7	27.2 - 71.4	N, 2
7439-97-6	Mercury	mg/kg	1 / 7	-- - 0.18	0 / 7	--	Y, 1
7440-02-0	Nickel	mg/kg	7 / 7	8.7 - 19	7 / 7	23.5 - 39.9	N, 2
7440-66-6	Zinc	mg/kg	7 / 7	29 - 81	7 / 7	100 - 411	N, 2

Notes:

NA = Not Available

[1] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[2] Selection of total PCBs as COPEC.

[3] Reference area data from seven sediment samples collected within the Ambrose Brook channel.

Rationale Codes:

1 - Bioaccumulative and detected in surface sediment; also for metals maximum concentration is above the range of concentrations detected in reference area

2 - Maximum concentration is within range of concentrations detected in reference area samples.

3 - For data sets with more than twenty samples, frequency of detection <= 5%.

Table G-32: Selection of COPECs/Herbivorous Semi-Aquatic Food Web Modeling - Surface Sediment EU BB1[1]
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Reference Area Data[5]		Identified as COPEC [Y/N]
					Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals							
LMW PAHs	LMW PAHs [2]	mg/kg	24 / 25	0.014 - 23	--	--	Y, 1
HMW PAHs	HMW PAHs [2]	mg/kg	24 / 25	0.15 - 101	--	--	Y, 1
Pesticides							
309-00-2	Aldrin	mg/kg	4 / 23	0.00058 - 0.00077	--	--	Y, 1
319-84-6	alpha-BHC	mg/kg	4 / 23	0.00089 - 0.0046	--	--	Y, 1
319-85-7	beta-BHC	mg/kg	1 / 23	-- - 0.011	--	--	N, 3
319-86-8	delta-BHC	mg/kg	1 / 23	-- - 0.0020	--	--	N, 3
58-89-9	gamma-BHC	mg/kg	4 / 23	0.00070 - 0.0025	--	--	Y, 1
57-74-9	Chlordane, total	mg/kg	14 / 23	0.0022 - 0.092	--	--	Y, 1
60-57-1	Dieldrin	mg/kg	4 / 20	0.0038 - 0.030	--	--	Y, 1
	Total DDx [3]	mg/kg	12 / 23	0.0018 - 0.060	--	--	Y, 1
959-98-8	alpha-Endosulfan	mg/kg	4 / 21	0.00078 - 0.0023	--	--	Y, 1
33213-65-9	beta-Endosulfan	mg/kg	1 / 22	-- - 0.0014	--	--	N, 3
72-20-8	Endrin	mg/kg	3 / 22	0.00098 - 0.017	--	--	Y, 1
7421-93-4	Endrin aldehyde	mg/kg	3 / 23	0.0026 - 0.0067	--	--	Y, 1
53494-70-5	Endrin ketone	mg/kg	4 / 23	0.0019 - 0.020	--	--	Y, 1
76-44-8	Heptachlor	mg/kg	2 / 23	0.0013 - 0.0014	--	--	Y, 1
1024-57-3	Heptachlor epoxide	mg/kg	2 / 13	0.0019 - 0.0069	--	--	Y, 1
72-43-5	Methoxychlor	mg/kg	5 / 23	0.0040 - 0.057	--	--	Y, 1
Polychlorinated Biphenyls							
	Total PCB Aroclors [4]	mg/kg	25 / 29	0.030 - 11	--	--	Y, 1
Metals							
7440-38-2	Arsenic	mg/kg	24 / 25	0.62 - 23	7 / 7	6.6 - 10.1	Y, 1
7440-43-9	Cadmium	mg/kg	17 / 25	0.66 - 5.2	1 / 7	-- - 1.1	Y, 1
7440-47-3	Chromium	mg/kg	25 / 25	8.1 - 95	7 / 7	20 - 32.4	Y, 1
7440-50-8	Copper	mg/kg	25 / 25	5.0 - 829	7 / 7	10 - 53.5	Y, 1
7439-92-1	Lead	mg/kg	25 / 25	8.8 - 389	7 / 7	27.2 - 71.4	Y, 1
7439-97-6	Mercury	mg/kg	8 / 25	0.040 - 0.54	0 / 7	--	Y, 1
7440-02-0	Nickel	mg/kg	23 / 23	7.7 - 94	7 / 7	23.5 - 39.9	Y, 1
7782-49-2	Selenium	mg/kg	4 / 25	0.67 - 1.1	4 / 7	0.11 - 0.44	Y, 1
7440-22-4	Silver	mg/kg	5 / 25	0.38 - 2.3	1 / 7	-- - 0.22	Y, 1
7440-66-6	Zinc	mg/kg	25 / 25	25 - 600	7 / 7	100 - 411	Y, 1

Notes:

NA = Not Available

[1] The analytical results from the Phase II (June 1997) and Phase III (August 1997) sampling events conducted as part of the USEPA's 1997 Ecological Evaluation were manually entered into the project database from data tables for each sampling event that present only detected chemicals. In so doing, data for chemicals not detected in one sampling event but detected in the other sampling event were omitted from the database. As a result, the frequency of detection for some chemicals is less than otherwise indicated and the EPCs for those chemicals selected as COPECs for further evaluation may be overstated.

[2] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs)

[3] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample

[4] Selection of total PCBs as COPEC.

[5] Reference area data from seven sediment samples collected within the Ambrose Brook channel

Rationale Codes:

1 - Bioaccumulative and detected in surface sediment; also for metals maximum concentration is above the range of concentrations detected in reference area
2 - Maximum concentration is within range of concentrations detected in reference area samples.
3 - For data sets with more than twenty samples, frequency of detection <= 5%.

Table G-33: Selection of COPECs/Herbivorous Semi-Aquatic Food Web Modeling - Surface Sediment EU BB2
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Reference Area Data [4]		Identified as COPEC [Y/N]
					Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals							
LMW PAHs	LMW PAHs [1]	mg/kg	11 / 11	0.0056 - 2.7	--	--	Y, 1
HMW PAHs	HMW PAHs [1]	mg/kg	10 / 11	2.3 - 39	--	--	Y, 1
Pesticides							
319-84-6	alpha-BHC	mg/kg	4 / 11	0.0046 - 0.0073	--	--	Y, 1
319-85-7	beta-BHC	mg/kg	6 / 10	0.0077 - 0.023	--	--	Y, 1
57-74-9	Chlordane, total	mg/kg	9 / 11	0.0057 - 0.065	--	--	Y, 1
	Total DDx [2]	mg/kg	9 / 11	0.0046 - 0.11	--	--	Y, 1
959-98-8	alpha-Endosulfan	mg/kg	1 / 9	-- - 0.0011	--	--	Y, 1
72-20-8	Endrin	mg/kg	6 / 10	0.0094 - 0.039	--	--	Y, 1
53494-70-5	Endrin ketone	mg/kg	1 / 11	-- - 0.0059	--	--	Y, 1
72-43-5	Methoxychlor	mg/kg	2 / 8	0.079 - 0.12	--	--	Y, 1
Polychlorinated Biphenyls							
	Total PCB Aroclors [3]	mg/kg	11 / 11	0.27 - 4.7	--	--	Y, 1
Metals							
7440-38-2	Arsenic	mg/kg	11 / 11	0.69 - 13	3 / 3	8.0 - 11	Y, 1
7440-43-9	Cadmium	mg/kg	11 / 11	1.4 - 68	2 / 3	1.8 - 3.0	Y, 1
7440-47-3	Chromium	mg/kg	11 / 11	9.6 - 78	3 / 3	28 - 49	Y, 1
7440-50-8	Copper	mg/kg	11 / 11	5.3 - 220	3 / 3	27 - 147	Y, 1
7439-92-1	Lead	mg/kg	11 / 11	16 - 290	3 / 3	45 - 173	Y, 1
7439-97-6	Mercury	mg/kg	11 / 11	0.032 - 0.91	0 / 3	--	Y, 1
7440-02-0	Nickel	mg/kg	11 / 11	5.6 - 51	3 / 3	32 - 37	Y, 1
7782-49-2	Selenium	mg/kg	2 / 11	3.7 - 3.8	3 / 3	0.15 - 0.94	Y, 1
7440-22-4	Silver	mg/kg	9 / 11	1.5 - 35	2 / 3	0.42 - 0.93	Y, 1
7440-66-6	Zinc	mg/kg	11 / 11	43 - 670	3 / 3	210 - 761	N, 2

Notes:

NA = Not Available

[1] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[2] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[3] Selection of total PCBs as COPEC.

[4] Reference area data from seven sediment samples collected within the Ambrose Brook channel.

Rationale Codes:

1 - Bioaccumulative and detected in surface sediment; also for metals maximum concentration is above the range of concentrations detected in reference area

2 - Maximum concentration is within range of concentrations detected in reference area samples.

3 - For data sets with more than twenty samples, frequency of detection <= 5%.

Table G-34: Selection of COPECs/Herbivorous Semi-Aquatic Food Web Modeling - Surface Sediment EU BB3
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Reference Area Data [4]		Identified as COPEC [Y/N]
					Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals							
LMW PAHs	LMW PAHs [1]	mg/kg	15 / 16	0.021 - 20	--	--	Y, 1
HMW PAHs	HMW PAHs [1]	mg/kg	16 / 16	0.11 - 66	--	--	Y, 1
Pesticides							
309-00-2	Aldrin	mg/kg	1 / 15	-- - 0.0015	--	--	Y, 1
319-84-6	alpha-BHC	mg/kg	6 / 15	0.00088 - 0.012	--	--	Y, 1
319-85-7	beta-BHC	mg/kg	4 / 13	0.013 - 0.048	--	--	Y, 1
58-89-9	gamma-BHC	mg/kg	5 / 16	0.0019 - 0.0092	--	--	Y, 1
57-74-9	Chlordane, total	mg/kg	9 / 15	0.0023 - 0.22	--	--	Y, 1
60-57-1	Dieldrin	mg/kg	2 / 10	0.030 - 0.30	--	--	Y, 1
	Total DDx [2]	mg/kg	12 / 16	0.0036 - 0.14	--	--	Y, 1
959-98-8	alpha-Endosulfan	mg/kg	2 / 14	0.026 - 0.040	--	--	Y, 1
33213-65-9	beta-Endosulfan	mg/kg	1 / 12	-- - 0.010	--	--	Y, 1
72-20-8	Endrin	mg/kg	5 / 14	0.011 - 0.058	--	--	Y, 1
7421-93-4	Endrin aldehyde	mg/kg	3 / 13	0.0088 - 0.018	--	--	Y, 1
53494-70-5	Endrin ketone	mg/kg	2 / 16	0.0025 - 0.010	--	--	Y, 1
76-44-8	Heptachlor	mg/kg	1 / 16	-- - 0.0029	--	--	Y, 1
1024-57-3	Heptachlor epoxide	mg/kg	1 / 9	0.0017 - 0.0037	--	--	Y, 1
72-43-5	Methoxychlor	mg/kg	2 / 14	0.015 - 0.028	--	--	Y, 1
Polychlorinated Biphenyls							
	Total PCB Aroclors [3]	mg/kg	32 / 42	0.020 - 25	--	--	Y, 1
Metals							
7440-38-2	Arsenic	mg/kg	16 / 16	0.85 - 12	7 / 7	6.6 - 10	Y, 1
7440-43-9	Cadmium	mg/kg	15 / 16	0.67 - 16	1 / 7	-- - 1.1	Y, 1
7440-47-3	Chromium	mg/kg	16 / 16	6.4 - 76	7 / 7	20 - 32.4	Y, 1
7440-50-8	Copper	mg/kg	16 / 16	3.2 - 170	7 / 7	10 - 53.5	Y, 1
7439-92-1	Lead	mg/kg	16 / 16	5.5 - 350	7 / 7	27 - 71	Y, 1
7439-97-6	Mercury	mg/kg	11 / 16	0.012 - 2.1	0 / 7	--	Y, 1
7440-02-0	Nickel	mg/kg	16 / 16	5.1 - 42	7 / 7	23.5 - 39.9	Y, 1
7782-49-2	Selenium	mg/kg	6 / 16	0.63 - 3.3	4 / 7	0.11 - 0.44	Y, 1
7440-22-4	Silver	mg/kg	12 / 16	0.13 - 11	1 / 7	-- - 0.22	Y, 1
7440-66-6	Zinc	mg/kg	16 / 16	14 - 590	7 / 7	100 - 411	Y, 1

Notes:

NA = Not Available

[1] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[2] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[3] Selection of total PCBs as COPEC.

[4] Reference area data from seven sediment samples collected within the Ambrose Brook channel.

Rationale Codes:

1 - Bioaccumulative and detected in surface sediment; also for metals maximum concentration is above the range of concentrations detected in reference area

2 - Maximum concentration is within range of concentrations detected in reference area samples.

3 - For data sets with more than twenty samples, frequency of detection <= 5%.

Table G-35: Selection of COPECs/Herbivorous Semi-Aquatic Food Web Modeling - Surface Sediment EU BB4
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Reference Area Data [4]		Identified as COPEC [Y/N]
					Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals							
LMW PAHs	LMW PAHs [1]	mg/kg	17 / 17	0.056 - 4.0	--	--	Y, 1
HMW PAHs	HMW PAHs [1]	mg/kg	17 / 17	0.49 - 27	--	--	Y, 1
Pesticides							
309-00-2	Aldrin	mg/kg	1 / 15	-- - 0.0024	--	--	Y, 1
319-84-6	alpha-BHC	mg/kg	11 / 15	0.0015 - 0.017	--	--	Y, 1
319-85-7	beta-BHC	mg/kg	5 / 9	0.0061 - 0.019	--	--	Y, 1
58-89-9	gamma-BHC	mg/kg	10 / 15	0.0012 - 0.024	--	--	Y, 1
57-74-9	Chlordane, total	mg/kg	11 / 14	0.0084 0.12	--	--	Y, 1
60-57-1	Dieldrin	mg/kg	1 / 4	-- - 0.015	--	--	Y, 1
	Total DDx [2]	mg/kg	11 / 15	0.027 - 0.18	--	--	Y, 1
959-98-8	alpha-Endosulfan	mg/kg	1 / 10	-- - 0.0073	--	--	Y, 1
33213-65-9	beta-Endosulfan	mg/kg	2 / 4	0.0010 - 0.025	--	--	Y, 1
1031-07-8	Endosulfan sulfate	mg/kg	1 / 14	-- - 0.013	--	--	Y, 1
72-20-8	Endrin	mg/kg	7 / 11	0.011 - 0.11	--	--	Y, 1
7421-93-4	Endrin aldehyde	mg/kg	4 / 7	0.0063 - 0.027	--	--	Y, 1
53494-70-5	Endrin ketone	mg/kg	4 / 14	0.0075 - 0.013	--	--	Y, 1
1024-57-3	Heptachlor epoxide	mg/kg	1 / 4	-- - 0.034	--	--	Y, 1
72-43-5	Methoxychlor	mg/kg	3 / 12	0.016 - 0.032	--	--	Y, 1
Polychlorinated Biphenyls							
	Total PCB Aroclors [3]	mg/kg	49 / 55	0.055 - 39	--	--	Y, 1
Metals							
7440-38-2	Arsenic	mg/kg	14 / 15	0.79 - 12	7 / 7	6.6 - 10	Y, 1
7440-43-9	Cadmium	mg/kg	13 / 15	0.78 - 12	1 / 7	-- - 1.1	Y, 1
7440-47-3	Chromium	mg/kg	15 / 15	6.7 - 53	7 / 7	20 - 32.4	Y, 1
7440-50-8	Copper	mg/kg	15 / 15	6.6 - 130	7 / 7	10 - 53.5	Y, 1
7439-92-1	Lead	mg/kg	15 / 15	16 - 250	7 / 7	27 - 71	Y, 1
7439-97-6	Mercury	mg/kg	6 / 15	0.016 - 0.35	0 / 7	--	Y, 1
7440-02-0	Nickel	mg/kg	15 / 15	6.7 - 37	7 / 7	23.5 - 39.9	N, 2
7782-49-2	Selenium	mg/kg	3 / 15	0.15 - 3.3	4 / 7	0.11 - 0.44	Y, 1
7440-22-4	Silver	mg/kg	7 / 15	0.71 - 5.2	1 / 7	-- - 0.22	Y, 1
7440-66-6	Zinc	mg/kg	15 / 15	32 - 460	7 / 7	100 - 411	Y, 1

Notes:

NA = Not Available

[1] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[2] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[3] Selection of total PCBs as COPEC.

[4] Reference area data from seven sediment samples collected within the Ambrose Brook channel.

Rationale Codes:

1 - Bioaccumulative and detected in surface sediment; also for metals maximum concentration is above the range of concentrations detected in reference area samples.

2 - Maximum concentration is within range of concentrations detected in reference area samples.

3 - For data sets with more than twenty samples, frequency of detection <= 5%.

Table G-36: Selection of COPECs/Herbivorous Semi-Aquatic Food Web Modeling - Surface Sediment EU BB5
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Reference Area Data [4]		Identified as COPEC [Y/N]
					Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals							
106-46-7	1,4-Dichlorobenzene	mg/kg	4 / 24	0.018 - 0.053	--	--	Y, 1
127-18-4	Tetrachloroethene	mg/kg	2 / 24	0.012 - 0.037	--	--	Y, 1
Semi-Volatile Organic Chemicals							
95-50-1	1,2-Dichlorobenzene	mg/kg	4 / 24	0.0046 - 0.0077	--	--	Y, 1
541-73-1	1,3-Dichlorobenzene	mg/kg	4 / 24	0.0091 - 0.025	--	--	Y, 1
87-86-5	Pentachlorophenol	mg/kg	1 / 24	-- - 0.013	--	--	N, 3
LMW PAHs	LMW PAHs [1]	mg/kg	24 / 24	0.0060 - 2.1	--	--	Y, 1
HMW PAHs	HMW PAHs [1]	mg/kg	24 / 24	0.035 - 49	--	--	Y, 1
Pesticides							
319-84-6	alpha-BHC	mg/kg	12 / 24	0.00073 - 0.075	--	--	Y, 1
319-85-7	beta-BHC	mg/kg	1 / 18	-- - 0.0067	--	--	Y, 1
319-86-8	delta-BHC	mg/kg	1 / 23	-- - 0.0011	--	--	N, 3
58-89-9	gamma-BHC	mg/kg	4 / 22	0.0015 - 0.043	--	--	Y, 1
57-74-9	Chlordane, total	mg/kg	16 24	0.0036 - 1.5	--	--	Y, 1
60-57-1	Dieldrin	mg/kg	11 / 20	0.0083 - 2.0	--	--	Y, 1
	Total DDx [2]	mg/kg	16 / 24	0.0037 - 2.6	--	--	Y, 1
33213-65-9	beta-Endosulfan	mg/kg	5 / 18	0.0050 - 0.30	--	--	Y, 1
72-20-8	Endrin	mg/kg	8 / 24	0.014 - 0.85	--	--	Y, 1
7421-93-4	Endrin aldehyde	mg/kg	6 / 18	0.013 - 0.25	--	--	Y, 1
53494-70-5	Endrin ketone	mg/kg	2 / 23	0.0012 - 0.020	--	--	Y, 1
76-44-8	Heptachlor	mg/kg	1 / 24	-- - 0.0013	--	--	N, 3
1024-57-3	Heptachlor epoxide	mg/kg	6 / 15	0.0045 - 1.3	--	--	Y, 1
72-43-5	Methoxychlor	mg/kg	2 / 24	0.047 - 0.091	--	--	Y, 1
Polychlorinated Biphenyls							
	Total PCB Aroclors [3]	mg/kg	97 / 114	0.040 - 235	--	--	Y, 1
Metals							
7440-38-2	Arsenic	mg/kg	23 / 24	0.70 - 13	7 / 7	6.6 - 10	Y, 1
7440-43-9	Cadmium	mg/kg	20 / 24	0.81 - 35	1 / 7	-- - 1.1	Y, 1
7440-47-3	Chromium	mg/kg	24 / 24	5.4 - 56	7 / 7	20 - 32.4	Y, 1
7440-50-8	Copper	mg/kg	24 / 24	2.3 - 152	7 / 7	10 - 53.5	Y, 1
7439-92-1	Lead	mg/kg	24 / 24	8.6 - 340	7 / 7	27 - 71	Y, 1
7439-97-6	Mercury	mg/kg	20 / 24	0.0068 - 0.46	0 / 7	--	Y, 1
7440-02-0	Nickel	mg/kg	24 / 24	4.6 - 52	7 / 7	23.5 - 39.9	Y, 1
7782-49-2	Selenium	mg/kg	6 / 24	1.6 - 3.8	4 / 7	0.11 - 0.44	Y, 1
7440-22-4	Silver	mg/kg	11 / 24	0.93 - 8.5	1 / 7	-- - 0.22	Y, 1
7440-66-6	Zinc	mg/kg	24 / 24	12 - 630	7 / 7	100 - 411	Y, 1

Notes:

NA = Not Available

[1] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[2] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[3] Selection of total PCBs as COPEC.

[4] Reference area data from seven sediment samples collected within the Ambrose Brook channel

Rationale Codes:

1 - Bioaccumulative and detected in surface sediment; also for metals maximum concentration is above the range of concentrations detected in reference area

2 - Maximum concentration is within range of concentrations detected in reference area samples.

3 - For data sets with more than twenty samples, frequency of detection <= 5%.

Table G-37: Selection of COPECs/Herbivorous Semi-Aquatic Food Web Modeling - Surface Sediment EU BB6
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Reference Area Data [4]		Identified as COPEC [Y/N]
					Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals							
106-46-7	1,4-Dichlorobenzene	mg/kg	1 / 34	-- - 0.0030	--	--	N, 3
Semi-Volatile Organic Chemicals							
LMW PAHs	LMW PAHs [1]	mg/kg	33 / 42	0.019 - 1.2	--	--	Y, 1
HMW PAHs	HMW PAHs [1]	mg/kg	38 / 42	0.12 - 15	--	--	Y, 1
Pesticides							
319-84-6	alpha-BHC	mg/kg	2 / 34	0.00060 - 0.00087	--	--	Y, 1
319-85-7	beta-BHC	mg/kg	3 / 34	0.0025 - 0.016	--	--	Y, 1
319-86-8	delta-BHC	mg/kg	2 / 34	0.017 - 0.037	--	--	Y, 1
57-74-9	Chlordane, total	mg/kg	21 / 34	0.0038 0.15	--	--	Y, 1
60-57-1	Dieldrin	mg/kg	6 / 34	0.0018 - 0.027	--	--	Y, 1
	Total DDx [2]	mg/kg	11 / 34	0.0057 - 0.022	--	--	Y, 1
33213-65-9	beta-Endosulfan	mg/kg	3 / 34	0.0015 - 0.0027	--	--	Y, 1
1031-07-8	Endosulfan sulfate	mg/kg	1 / 34	-- - 0.0024	--	--	N, 3
7421-93-4	Endrin aldehyde	mg/kg	1 / 34	-- - 0.0017	--	--	N, 3
1024-57-3	Heptachlor epoxide	mg/kg	1 / 34	-- - 0.00085	--	--	N, 3
72-43-5	Methoxychlor	mg/kg	2 / 34	0.0045 - 0.0091	--	--	Y, 1
Polychlorinated Biphenyls							
	Total PCB Aroclors [3]	mg/kg	12 / 42	0.080 - 0.46	--	--	Y, 1
Inorganic Compounds (Metals)							
7440-38-2	Arsenic	mg/kg	42 / 42	0.41 - 8.7	7 / 7	6.6 - 10	N, 2
7440-43-9	Cadmium	mg/kg	41 / 42	0.15 - 70	1 / 7	-- - 1.1	Y, 1
7440-47-3	Chromium	mg/kg	42 / 42	6.1 - 73	7 / 7	20 - 32.4	Y, 1
7440-50-8	Copper	mg/kg	42 / 42	3.9 - 179	7 / 7	10 - 53.5	Y, 1
7439-92-1	Lead	mg/kg	42 / 42	3.1 - 769	7 / 7	27 - 71	Y, 1
7439-97-6	Mercury	mg/kg	26 / 42	0.047 - 0.56	0 / 7	--	Y, 1
7440-02-0	Nickel	mg/kg	42 / 42	5.2 - 119	7 / 7	23.5 - 39.9	Y, 1
7782-49-2	Selenium	mg/kg	2 / 42	1.7 - 1.8	4 / 7	0.11 - 0.44	N, 3
7440-22-4	Silver	mg/kg	21 / 42	0.76 - 31	1 / 7	-- - 0.22	Y, 1
7440-66-6	Zinc	mg/kg	42 / 42	19 - 542	7 / 7	100 - 411	Y, 1

Notes:

NA = Not Available

[1] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[2] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[3] Selection of total PCBs as COPEC.

[4] Reference area data from seven sediment samples collected within the Ambrose Brook channel.

Rationale Codes:

1 - Bioaccumulative and detected in surface sediment; also for metals maximum concentration is above the range of concentrations detected in reference area samples.
2 - Maximum concentration is within range of concentrations detected in reference area samples.
3 - For data sets with more than twenty samples, frequency of detection <= 5%.

Table G-38: Selection of COPECs/Herbivorous Semi-Aquatic Food Web Modeling - Surface Sediment EU SL
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Reference Area Data [4]		Identified as COPEC [Y/N]
					Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals							
LMW PAHs	LMW PAHs [1]	mg/kg	3 / 3	1.1 - 4.1	--	--	Y, 1
HMW PAHs	HMW PAHs [1]	mg/kg	3 / 3	6.7 - 51	--	--	Y, 1
Pesticides							
57-74-9	Chlordane, total	mg/kg	14 / 22	0.012 - 0.30	--	--	Y, 1
	Total DDx [2]	mg/kg	5 / 19	0.014 - 0.30	--	--	Y, 1
1024-57-3	Heptachlor epoxide	mg/kg	1 / 22	-- - 0.023	--	--	N, 3
Polychlorinated Biphenyls							
	Total PCB Aroclors [3]	mg/kg	1 / 22	-- - 0.057	--	--	N, 3
Metals							
7440-38-2	Arsenic	mg/kg	3 / 3	0.88 - 3.3	3 / 3	8.0 - 11	N, 2
7440-43-9	Cadmium	mg/kg	3 / 3	0.67 - 2.5	2 / 3	1.8 - 3.0	N, 2
7440-47-3	Chromium	mg/kg	3 / 3	13 - 41	3 / 3	28 - 49	N, 2
7440-50-8	Copper	mg/kg	3 / 3	20 - 81	3 / 3	27 - 147	N, 2
7439-92-1	Lead	mg/kg	3 / 3	53 - 290	3 / 3	45 - 173	Y, 1
7439-97-6	Mercury	mg/kg	2 / 3	0.080 - 0.43	0 / 3	--	Y, 1
7440-02-0	Nickel	mg/kg	3 / 3	9 - 25	3 / 3	32 - 37	N, 2
7440-22-4	Silver	mg/kg	1 / 3	-- - 1.1	3 / 3	0.15 - 0.94	Y, 1
7440-66-6	Zinc	mg/kg	3 / 3	63.5 - 300	3 / 3	210 - 761	N, 2

Notes:

NA = Not Available

[1] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[2] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[3] Selection of total PCBs as COPEC.

[4] Reference area data from seven sediment samples collected within the Ambrose Brook channel.

Rationale Codes:

1 - Bioaccumulative and detected in surface sediment; also for metals maximum concentration is above the range of concentrations detected in reference area samples.

2 - Maximum concentration is within range of concentrations detected in reference area samples.

3 - For data sets with more than twenty samples, frequency of detection <= 5%.

Table G-39: Refinment of COPECs/Surface Soil EU GB - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals														
86-74-8	Carbazole	mg/kg	2 / 12	0.13 - 0.29			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	1 / 12	-- - 0.19			NA		--	--	--	--	--	Y, 2
Metals														
7429-90-5	Aluminum	mg/kg	12 / 12	6,860 - 36,900	24,854	a	50	c	24,854	Y	497	5 / 5	8,190 - 13,050	Y, 1
7440-47-3	Chromium	mg/kg	12 / 12	13 - 73	41	a	0.40	b	41	Y	104	5 / 5	22.7 - 39.8	Y, 1
7440-48-4	Cobalt	mg/kg	12 / 12	4.9 - 21	13	a	13	a	13	Y	1	5 / 5	10 - 16.8	N, 3
7440-50-8	Copper	mg/kg	12 / 12	18 - 129	69	a	70	a	69	N	--	5 / 5	30.2 - 315	N, 4,6
7439-89-6	Iron	mg/kg	12 / 12	11,000 - 49,500			NA		--	--	--	5 / 5	20,200 - 29,800	Y, 2
7439-92-1	Lead	mg/kg	12 / 12	44 - 262	158	a	120	a	158	Y	1	5 / 5	62.7 - 270	N, 3,4
7439-96-5	Manganese	mg/kg	12 / 12	191 - 1,150	710	a	220	a	710	Y	3	5 / 5	662 - 1,650	N, 4
7439-97-6	Mercury	mg/kg	12 / 12	0.11 - 4.5	1.4	b	0.10	b	1.4	Y	14	4 / 5	0.18 - 0.26	Y, 1
7440-62-2	Vanadium	mg/kg	12 / 12	16 - 80	54	a	2.0	a	54	Y	27	5 / 5	31.1 - 51.9	Y, 1
7440-66-6	Zinc	mg/kg	12 / 12	48 - 301	166	b	120	a	166	Y	1	5 / 5	114 - 376	N, 3,4
Other														
57-12-5	Cyanide	mg/kg	4 / 12	0.15 - 1.0			NA		--	--	--	--	--	Y, 2

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = 95% Student's-t UCL
b = 95% Approximate Gamma UCL
c = 95% Kaplan-Meier (t) UCL
d = Data set consists of greater than 70% non-detected observations.
e = Data set is too small (*i.e.* , has only one detected value); therefore, the data set was not processed.

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than 20 samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

[2] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following heirarchy:

a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screenig Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentration

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area

NA = Not Available

Table G-40: Refinement of COPECs/Surface Soil EU BB1 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals														
98-86-2	Acetophenone	mg/kg	9 / 27	0.011 - 0.031			NA		--	--	--	--	--	Y, 2
100-52-7	Benzaldehyde	mg/kg	10 / 27	0.0074 - 0.035			NA		--	--	--	--	--	Y, 2
85-68-7	Butyl benzyl phthalate	mg/kg	1 / 27	-- - 0.040			NA		--	--	--	--	--	N, 5
105-60-2	Caprolactam	mg/kg	3 / 27	0.019 - 0.025			NA		--	--	--	--	--	Y, 2
86-74-8	Carbazole	mg/kg	23 / 27	0.0027 - 0.18			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	17 / 27	0.0025 - 0.072			NA		--	--	--	--	--	Y, 2
131-11-3	Dimethyl phthalate	mg/kg	3 / 27	0.012 - 0.13			NA		--	--	--	--	--	Y, 2
117-84-0	di-n-Octyl phthalate	mg/kg	4 / 25	0.012 - 0.12			NA		--	--	--	--	--	Y, 2
118-74-1	Hexachlorobenzene	mg/kg	2 / 27	0.017 - 0.028			NA		--	--	--	--	--	Y, 2
91-57-6	2-Methylnaphthalene	mg/kg	27 / 27	0.0019 - 0.14			NA		--	--	--	--	--	Y, 2
106-44-5	4-Methylphenol	mg/kg	3 / 27	0.0037 - 0.0089			NA		--	--	--	--	--	Y, 2
--	HMW PAHs [5]	mg/kg	27 / 27	0.31 - 27	8.7	e	18	a	8.7	N	--	--	--	N, 6
Pesticides														
319-84-6	alpha-BHC	mg/kg	1 / 4	- 0.00069			NA		--	--	--	--	--	Y, 2
60-57-1	Dieldrin	mg/kg	1 / 2	-- - 0.030			NA		--	--	--	--	--	Y, 2
	Total DDx	mg/kg	4 / 4	0.0067 - 0.11			NA		--	--	--	--	--	Y, 2
959-98-8	alpha-Endosulfan	mg/kg	1 / 4	-- - 0.00093			NA		--	--	--	--	--	Y, 2
7421-93-4	Endrin aldehyde	mg/kg	1 / 4	-- - 0.0061			NA		--	--	--	--	--	Y, 2
76-44-8	Heptachlor	mg/kg	1 / 4	-- - 0.00037			NA		--	--	--	--	--	Y, 2
1024-57-3	Heptachlor epoxide	mg/kg	4 / 4	0.0011 - 0.032			NA		--	--	--	--	--	Y, 2
72-43-5	Methoxychlor	mg/kg	1 / 4	-- - 0.0018			NA		--	--	--	--	--	Y, 2
Metals														
7429-90-5	Aluminum	mg/kg	27 / 27	6,590 - 27,050	14,155	e	50	c	14,155	Y	283	5 / 5	8,190 - 13,050	Y, 1
7440-47-3	Chromium	mg/kg	27 / 27	10 - 128	38	e	0.40	b	38	Y	94	5 / 5	22.7 - 39.8	Y, 1
7440-48-4	Cobalt	mg/kg	27 / 27	2.5 - 28	13	a	13	a	13	N	--	5 / 5	10 - 16.8	N, 6
7440-50-8	Copper	mg/kg	27 / 27	11 - 136	59	e	70	a	59	N	--	5 / 5	30.2 - 315	N, 4,6
7439-89-6	Iron	mg/kg	27 / 27	10,100 - 73,750			NA		--	--	--	5 / 5	20,200 - 29,800	Y, 2
7439-92-1	Lead	mg/kg	27 / 27	16 - 286	96	e	120	a	96	N	--	5 / 5	62.7 - 270	N, 6
7439-96-5	Manganese	mg/kg	27 / 27	94 - 1,960	737	e	220	a	737	Y	3	5 / 5	662 - 1,650	Y, 1
7439-97-6	Mercury	mg/kg	20 / 27	0.043 - 0.44	0.19	a	0.10	b	0.19	Y	2	4 / 5	0.18 - 0.26	Y, 1
7782-49-2	Selenium	mg/kg	14 / 27	0.76 - 4.1	1.6	a	0.52	a	1.6	Y	3	5 / 5	0.55 - 0.96	Y, 1
7440-62-2	Vanadium	mg/kg	27 / 27	16 - 152	47	e	2.0	a	47	Y	23	5 / 5	31.1 - 51.9	Y, 1
7440-66-6	Zinc	mg/kg	27 / 27	25 - 340	139	e	120	a	139	Y	1	5 / 5	114 - 376	N, 3,4
Other														
57-12-5	Cyanide	mg/kg	20 / 27	0.20 - 4.0			NA		--	--	--	--	--	Y, 2

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:
a = 95% Kaplan-Meier (t) UCL
b = 95% Kaplan-Meier (Chebyshev) UCL
c = 95% Kaplan-Meier (Percentile Bootstrap) UCL
d = 97.5% Chebyshev(Mean, Sd) UCL
e = 95% Approximate Gamma UCL
f = 95% Kaplan-Meier (BCA) UCL
g = Data set consists of greater than 70% non-detected observations.
h = Data set is too small (*i.e.* , four or fewer samples or has only one detected value); therefore, the data set was not processed.

[2] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following heirarchy:
a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screenig Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area

[5] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

NA = Not Available

Rationale Codes:
1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than 20 samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-41: Refinement of COPECs/Surface Soil EU BB2 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
67-64-1	Acetone	mg/kg	1 / 1	-- - 0.0059			NA		--	--	--	--	--	Y, 2
Semi-Volatile Organic Chemicals														
86-74-8	Carbazole	mg/kg	2 / 2	0.022 - 0.025			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	2 / 2	0.010 - 0.060			NA		--	--	--	--	--	Y, 2
Pesticides														
319-84-6	alpha-BHC	mg/kg	1 / 1	-- - 0.00025			NA		--	--	--	--	--	Y, 2
1031-07-8	Endosulfan sulfate	mg/kg	1 / 1	-- - 0.0055			NA		--	--	--	--	--	Y, 2
72-20-8	Endrin	mg/kg	1 / 1	-- - 0.0072			NA		--	--	--	--	--	Y, 2
1024-57-3	Heptachlor epoxide	mg/kg	1 / 1	-- - 0.0052			NA		--	--	--	--	--	Y, 2
Metals														
7429-90-5	Aluminum	mg/kg	2 / 2	8,580 - 13,100	--	a	50	c	13,100	Y	262	5 / 5	8,190 - 13,050	Y, 1
7440-47-3	Chromium	mg/kg	2 / 2	14 - 25	--	a	0.40	b	25	Y	61	5 / 5	22.7 - 39.8	N, 4
7439-89-6	Iron	mg/kg	2 / 2	12,400 - 15,800			NA		--	--	--	5 / 5	20,200 - 29,800	N, 4
7439-96-5	Manganese	mg/kg	2 / 2	273 - 492	--	a	220	a	492	Y	2	5 / 5	662 - 1,650	N, 4
7782-49-2	Selenium	mg/kg	1 / 2	-- - 1.9	--	a	0.52	a	1.9	Y	4	5 / 5	0.55 - 0.96	Y, 1
7440-62-2	Vanadium	mg/kg	2 / 2	19 - 28	--	a	2.0	a	28	Y	14	5 / 5	31.1 - 51.9	N, 4
Other														
57-12-5	Cyanide	mg/kg	2 / 2	0.11 - 0.43			NA		--	--	--	--	--	Y, 2

Notes:

[1] The 95% Upper Confidence Levels (UCL) on the arithmetic average concentrations (*i.e.*, the 95% UCL concentration) were not calculated for these surface soil data sets because too few samples were collected.
a = Data set is too small (*i.e.*, four or fewer samples); therefore, the data set was not processed.

[2] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following heirarchy:
a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screenig Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than 20 samples, frequency of detection <= 5%.

Table G-42: Refinement of COPECs/Surface Soil EU BB3 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number		Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
67-64-1	Acetone	mg/kg	4 / 9	0.31 - 0.71			NA		0.00	--	--	--	--	Y, 2
78-93-3	Methyl ethyl ketone	mg/kg	1 / 9	-- - 0.012			NA		--	--	--	--	--	Y, 2
75-09-2	Methylene chloride	mg/kg	1 / 9	-- - 0.040			NA		--	--	--	--	--	Y, 2
71-55-6	1,1,1-Trichloroethane	mg/kg	1 / 9	-- - 0.0030			NA		--	--	--	--	--	Y, 2
75-69-4	Trichlorofluoromethane	mg/kg	6 / 9	0.010 - 0.020			NA		--	--	--	--	--	Y, 2
Semi-Volatile Organic Chemicals														
98-86-2	Acetophenone	mg/kg	1 / 24	-- - 0.011			NA		--	--	--	--	--	N, 5
85-68-7	Butyl benzyl phthalate	mg/kg	4 / 22	0.064 - 1.8			NA		--	--	--	--	--	Y, 2
111-44-4	bis(2-Chloroethyl) ether	mg/kg	1 / 24	-- - 0.0022			NA		--	--	--	--	--	N, 5
108-60-1	bis(2-Chloroisopropyl) ether	mg/kg	1 / 24	-- - 1.0			NA		--	--	--	--	--	N, 5
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	5 / 24	0.47 - 54			NA		--	--	--	--	--	Y, 2
86-74-8	Carbazole	mg/kg	14 / 18	0.016 - 0.76			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	12 / 24	0.0048 - 0.28			NA		--	--	--	--	--	Y, 2
131-11-3	Dimethyl phthalate	mg/kg	1 / 24	-- - 0.069			NA		--	--	--	--	--	N, 5
117-84-0	di-n-Octyl phthalate	mg/kg	2 / 20	0.12 - 0.55			NA		--	--	--	--	--	Y, 2
106-44-5	4-Methylphenol	mg/kg	7 / 24	0.0039 - 0.82			NA		--	--	--	--	--	Y, 2
--	HMW PAHs [5]	mg/kg	24 / 24	0.021 - 46	20	d	18	a	20	Y	1	--	--	N, 3
Pesticides														
319-84-6	alpha-BHC	mg/kg	2 / 9	0.0011 - 0.0030			NA		--	--	--	--	--	Y, 2
60-57-1	Dieldrin	mg/kg	1 / 8	-- - 0.026			NA		--	--	--	--	--	Y, 2
	Total DDx	mg/kg	4 / 9	0.031 - 0.102	0.056	a	NA		0.056	--	--	--	--	Y, 2
33213-65-9	beta-Endosulfan	mg/kg	1 / 8	-- - 0.014			NA		--	--	--	--	--	Y, 2
72-20-8	Endrin	mg/kg	2 / 9	0.0049 - 0.013			NA		--	--	--	--	--	Y, 2
7421-93-4	Endrin aldehyde	mg/kg	2 / 9	0.0087 - 0.010			NA		--	--	--	--	--	Y, 2
53494-70-5	Endrin ketone	mg/kg	2 / 9	0.0044 - 0.0058			NA		--	--	--	--	--	Y, 2
76-44-8	Heptachlor	mg/kg	2 / 9	0.0014 - 0.020			NA		--	--	--	--	--	Y, 2
1024-57-3	Heptachlor epoxide	mg/kg	1 / 8	-- - 0.0065			NA		--	--	--	--	--	Y, 2
72-43-5	Methoxychlor	mg/kg	1 / 8	-- - 0.020			NA		--	--	--	--	--	Y, 2
Metals														
7429-90-5	Aluminum	mg/kg	24 / 24	4,100 - 21,400	10,474	d	50	c	10,474	Y	209	5 / 5	8190 - 13,050	Y, 1
7440-38-2	Arsenic	mg/kg	24 / 24	1.0 - 39	21	e	18	a	21	Y	1	5 / 5	7.8 - 13.55	N, 3
7440-39-3	Barium	mg/kg	24 / 24	52 - 1,200	517	d	330	a	517	Y	2	5 / 5	142 - 238	Y, 1
7440-47-3	Chromium	mg/kg	24 / 24	8.6 - 242	70	d	0.40	b	70	Y	174	5 / 5	22.7 - 39.8	Y, 1
7440-48-4	Cobalt	mg/kg	24 / 24	3.0 - 34	12	d	13	a	12	N	--	5 / 5	10 - 16.8	N, 6
7440-50-8	Copper	mg/kg	24 / 24	3.9 - 12,000	2,815	e	70	a	2,815	Y	40	5 / 5	30.2 - 315	Y, 1
7439-89-6	Iron	mg/kg	24 / 24	8,600 - 282,000			NA		--	--	--	5 / 5	20,200 - 29,800	Y, 2
7439-92-1	Lead	mg/kg	24 / 24	10 - 9,950	2,042	d	120	a	2,042	Y	17	5 / 5	62.7 - 270	Y, 1
7439-96-5	Manganese	mg/kg	24 / 24	56 - 1,390	700	d	220	a	700	Y	3	5 / 5	662 - 1,650	N, 4
7439-97-6	Mercury	mg/kg	24 / 24	0.020 - 5.7	2.1	d	0.10	b	2.1	Y	21	4 / 5	0.18 - 0.26	Y, 1
7440-02-0	Nickel	mg/kg	24 / 24	6.7 - 235	92	e	38	a	92	Y	2	5 / 5	22.9 - 34.3	Y, 1
7782-49-2	Selenium	mg/kg	14 / 24	0.071 - 9.2	3.9	a	0.52	a	3.9	Y	7	5 / 5	0.55 - 0.96	Y, 1
7440-28-0	Thallium	mg/kg	4 / 24	1.2 - 4.0	--	g	1.0	c	4.0	Y	4	0 / 5	--	Y, 1
7440-62-2	Vanadium	mg/kg	23 / 24	13 - 40	28	f	2.0	a	28	Y	14	5 / 5	31.1 - 51.9	N, 4
7440-66-6	Zinc	mg/kg	24 / 24	20 - 3,680	1,460	e	120	a	1,460	Y	12	5 / 5	114 - 376	Y, 1

Table G-42: Refinement of COPECs/Surface Soil EU BB3 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number		Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]	Screening Value [2]	EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
										Detection Frequency	Range of Detected Concentrations	
Other												
57-12-5	Cyanide	mg/kg	17 / 18	0.067 - 2.6		NA	--	--	--	--	--	Y, 2

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples.
The following are codes for the basis of the 95% UCL concentration:
a = 95% Kaplan-Meier (t) UCL
b = 95% Kaplan-Meier (BCA) UCL
c = 95% Kaplan-Meier (Chebyshev) UCL
d = 95% Approximate Gamma UCL
e = 95% Chebyshev (Mean, Sd) UCL
f = 95% Kaplan-Meier (Percentile Bootstrap) UCL
g = Data set consists of greater than 70% non-detected observations.
h = Data set is too small (*i.e.* , has only one detected value); therefore, the data set was not processed.

[2] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following heirarchy:
a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screenig Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area.

[5] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

NA = Not Available

Rationale Codes:
1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than 20 samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-43: Refinement of COPECs/Surface Soil EU BB4 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
67-64-1	Acetone	mg/kg	12 / 55	0.04 - 0.56			NA		--	--	--	--	--	Y, 2
75-15-0	Carbon disulfide	mg/kg	2 / 55	0.0041 - 0.0059			NA		--	--	--	--	--	N, 5
56-23-5	Carbon tetrachloride	mg/kg	1 / 50	-- - 0.01			NA		--	--	--	--	--	N, 5
67-66-3	Chloroform	mg/kg	1 / 55	-- - 0.0011			NA		--	--	--	--	--	N, 5
74-87-3	Chloromethane	mg/kg	1 / 55	-- - 0.0046			NA		--	--	--	--	--	N, 5
110-82-7	Cyclohexane	mg/kg	3 / 38	0.0012 - 0.002			NA		--	--	--	--	--	Y, 2
75-34-3	1,1-Dichloroethane	mg/kg	1 / 43	-- - 0.0041			NA		--	--	--	--	--	N, 5
75-35-4	1,1-Dichloroethene	mg/kg	4 / 55	0.00066 - 0.0011			NA		--	--	--	--	--	Y, 2
156-59-2	cis-1,2-Dichloroethene	mg/kg	2 / 55	0.00094 - 0.0023			NA		--	--	--	--	--	N, 5
10061-01-5	cis-1,3-Dichloropropene	mg/kg	2 / 50	0.0012 - 0.0038			NA		--	--	--	--	--	N, 5
10061-02-6	trans-1,3-Dichloropropene	mg/kg	2 / 50	0.0009 - 0.0025			NA		--	--	--	--	--	N, 5
100-41-4	Ethylbenzene	mg/kg	2 / 50	0.002 - 0.011			NA		--	--	--	--	--	N, 5
591-78-6	2-Hexanone	mg/kg	10 / 48	0.0072 - 0.16			NA		--	--	--	--	--	Y, 2
79-20-9	Methyl acetate	mg/kg	1 / 43	-- - 0.0086			NA		--	--	--	--	--	N, 5
78-93-3	Methyl ethyl ketone	mg/kg	18 / 55	0.0094 - 0.22			NA		--	--	--	--	--	Y, 2
108-10-1	Methyl isobutyl ketone	mg/kg	5 / 49	0.001 - 0.0027			NA		--	--	--	--	--	Y, 2
108-87-2	Methylcyclohexane	mg/kg	1 / 39	-- - 0.0042			NA		--	--	--	--	--	N, 5
75-09-2	Methylene chloride	mg/kg	5 / 55	0.03 - 0.05			NA		--	--	--	--	--	Y, 2
71-55-6	1,1,1-Trichloroethane	mg/kg	1 / 50	-- - 0.01			NA		--	--	--	--	--	N, 5
75-69-4	Trichlorofluoromethane	mg/kg	7 / 55	0.01 - 0.02			NA		--	--	--	--	--	--
Semi-Volatile Organic Chemicals														
85-68-7	Butyl benzyl phthalate	mg/kg	33 / 59	0.063 - 36	3.9	b	NA		3.9	--	--	--	--	Y, 2
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	36 / 59	0.035 - 25	2.5	c	NA		2.5	--	--	--	--	Y, 2
86-74-8	Carbazole	mg/kg	3 / 47	0.06 - 0.25			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	2 / 59	0.083 - 0.22			NA		--	--	--	--	--	N, 5
91-94-1	3,3'-Dichlorobenzidine	mg/kg	1 / 57	-- - 0.17			NA		--	--	--	--	--	N, 5
117-84-0	di-n-Octyl phthalate	mg/kg	8 / 58	0.089 - 1.2			NA		--	--	--	--	--	Y, 2
118-74-1	Hexachlorobenzene	mg/kg	2 / 58	0.079 - 0.26			NA		--	--	--	--	--	N, 5
91-57-6	2-Methylnaphthalene	mg/kg	12 / 59	0.0069 - 0.51			NA		--	--	--	--	--	Y, 2
106-44-5	4-Methylphenol	mg/kg	1 / 59	-- - 0.34			NA		--	--	--	--	--	N, 5
100-01-6	4-Nitroaniline	mg/kg	1 / 59	-- - 8.7			NA		--	--	--	--	--	N, 5
--	HMW PAHs [5]	mg/kg	52 / 59	0.08000 - 62	14	b	18	a	14	N	--	--	--	N, 6
Pesticides														
309-00-2	Aldrin	mg/kg	10 / 46	0.000042 - 0.041	--	j	0.00332	b	0.041	Y	12	--	--	Y, 1
319-84-6	alpha-BHC	mg/kg	7 / 55	0.00004 - 0.00093			NA		--	--	--	--	--	Y, 2
319-86-8	delta-BHC	mg/kg	10 / 55	0.000038 - 0.056			NA		--	--	--	--	--	Y, 2
58-89-9	gamma-BHC	mg/kg	8 / 55	0.00011 - 0.01	0.0012	a	0.01	b	0.0012	N	--	--	--	N, 6
57-74-9	Chlordane, Total	mg/kg	34 / 55	0.00049 - 1.1	0.15	c	0.22	b	0.15	N	--	--	--	N, 6
60-57-1	Dieldrin	mg/kg	34 / 55	0.002 - 2.4			NA		--	--	--	--	--	Y, 2
Total DDT	Total DDx	mg/kg	40 / 55	0.0037 - 2.0			NA		--	--	--	--	--	Y, 2
959-98-8	alpha-Endosulfan	mg/kg	8 / 54	0.00013 - 0.082			NA		--	--	--	--	--	Y, 2
33213-65-9	beta-Endosulfan	mg/kg	8 / 44	0.0087 - 0.59			NA		--	--	--	--	--	Y, 2
1031-07-8	Endosulfan sulfate	mg/kg	6 / 53	0.00038 - 0.022			NA		--	--	--	--	--	Y, 2
72-20-8	Endrin	mg/kg	3 / 39	0.0022 - 0.01			NA		--	--	--	--	--	Y, 2
7421-93-4	Endrin aldehyde	mg/kg	18 / 54	0.00027 - 0.13			NA		--	--	--	--	--	Y, 2
53494-70-5	Endrin ketone	mg/kg	2 / 40	0.017 - 0.065			NA		--	--	--	--	--	N, 5
76-44-8	Heptachlor	mg/kg	1 / 55	-- - 0.017			NA		--	--	--	--	--	N, 5
1024-57-3	Heptachlor epoxide	mg/kg	7 / 52	0.00018 - 0.0062			NA		--	--	--	--	--	Y, 2
72-43-5	Methoxychlor	mg/kg	8 / 55	0.0023 - 0.043			NA		--	--	--	--	--	Y, 2

Table G-43: Refinement of COPECs/Surface Soil EU BB4 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Polychlorinated Biphenyls														
--	Total PCB Aroclors [6]	mg/kg	285 / 305	0.027 - 80	13	g	40	c	13	N	--	--	--	N, 6
Metals														
7429-90-5	Aluminum	mg/kg	59 / 59	1,430 - 30,000	10,974	d	50	c	10,974	Y	219	5 / 5	8,190 - 13,050	Y, 1
7440-38-2	Arsenic	mg/kg	54 / 59	1.4 - 33	10	e	18	a	10	N	--	5 / 5	7.8 - 13.55	N, 6
7440-39-3	Barium	mg/kg	59 / 59	11 - 1,210	294	f	330	a	294	N	--	5 / 5	142 - 238	N, 6
7440-47-3	Chromium	mg/kg	55 / 59	2.5 - 304	98	b	0.40	b	98	Y	246	5 / 5	22.7 - 39.8	Y, 1
7440-48-4	Cobalt	mg/kg	54 / 59	1.2 - 24	8.571	c	13	a	8.6	N	--	5 / 5	10 - 16.8	N, 6
7440-50-8	Copper	mg/kg	58 / 59	3.2 - 520	134	b	70	a	134	Y	2	5 / 5	30.2 - 315	Y, 1
7439-89-6	Iron	mg/kg	59 / 59	1,970 - 75,900			NA		--	--	--	5 / 5	20,200 - 29,800	Y, 2
7439-92-1	Lead	mg/kg	59 / 59	1.9 - 1,245	242	f	120	a	242	Y	2	5 / 5	62.7 - 270	Y, 1
7439-96-5	Manganese	mg/kg	59 / 59	12 - 1,800	599	f	220	a	599	Y	3	5 / 5	662 - 1,650	Y, 1
7439-97-6	Mercury	mg/kg	54 / 59	0.028 - 1.1	0.45	b	0.10	b	0.45	Y	4	4 / 5	0.18 - 0.26	Y, 1
7440-02-0	Nickel	mg/kg	59 / 59	1.2 - 72	25	f	38	a	25	N	--	5 / 5	22.9 - 34.3	N, 6
7782-49-2	Selenium	mg/kg	13 / 43	0.2 - 5.0	1.4	a	0.52	a	1.4	Y	3	5 / 5	0.55 - 0.96	Y, 1
7440-62-2	Vanadium	mg/kg	55 / 59	5.0 - 95	40	a	2.0	a	40	Y	20	5 / 5	31.1 - 51.9	Y, 1
7440-66-6	Zinc	mg/kg	59 / 59	5.0 - 570	207	f	120	a	207	Y	2	5 / 5	114 - 376	Y, 1
Other														
57-12-5	Cyanide	mg/kg	14 / 47	0.067 - 0.85			NA		--	--	--	--	--	Y, 2

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = 95% Kaplan-Meier (t) UCL
b = 95% Kaplan-Meier (Chebyshev) UCL
c = 95% Kaplan-Meier (BCA) UCL
d = 95% Student's-t UCL
e = 95% Kaplan-Meier (Percentile Bootstrap) UCL
f = 95% Approximate Gamma UCL
g = 97.5% Kaplan-Meier (Chebyshev) UC
i = Data set consists of greater than 70% non-detected observations.
j = Data set is too small (*i.e.* , four or fewer samples or has only one detected value); therefore, the data set was not processed.

[2] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following heirarchy:

a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screenig Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area.

[5] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[6] Selection of PCB Aroclors as COPECs was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than 20 samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-44: Refinement of COPECs/Surface Soil EU BB5 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
67-64-1	Acetone	mg/kg	8 / 18	0.058 - 0.4			NA		--	--	--	--	--	Y, 2
110-82-7	Cyclohexane	mg/kg	1 / 10	-- - 0.015			NA		--	--	--	--	--	Y, 2
156-59-2	cis-1,2-Dichloroethene	mg/kg	2 / 19	0.1 - 22			NA		--	--	--	--	--	Y, 2
156-60-5	trans-1,2-Dichloroethene	mg/kg	2 / 19	0.012 - 0.97			NA		--	--	--	--	--	Y, 2
100-41-4	Ethylbenzene	mg/kg	1 / 18	-- - 0.002			NA		--	--	--	--	--	Y, 2
78-93-3	Methyl ethyl ketone	mg/kg	1 / 19	-- - 0.003			NA		--	--	--	--	--	Y, 2
108-10-1	Methyl isobutyl ketone	mg/kg	1 / 18	-- - 0.0011			NA		--	--	--	--	--	Y, 2
75-09-2	Methylene chloride	mg/kg	1 / 18	-- - 1.7			NA		--	--	--	--	--	Y, 2
75-69-4	Trichlorofluoromethane	mg/kg	8 / 18	0.003 - 0.05			NA		--	--	--	--	--	Y, 2
Semi-Volatile Organic Chemicals														
98-86-2	Acetophenone	mg/kg	5 / 21	0.13 - 0.29			NA		--	--	--	--	--	Y, 2
100-52-7	Benzaldehyde	mg/kg	6 / 13	0.03 - 0.95			NA		--	--	--	--	--	Y, 2
85-68-7	Butyl benzyl phthalate	mg/kg	19 / 21	0.05 - 25			NA		--	--	--	--	--	Y, 2
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	13 / 21	0.23 - 110			NA		--	--	--	--	--	Y, 2
86-74-8	Carbazole	mg/kg	6 / 13	0.038 - 0.33			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	13 / 21	0.038 - 0.66			NA		--	--	--	--	--	Y, 2
131-11-3	Dimethyl phthalate	mg/kg	3 / 21	0.031 - 3.6			NA		--	--	--	--	--	Y, 2
117-84-0	di-n-Octyl phthalate	mg/kg	7 / 21	0.027 - 7.8			NA		--	--	--	--	--	Y, 2
118-74-1	Hexachlorobenzene	mg/kg	2 / 21	0.007 - 0.014			NA		--	--	--	--	--	Y, 2
91-57-6	2-Methylnaphthalene	mg/kg	13 / 21	0.022 - 1.7			NA		--	--	--	--	--	Y, 2
106-44-5	4-Methylphenol	mg/kg	5 / 21	0.0054 - 0.24			NA		--	--	--	--	--	Y, 2
--	HMW PAHs [5]	mg/kg	21 / 21	0.047 - 90	29	c	18	a	29	Y	2	--	--	Y, 1
Pesticides														
319-84-6	alpha-BHC	mg/kg	2 / 19	0.000029 - 0.000047			NA		--	--	--	--	--	Y, 2
57-74-9	Chlordane, Total	mg/kg	7 / 19	0.0014 - 0.55	0.12	a	0.22	b	0.12	N	--	--	--	N, 6
60-57-1	Dieldrin	mg/kg	9 / 18	0.003 - 16			NA		--	--	--	--	--	Y, 2
Total DDT	Total DDx	mg/kg	10 / 19	0.012 - 56			NA		--	--	--	--	--	Y, 2
959-98-8	alpha-Endosulfan	mg/kg	1 / 19	-- - 0.004			NA		--	--	--	--	--	Y, 2
33213-65-9	beta-Endosulfan	mg/kg	2 / 14	0.003 - 0.009			NA		--	--	--	--	--	Y, 2
1031-07-8	Endosulfan sulfate	mg/kg	2 / 19	0.000 - 0.002			NA		--	--	--	--	--	Y, 2
7421-93-4	Endrin aldehyde	mg/kg	6 / 19	0.001 - 5.2			NA		--	--	--	--	--	Y, 2
1024-57-3	Heptachlor epoxide	mg/kg	7 / 19	0.000 - 12			NA		--	--	--	--	--	Y, 2
72-43-5	Methoxychlor	mg/kg	2 / 19	0.001 - 0.002			NA		--	--	--	--	--	Y, 2

Table G-44: Refinement of COPECs/Surface Soil EU BB5 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Polychlorinated Biphenyls														
--	Total PCB Aroclors [6]	mg/kg	366 / 437	0.011 - 924	41	b	40	c	41	Y	1	--	--	N, 3
Metals														
7429-90-5	Aluminum	mg/kg	21 / 21	2,200 - 35,800	17,129	d	50	c	17,129	Y	343	5 / 5	8,190 - 13,050	Y, 1
7440-38-2	Arsenic	mg/kg	21 / 21	2.8 - 38	20	d	18	a	20	Y	1	5 / 5	7.8 - 13.55	N, 3
7440-39-3	Barium	mg/kg	21 / 21	46 - 1,500	519	d	330	a	519	Y	2	5 / 5	142 - 238	Y, 1
7440-47-3	Chromium	mg/kg	21 / 21	7.7 - 78	45	d	0.40	b	45	Y	113	5 / 5	22.7 - 39.8	Y, 1
7440-48-4	Cobalt	mg/kg	21 / 21	2.1 - 30	14	e	13	a	14	Y	1	5 / 5	10 - 16.8	N, 3
7440-50-8	Copper	mg/kg	18 / 21	12 - 960	230	d	70	a	230	Y	3	5 / 5	30.2 - 315	Y, 1
7439-89-6	Iron	mg/kg	21 / 21	6,500 - 88,000			NA		--	--	--	5 / 5	20,200 - 29,800	Y, 2
7439-92-1	Lead	mg/kg	21 / 21	26 - 1,000	387	d	120	a	387	Y	3	5 / 5	62.7 - 270	Y, 1
7439-96-5	Manganese	mg/kg	18 / 21	38 - 1,050	493	e	220	a	493	Y	2	5 / 5	662 - 1,650	N, 4
7439-97-6	Mercury	mg/kg	19 / 21	0.125 - 1.5	0.61	f	0.10	b	0.61	Y	6	4 / 5	0.18 - 0.26	Y, 1
7440-02-0	Nickel	mg/kg	21 / 21	7.2 - 93	48	e	38	a	48	Y	1	5 / 5	22.9 - 34.3	N, 3
7782-49-2	Selenium	mg/kg	14 / 21	1.6 - 7.9	3.3	f	0.52	a	3.3	Y	6	5 / 5	0.55 - 0.96	Y, 1
7440-62-2	Vanadium	mg/kg	21 / 21	13 - 88	51	e	2.0	a	51	Y	26	5 / 5	31.1 - 51.9	Y, 1
7440-66-6	Zinc	mg/kg	21 / 21	31 - 1,000	442	d	120	a	442	Y	4	5 / 5	114 - 376	Y, 1
Other														
57-12-5	Cyanide	mg/kg	2 / 13	0.580 - 0.70			NA		--	--	--	--	--	Y, 2

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = 95% Kaplan-Meier (t) UCL
b = 95% Kaplan-Meier (Chebyshev) UCL
c = 95% Adjusted Gamma UCL
d = 95% Approximate Gamma UCL
e = 95% Student's-t UCL
f = 95% Kaplan-Meier (BCA) UCL
g = Data set consists of greater than 70% non-detected observations.
h = Data set is too small (*i.e.* , has only one detected value); therefore, the data set was not processed.
i= 99% Kaplan Meier (Chebyshev) UCL

[2] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following heirarchy:

a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screenig Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area.

[5] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[6] Selection of PCB Aroclors as COPECs was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than 20 samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-45: Refinement of COPECs/Surface Soil EU BB6 - Plants and Invertebrates
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number		Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
78-93-3	Methyl ethyl ketone	mg/kg	1 / 2	-- - 0.0048			NA		--	--	--	--	--	Y, 2
Semi-Volatile Organic Chemicals														
98-86-2	Acetophenone	mg/kg	2 / 6	0.0076 - 0.0080			NA		--	--	--	--	--	Y, 2
100-52-7	Benzaldehyde	mg/kg	2 / 6	0.0088 - 0.014			NA		--	--	--	--	--	Y, 2
85-68-7	Butyl benzyl phthalate	mg/kg	4 / 6	0.041 - 0.16			NA		--	--	--	--	--	Y, 2
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	4 / 6	0.16 - 6.1			NA		--	--	--	--	--	Y, 2
86-74-8	Carbazole	mg/kg	2 / 6	0.0053 - 0.039			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	1 / 6	-- - 0.019			NA		--	--	--	--	--	Y, 2
117-84-0	di-n-Octyl phthalate	mg/kg	2 / 6	0.055 - 0.16			NA		--	--	--	--	--	Y, 2
91-57-6	2-Methylnaphthalene	mg/kg	6 / 6	0.0026 - 0.020			NA		--	--	--	--	--	Y, 2
Pesticides														
60-57-1	Dieldrin	mg/kg	1 / 1	-- - 0.016			NA		--	--	--	--	--	Y, 2
Total DDT	Total DDx	mg/kg	2 / 2	0.037 - 0.061			NA		--	--	--	--	--	Y, 2
33213-65-9	beta-Endosulfan	mg/kg	1 / 2	-- - 0.0066			NA		--	--	--	--	--	Y, 2
53494-70-5	Endrin ketone	mg/kg	1 / 2	-- - 0.0040			NA		--	--	--	--	--	Y, 2
1024-57-3	Heptachlor epoxide	mg/kg	1 / 1	-- - 0.0043			NA		--	--	--	--	--	Y, 2
Polychlorinated Biphenyls														
--	Total PCB Aroclors [5]	mg/kg	6 / 6	0.13 - 62	62	e	40	c	62	Y	2	--	--	Y, 1
Metals														
7429-90-5	Aluminum	mg/kg	6 / 6	8,040 - 16,900	16170	c	50	c	16,170	Y	323	5 / 5	8,190 - 13,050	Y, 1
7440-47-3	Chromium	mg/kg	6 / 6	13 - 20	17	c	0.40	b	17	Y	43	5 / 5	22.7 - 39.8	N, 4
7439-89-6	Iron	mg/kg	6 / 6	16,500 - 28,600			NA		--	--	--	5 / 5	20,200 - 29,800	N, 4
7439-96-5	Manganese	mg/kg	6 / 6	110 - 798	617	c	220	a	617	Y	3	5 / 5	662 - 1,650	N, 4
7439-97-6	Mercury	mg/kg	6 / 6	0.048 - 0.19	0.15	c	0.10	b	0.15	Y	2	4 / 5	0.18 - 0.26	N, 4
7440-62-2	Vanadium	mg/kg	6 / 6	13 - 24	22	c	2.0	a	22	Y	11	5 / 5	31.1 - 51.9	N, 4
Other														
57-12-5	Cyanide	mg/kg	4 / 6	0.21 - 6.1			NA		--	--	--	--	--	Y, 2

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples.
The following are codes for the basis of the 95% UCL concentration:
a = 95% Kaplan-Meier (t) UCL
b = 95% Kaplan-Meier (BCA) UCL
c = 95% Student's-t UCL
d = 95% Modified-t UCL
e = Calculated 95% UCL concentration exceeds the maximum detected concentration; maximum concentration used.
g = Data set consists of greater than 70% non-detected observations.
h = Data set is too small (*i.e.* , four or fewer samples or has only one detected value); therefore, the data set was not processed.

[2] Screening values protective of plants and invertebrates and the lower of the values for plants and invertebrates, where both are available, were selected based on the following heirarchy
a = USEPA Ecological Soil Screening Levels protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of plants and/or invertebrates (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screenig Criteria for soil where protective of plants and/or invertebrates (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/)

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area

[5] Selection of PCB Aroclors as COPECs was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than 20 samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-46: Refinement of COPECs/Surface Soil EU GB - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration[1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals														
86-74-8	Carbazole	mg/kg	2 / 12	0.13 - 0.29			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	1 / 12	-- - 0.19			NA		--	--	--	--	--	Y, 2
--	HMW PAHs [2]	mg/kg	12 / 12	0.92 - 15	9.3	b	1.1	a	9.3	Y	8	--	--	Y, 1
Polychlorinated Biphenyls														
--	Total PCB Aroclors [3]	mg/kg	10 / 12	0.021 - 0.127	0.074	e	0.000332	b	0.074	Y	224	--	--	Y, 1
Metals														
7429-90-5	Aluminum	mg/kg	12 / 12	6,860 - 36,900			NA		--	--	--	5 / 5	8,190 - 13,050	Y, 2
7440-43-9	Cadmium	mg/kg	12 / 12	0.27 - 1.9	1.1	b	0.36	a	1.1	Y	3	5 / 5	0.6 - 2.2	Y, 1
7440-47-3	Chromium	mg/kg	12 / 12	13 - 73	41	b	26	a [7]	41	Y	2	5 / 5	22.7 - 39.8	Y, 1
7440-50-8	Copper	mg/kg	12 / 12	18 - 129	69	b	28	a	69	Y	2	5 / 5	30.2 - 315	N, 4
7439-89-6	Iron	mg/kg	12 / 12	11,000 - 49,500			NA		--	--	--	5 / 5	20,200 - 29,800	Y, 2
7439-92-1	Lead	mg/kg	12 / 12	44 - 262	158	b	11	a	158	Y	14	5 / 5	62.7 - 270	N, 4
7439-97-6	Mercury	mg/kg	12 / 12	0.11 - 4.5	1.4	c	0.00051	c	1.4	Y	2,778	4 / 5	0.18 - 0.26	Y, 1
7440-62-2	Vanadium	mg/kg	12 / 12	16 - 80	54	b	7.8	a	54	Y	7	5 / 5	31.1 - 51.9	Y, 1
7440-66-6	Zinc	mg/kg	12 / 12	48 - 301	166	c	46	a	166	Y	4	5 / 5	114 - 376	Y, 1

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples.
The following are codes for the basis of the 95% UCL concentration:
a = 95% Kaplan-Meier (t) UCL
b = 95% Student's-t UCL
c = 95% Approximate Gamma UCL
d = 95% Kaplan-Meier (Chebyshev) UCL
e = 95% Kaplan-Meier (Percentile Bootstrap) UCL
f = Data set consists of greater than 70% non-detected observations.
g = Data set is too small (*i.e.* , has only one detected value); therefore, the data set was not processed.

[2] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were selected based on the following hierarchy:
a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/).

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area.

[5] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[6] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[7] Screening value for chromium $^{+3}$ based on exposure to birds.

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-47: Refinement of COPECs/Surface Soil EU BB1 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration[1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals														
100-52-7	Benzaldehyde	mg/kg	10 / 27	0.0074 - 0.035			NA		--	--	--	--	--	Y, 2
92-52-4	Biphenyl	mg/kg	10 / 27	0.0036 - 0.029			NA		--	--	--	--	--	Y, 2
105-60-2	Caprolactam	mg/kg	3 / 27	0.019 - 0.025			NA		--	--	--	--	--	Y, 2
86-74-8	Carbazole	mg/kg	23 / 27	0.0027 - 0.18			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	17 / 27	0.0025 - 0.072			NA		--	--	--	--	--	Y, 2
--	HMW PAHs [2]	mg/kg	27 / 27	0.31 - 27	8.7	e	1.1	a	8.7	Y	8	--	--	Y, 1
Pesticides														
309-00-2	Aldrin	mg/kg	1 / 4	-- - 0.0014			NA		--	--	--	--	--	Y, 2
58-89-9	gamma-BHC	mg/kg	1 / 4	-- - 0.00024			NA		--	--	--	--	--	Y, 2
57-74-9	Chlordane, Total	mg/kg	3 / 4	0.0066 - 0.23			NA		--	--	--	--	--	Y, 2
60-57-1	Dieldrin	mg/kg	1 / 2	-- - 0.030	--	i	0.0049	a	0.030	Y	6	--	--	Y, 1
--	Total DDx [3]	mg/kg	4 / 4	0.0067 - 0.11	--	i	0.021	a	0.11	Y	5	--	--	Y, 1
Polychlorinated Biphenyls														
--	Total PCB Aroclors [3]	mg/kg	37 / 42	0.0079 - 3.7	0.86	c	0.000332	b	0.86	Y	2,602	--	--	Y, 1
Metals														
7429-90-5	Aluminum	mg/kg	27 / 27	6,590 - 27,050			NA		--	--	--	5 / 5	8,190 - 13,050	Y, 2
7440-36-0	Antimony	mg/kg	7 / 27	0.18 - 1.7	--	h	0.27	a	1.7	Y	6	5 / 5	0.99 - 2.15	N, 4
7440-43-9	Cadmium	mg/kg	18 / 27	0.14 - 5.6	1.8	g	0.36	a	1.8	Y	5	5 / 5	0.6 - 2.2	Y, 1
7440-47-3	Chromium	mg/kg	27 / 27	10 - 128	38	e	26	a [8]	38	Y	1	5 / 5	22.7 - 39.8	N, 3
7440-50-8	Copper	mg/kg	27 / 27	11 - 136	59	e	28	a	59	Y	2	5 / 5	30.2 - 315	N, 4
7439-89-6	Iron	mg/kg	27 / 27	10,100 - 73,750			NA		--	--	--	5 / 5	20,200 - 29,800	Y, 2
7439-92-1	Lead	mg/kg	27 / 27	16 - 286	96	e	11	a	96	Y	9	5 / 5	62.7 - 270	Y, 1
7439-97-6	Mercury	mg/kg	20 / 27	0.043 - 0.44	0.19	b	0.00051	c	0.19	Y	365	4 / 5	0.18 - 0.26	Y, 1
7782-49-2	Selenium	mg/kg	14 / 27	0.76 - 4.1	1.6	b	0.63	a	1.6	Y	3	5 / 5	0.55 - 0.96	Y, 1
7440-62-2	Vanadium	mg/kg	27 / 27	16 - 152	47	e	7.8	a	47	Y	6	5 / 5	31.1 - 51.9	Y, 1
7440-66-6	Zinc	mg/kg	27 / 27	25 - 340	139	e	46	a	139	Y	3	5 / 5	114 - 376	N, 4
Other														
57-12-5	Cyanide	mg/kg	20 / 27	0.20 - 4.0	1,339	a	1.33	b	1,339	Y	1,007	--	--	Y, 1

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:
- a = 95% Kaplan-Meier (BCA) UCL
- b = 95% Kaplan-Meier (t) UCL
- c= 95% Kaplan-Meier (Chebyshev) UCL
- d = 95% Student's-t UCL
- e = 95% Approximate Gamma UCL
- f = 95% BCA Bootstrap UCL
- g = 95% Kaplan-Meier (Percentile Bootstrap) UCL
- h = Data set consists of greater than 70% non-detected observations.
- i = Data set is too small (*i.e.* , four or fewer samples or has only one detected value); therefore, the data set was not processed.

[2] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were selected based on the following hierarchy:
- a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).
- b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
- c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/).

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area.

[5] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[6] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[7] Selection of PCB Aroclors as COPECs was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[8] Screening value for chromium $^{+3}$ based on exposure to birds.

NA = Not Available

Rationale Codes:
1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-48: Refinement of COPECs/Surface Soil EU BB2 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration[1]	Ecological Screening Value [2]	EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
										Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals												
92-52-4	Biphenyl	mg/kg	2 / 2	0.0034 - 0.027		NA	--	--	--	--	--	Y, 2
86-74-8	Carbazole	mg/kg	2 / 2	0.022 - 0.025		NA	--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	2 / 2	0.010 - 0.060		NA	--	--	--	--	--	Y, 2
--	HMW PAHs [2]	mg/kg	2 / 2	2.6 - 3.2	-- a	1.1 a	3.2	Y	3	--	--	Y, 1
Polychlorinated Biphenyls												
--	Total PCB Aroclors [3]	mg/kg	1 / 2	-- - 0.75	-- a	0.000332 b	0.75	Y	2,271	--	--	Y, 1
Metals												
7429-90-5	Aluminum	mg/kg	2 / 2	8,580 - 13,100		NA	--	--	--	5 / 5	8,190 - 13,050	Y, 2
7440-43-9	Cadmium	mg/kg	1 / 2	-- - 0.55	-- a	0.36 a	0.55	Y	2	5 / 5	0.6 - 2.2	N, 4
7439-89-6	Iron	mg/kg	2 / 2	12,400 - 15,800		NA	--	--	--	5 / 5	20,200 - 29,800	N, 4
7439-92-1	Lead	mg/kg	2 / 2	44 - 85	-- a	11 a	85	Y	8	5 / 5	62.7 - 270	N, 4
7439-97-6	Mercury	mg/kg	2 / 2	0.062 - 0.12	-- a	0.00051 c	0.12	Y	235	4 / 5	0.18 - 0.26	N, 4
7782-49-2	Selenium	mg/kg	1 / 2	-- - 1.9	-- a	0.63 a	1.9	Y	3	5 / 5	0.55 - 0.96	Y, 1
7440-62-2	Vanadium	mg/kg	2 / 2	19 - 28	-- a	7.8 a	28	Y	4	5 / 5	31.1 - 51.9	N, 4

Notes:

[1] The 95% Upper Confidence Levels (UCL) on the arithmetic average concentrations (*i.e.* , the 95% UCL concentration) were not calculated for these data sets because too few samples were collected.
a = Data set is too small (*i.e.* , four or fewer samples); therefore, the data set was not processed.

[2] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were selected based on the following hierarchy:
a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/).

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area.

[5] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[6] Selection of PCB Aroclors as a COPEC was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available

Table G-49: Refinement of COPECs/Surface Soil EU BB3 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration[1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals														
85-68-7	Butyl benzyl phthalate	mg/kg	4 / 22	0.064 - 1.8	--	g	0.239	b	1.8	Y	8	--	--	Y, 1
92-52-4	Biphenyl	mg/kg	9 / 18	0.0033 - 0.029			NA		--	--	--	--	--	Y, 2
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	5 / 24	0.47 - 54	--	g	0.925	b	54	Y	58	--	--	Y, 1
86-74-8	Carbazole	mg/kg	14 / 18	0.016 - 0.76			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	12 / 24	0.0048 - 0.28			NA		--	--	--	--	--	Y, 2
84-74-2	di-n-Butyl phthalate	mg/kg	3 / 24	0.069 - 1.7	--	g	0.15	b	1.7	Y	11	--	--	Y, 1
--	HMW PAHs [2]	mg/kg	24 / 24	0.021 - 46	20	c	1.1	a	20	Y	18	--	--	Y, 1
Pesticides														
309-00-2	Aldrin	mg/kg	1 / 9	-- - 0.0017			NA		--	--	--	--	--	Y, 2
319-85-7	beta-BHC	mg/kg	1 / 8	-- - 0.0020			NA		--	--	--	--	--	Y, 2
57-74-9	Chlordane, Total	mg/kg	2 / 9	0.024 - 0.0350			NA		--	--	--	--	--	Y, 2
60-57-1	Dieldrin	mg/kg	1 / 8	-- - 0.026	--	i	0.0049	a	0.026	Y	5	--	--	Y, 1
--	Total DDx [3]	mg/kg	4 / 9	0.031 - 0.102	0.056	d	0.021	a	0.056	Y	3	--	--	Y, 1
53494-70-5	Endrin ketone	mg/kg	2 / 9	0.0044 - 0.0058			NA		--	--	--	--	--	Y, 2
76-44-8	Heptachlor	mg/kg	2 / 9	0.0014 - 0.020	--	g	0.0060	b	0.020	Y	3	--	--	Y, 1
Polychlorinated Biphenyls														
--	Total PCB Aroclors [3]	mg/kg	115 / 132	0.0062 - 14	3.6	b	0.000332	b	3.6	Y	10,867	--	--	Y, 1
Metals														
7429-90-5	Aluminum	mg/kg	24 / 24	4,100 - 21,400			NA		--	--	--	5 / 5	8,190 - 13,050	Y, 2
7440-36-0	Antimony	mg/kg	9 / 24	11 - 42	15	d	0.27	a	15	Y	57	5 / 5	0.99 - 2.15	Y, 1
7440-43-9	Cadmium	mg/kg	16 / 24	1.0 - 14	5.6	d	0.36	a	5.6	Y	16	5 / 5	0.6 - 2.2	Y, 1
7440-47-3	Chromium	mg/kg	24 / 24	8.6 - 242	70	c	26	a [8]	70	Y	3	5 / 5	22.7 - 39.8	Y, 1
7440-50-8	Copper	mg/kg	24 / 24	3.9 - 12,000	2,815	e	28	a	2,815	Y	101	5 / 5	30.2 - 315	Y, 1
7439-89-6	Iron	mg/kg	24 / 24	8,600 - 282,000			NA		--	--	--	5 / 5	20,200 - 29,800	Y, 2
7439-92-1	Lead	mg/kg	24 / 24	10 - 9,950	2,042	c	11	a	2,042	Y	186	5 / 5	62.7 - 270	Y, 1
7439-97-6	Mercury	mg/kg	24 / 24	0.020 - 5.7	2.1	c	0.00051	c	2.1	Y	4,202	4 / 5	0.18 - 0.26	Y, 1
7440-02-0	Nickel	mg/kg	24 / 24	6.7 - 235	92	e	130	a	92	N	--	5 / 5	22.9 - 34.3	N, 6
7782-49-2	Selenium	mg/kg	14 / 24	0.071 - 9.2	3.9	d	0.63	a	3.9	Y	6	5 / 5	0.55 - 0.96	Y, 1
7440-22-4	Silver	mg/kg	21 / 24	0.48 - 28	15	h	4.2	a	15	Y	3	4 / 5	0.54 - 0.72	Y, 1
7440-28-0	Thallium	mg/kg	4 / 24	1.2 - 4.0	--	g	0.057	b	4.0	Y	70	0 / 5	0 - 0	Y, 1
7440-62-2	Vanadium	mg/kg	23 / 24	13 - 40	28	f	7.8	a	28	Y	4	5 / 5	31.1 - 51.9	Y, 1
7440-66-6	Zinc	mg/kg	24 / 24	20 - 3,680	1,460	e	46	a	1,460	Y	32	5 / 5	114 - 376	Y, 1
Other														
57-12-5	Cyanide	mg/kg	17 / 18	0.067 - 2.6	1.0	b	1.3	b	1.0	N	--	--	--	N, 6

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = 95% Kaplan-Meier (BCA) UCL
b= 95% Kaplan-Meier (Chebyshev) UCL
c = 95% Approximate Gamma UCL
d = 95% Kaplan-Meier (t) UCL
e = 95% Chebyshev (Mean, Sd) UCL
f = 95% Kaplan-Meier (Percentile Bootstrap) UCL
g = Data set consists of greater than 70% non-detected observations.
h = 97.5% Kaplan-Meier (Chebyshev) UCL
i = Data set is too small (*i.e.* , has only one detected value); therefore, the data set was not processed.

[2] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/).

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area.

[5] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[6] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[7] Selection of PCB Aroclors as COPECs was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[8] Screening value for chromium +3 based on exposure to birds.

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-50: Refinement of COPECs/Surface Soil EU BB4 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration[1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
110-82-7	Cyclohexane	mg/kg	3 / 38	0.0012 - 0.002			NA		--	--	--	--	--	Y, 2
156-59-2	cis-1,2-Dichloroethene	mg/kg	2 / 55	0.00094 - 0.0023			NA		--	--	--	--	--	N, 5
79-20-9	Methyl acetate	mg/kg	1 / 43	-- - 0.0086			NA		--	--	--	--	--	N, 5
108-87-2	Methylcyclohexane	mg/kg	1 / 39	-- - 0.0042			NA		--	--	--	--	--	N, 5
179601-23-1	m, p Xylenes	mg/kg	5 / 50	0.002 - 0.045			NA		--	--	--	--	--	Y, 2
Semi-Volatile Organic Chemicals														
85-68-7	Butyl benzyl phthalate	mg/kg	33 / 59	0.063 - 36	3.9	a	0.239	b	3.9	Y	16	--	--	Y, 1
92-52-4	Biphenyl	mg/kg	1 / 47	-- - 0.13			NA		--	--	--	--	--	N, 5
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	36 / 59	0.035 - 25	2.5	c	0.925	b	2.5	Y	3	--	--	Y, 1
86-74-8	Carbazole	mg/kg	3 / 47	0.06 - 0.25			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	2 / 59	0.083 - 0.22			NA		--	--	--	--	--	N, 5
84-74-2	di-n-Butyl phthalate	mg/kg	11 / 59	0.02 - 2.3	--	j	0.15	b	2.3	Y	15	--	--	Y, 1
--	HMW PAHs [2]	mg/kg	52 / 59	0.080 - 62	14	a	1.1	a	14	Y	13	--	--	Y, 1
Pesticides														
309-00-2	Aldrin	mg/kg	10 / 46	0.000042 - 0.041			NA		--	--	--	--	--	Y, 2
319-85-7	beta-BHC	mg/kg	2 / 55	0.00032 - 0.00058			NA		--	--	--	--	--	N, 5
58-89-9	gamma-BHC	mg/kg	8 / 55	0.00011 - 0.01			NA		--	--	--	--	--	Y, 2
57-74-9	Chlordane, Total	mg/kg	34 / 55	0.00049 - 1.1			NA		--	--	--	--	--	Y, 2
60-57-1	Dieldrin	mg/kg	34 / 55	0.002 - 2.4	0.35	c	0.0049	a	0.35	Y	72	--	--	Y, 1
--	Total DDx [3]	mg/kg	40 / 55	0.0037 - 2.0	0.52	a	0.021	a	0.52	Y	25	--	--	Y, 1
33213-65-9	beta-Endosulfan	mg/kg	8 / 44	0.0087 - 0.59	--	j	0.119	b	0.59	Y	5	--	--	Y, 1
7421-93-4	Endrin aldehyde	mg/kg	18 / 54	0.00027 - 0.13	0.015	b	0.011	b	0.015	Y	1	--	--	N, 3
53494-70-5	Endrin ketone	mg/kg	2 / 40	0.017 - 0.065			NA		--	--	--	--	--	N, 5
76-44-8	Heptachlor	mg/kg	1 / 55	-- - 0.017	--	k	0.00598	b	0.017	Y	3	--	--	N, 5
72-43-5	Methoxychlor	mg/kg	8 / 55	0.0023 - 0.043	--	j	0.0199	b	0.043	Y	2	--	--	Y, 1

Table G-50: Refinement of COPECs/Surface Soil EU BB4 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration[1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Polychlorinated Biphenyls											--			
--	Total PCB Aroclors [3]	mg/kg	285 / 305	0.027 - 80	13.2	g	0.000332	b	13	Y	39,759	--	--	Y, 1
Metals											--			
7429-90-5	Aluminum	mg/kg	59 / 59	1,430 - 30,000			NA		--	--	--	5 / 5	8,190 - 13,050	Y, 2
7440-36-0	Antimony	mg/kg	13 / 59	1.2 - 4.0	--	j	0.27	a	4.0	Y	15	5 / 5	0.99 - 2.15	Y, 1
7440-43-9	Cadmium	mg/kg	45 / 59	1.1 - 38	9.1	c	0.36	a	9.1	Y	25	5 / 5	0.6 - 2.2	Y, 1
7440-47-3	Chromium	mg/kg	55 / 59	2.5 - 304	98	a	26	a [8]	98	Y	4	5 / 5	22.7 - 39.8	Y, 1
7440-50-8	Copper	mg/kg	58 / 59	3.2 - 520	134	a	28	a	134	Y	5	5 / 5	30.2 - 315	Y, 1
7439-89-6	Iron	mg/kg	59 / 59	1,970 - 75,900			NA		--	--	--	5 / 5	20,200 - 29,800	Y, 2
7439-92-1	Lead	mg/kg	59 / 59	1.9 - 1,245	242	d	11	a	242	Y	22	5 / 5	62.7 - 270	Y, 1
7439-97-6	Mercury	mg/kg	54 / 59	0.028 - 1.1	0.45	a	0.00051	c	0.45	Y	875	4 / 5	0.18 - 0.26	Y, 1
7782-49-2	Selenium	mg/kg	13 / 43	0.20 - 5.0	1.4	b	0.63	a	1.4	Y	2	5 / 5	0.55 - 0.96	Y, 1
7440-22-4	Silver	mg/kg	42 / 59	1.2 - 63	8.1	h	4.2	a	8.1	Y	2	4 / 5	0.54 - 0.72	Y, 1
7440-28-0	Thallium	mg/kg	1 / 59	-- - 0.60	--	j	0.0569	b	0.60	Y	11	0 / 5	0 - 0	N, 5
7440-62-2	Vanadium	mg/kg	55 / 59	5.0 - 95	40	b	7.8	a	40	Y	5	5 / 5	31.1 - 51.9	Y, 1
7440-66-6	Zinc	mg/kg	59 / 59	5.0 - 570	207	d	46	a	207	Y	5	5 / 5	114 - 376	Y, 1

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a= 95% Kaplan-Meier (Chebyshev) UCL
b = 95% Kaplan-Meier (t) UCL
c = 95% Kaplan-Meier (BCA) UCL
d = 95% Approximate Gamma UCL
e = 95% or 97.5% Chebyshev (Mean, Sd) UCL
f = 95% Percentile Bootstrap UCL
g = 95% Student's-t UCL
h = 95% Kaplan-Meier (Percentile Bootstrap) UCL
g = 97.5% Kaplan-Meier (Chebyshev) UC
j = Data set consists of greater than 70% non-detected observations.
k = Data set is too small (*i.e.* , four or fewer samples or has only one detected value); therefore, the data set was not processed.

[2] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/).

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area.

[5] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[6] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[7] Selection of PCB Aroclors as COPECs was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[8] Screening value for chromium +3 based on exposure to birds.

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-51: Refinement of COPECs/Surface Soil EU BB5 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Volatile Organic Chemicals														
110-82-7	Cyclohexane	mg/kg	1 / 10	-- - 0.015	--	k	NA		0.015	--	--	--	--	Y, 2
156-59-2	cis-1,2-Dichloroethene	mg/kg	2 / 19	0.1 - 22	--	l	NA		22	--	--	--	--	Y, 2
Semi-Volatile Organic Chemicals														
100-52-7	Benzaldehyde	mg/kg	6 / 13	0.03 - 0.95			NA		--	--	--	--	--	Y, 2
85-68-7	Butyl benzyl phthalate	mg/kg	19 / 21	0.05 - 25	21	f	0.239	b	21	Y	87	--	--	Y, 1
92-52-4	Biphenyl	mg/kg	6 / 13	0.008 - 0.099			NA		--	--	--	--	--	Y, 2
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	13 / 21	0.23 - 110	68	f	0.925	b	68	Y	74	--	--	Y, 1
86-74-8	Carbazole	mg/kg	6 / 13	0.038 - 0.33			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	13 / 21	0.038 - 0.66			NA		--	--	--	--	--	Y, 2
84-66-2	Diethyl phthalate	mg/kg	3 / 21	0.0066 - 78	--	l	24.8	b	78	Y	3	--	--	Y, 1
84-74-2	di-n-Butyl phthalate	mg/kg	8 / 21	0.024 - 2.3	0.72	b	0.15	b	0.72	Y	5	--	--	Y, 1
--	HMW PAHs [2]	mg/kg	21 / 21	0.047 - 90	29	g	1.1	a	29	Y	27	--	--	Y, 1
Pesticides														
309-00-2	Aldrin	mg/kg	1 / 19	-- - 0.00078			NA		--	--	--	--	--	Y, 2
319-85-7	beta-BHC	mg/kg	3 / 19	0.000 - 0.00031			NA		--	--	--	--	--	Y, 2
58-89-9	gamma-BHC	mg/kg	2 / 19	0.000 - 0.0004			NA		--	--	--	--	--	Y, 2
57-74-9	Chlordane, Total	mg/kg	7 / 19	0.0014 - 0.55			NA		--	--	--	--	--	Y, 2
60-57-1	Dieldrin	mg/kg	9 / 18	0.003 - 16	10	f	0.0049	a	10	Y	2,045	--	--	Y, 1
--	Total DDx [3]	mg/kg	10 / 19	0.012 - 56	33	f	0.021	a	33	Y	1,585	--	--	Y, 1
7421-93-4	Endrin aldehyde	mg/kg	6 / 19	0.001 - 5.2	0.80	b	0.0105	b	0.80	Y	76	--	--	Y, 1
1024-57-3	Heptachlor epoxide	mg/kg	7 / 19	0.000 - 12	1.8	b	0.152	b	1.8	Y	12	--	--	Y, 1
Polychlorinated Biphenyls														
--	Total PCB Aroclors [3]	mg/kg	366 / 437	0.011 - 924	41	i	0.000332	b	41	Y	124,819	--	--	Y, 1
Metals														
7429-90-5	Aluminum	mg/kg	21 / 21	2,200 - 35,800			NA		--	--	--	5 / 5	8,190 - 13,050	Y, 2
7440-36-0	Antimony	mg/kg	12 / 21	0.140 - 19	4.6	h	0.27	a	4.6	Y	17	5 / 5	0.99 - 2.15	Y, 1
7440-43-9	Cadmium	mg/kg	16 / 21	1.4 - 40.2	15	h	0.36	a	15	Y	41	5 / 5	0.6 - 2.2	Y, 1
7440-47-3	Chromium	mg/kg	21 / 21	7.7 - 78	45	c	26	a [8]	45	Y	2	5 / 5	22.7 - 39.8	Y, 1
7440-50-8	Copper	mg/kg	18 / 21	12 - 960	230	c	28	a	230	Y	8	5 / 5	30.2 - 315	Y, 1
7439-89-6	Iron	mg/kg	21 / 21	6,500 - 88,000			NA		--	--	--	5 / 5	20,200 - 29,800	Y, 2
7439-92-1	Lead	mg/kg	21 / 21	26 - 1,000	387	c	11	a	387	Y	35	5 / 5	62.7 - 270	Y, 1
7439-97-6	Mercury	mg/kg	19 / 21	0.125 - 1.5	0.61	h	0.00051	c	0.61	Y	1,196	4 / 5	0.18 - 0.26	Y, 1
7782-49-2	Selenium	mg/kg	14 / 21	1.6 - 7.9	3.3	h	0.63	a	3.3	Y	5	5 / 5	0.55 - 0.96	Y, 1
7440-22-4	Silver	mg/kg	16 / 21	2.2 - 14	6.4	b	4.2	a	6.4	Y	2	5 / 5	0.54 - 0.72	Y, 1
7440-28-0	Thallium	mg/kg	1 / 21	-- - 1.2	--	k	0.0569	b	1.2	Y	21	0 / 5	0 - 0	N, 5
7440-62-2	Vanadium	mg/kg	21 / 21	13 - 88	51	j	7.8	a	51.0	Y	7	5 / 5	31.1 - 51.9	Y, 1
7440-66-6	Zinc	mg/kg	21 / 21	31 - 1,000	442	c	46	a	442	Y	10	5 / 5	114 - 376	Y, 1

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:

a = 95% Kaplan-Meier (Chebyshev) UCL
b = 95% Kaplan-Meier (t) UCL
c = 95% Approximate Gamma UCL
d= 95% Kaplan-Meier (Percentile Bootstrap) UCL
e = 95% or 97.5% Chebyshev (Mean, Sd) UCL
f = 99% Kaplan-Meier (Chebyshev) UCL
g = 95% Adjusted Gamma UCL
h = 95% Kaplan-Meier (BCA) UCL
i= 97.5% Kaplan-Meier (Chebyshev) UCL
j = 95% Student's-t UCL
k = Data set is too small (*i.e.* , has only one detected value); therefore, the data set was not processed.
l = Data set consists of greater than 70% non-detected observations.

[2] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were selected based on the following hierarchy:

a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/).

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area.

[5] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[6] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[7] Selection of PCB Aroclors as COPECs was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

[8] Screening value for chromium +3 based on exposure to birds.

NA = Not Available

Rationale Codes:

1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

Table G-52: Refinement of COPECs/Surface Soil EU BB6 - Birds and Mammals
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	95% UCL Concentration [1]		Ecological Screening Value [2]		EPC for COPEC Refinement [3]	EPC Exceeds Screening Value ? [Y/N]	Refined HQ	Reference Area Data [4]		Identified as Refined COPEC [Y/N]
												Detection Frequency	Range of Detected Concentrations	
Semi-Volatile Organic Chemicals														
100-52-7	Benzaldehyde	mg/kg	2 / 6	0.0088 - 0.014			NA		--	--	--	--	--	Y, 2
92-52-4	Biphenyl	mg/kg	1 / 6	-- - 0.0038			NA		--	--	--	--	--	Y, 2
117-81-7	bis(2-Ethylhexyl) phthalate	mg/kg	4 / 6	0.16 - 6.1	3.2	h	0.925	b	3.2	Y	3	--	--	Y, 1
86-74-8	Carbazole	mg/kg	2 / 6	0.0053 - 0.039			NA		--	--	--	--	--	Y, 2
132-64-9	Dibenzofuran	mg/kg	1 / 6	-- - 0.019			NA		--	--	--	--	--	Y, 2
--	HMW PAHs [2]	mg/kg	6 / 6	0.21 - 21	--	j	1.1	a	21	Y	19	--	--	Y, 1
Pesticides											--			
309-00-2	Aldrin	mg/kg	1 / 2	-- - 0.0037			NA		--	--	--	--	--	Y, 2
57-74-9	Chlordane, Total	mg/kg	2 / 2	0.0052 - 0.0080			NA		--	--	--	--	--	Y, 2
60-57-1	Dieldrin	mg/kg	1 / 1	-- - 0.016	--	i	0.0049	a	0.016	Y	3	--	--	Y, 1
--	Total DDx [3]	mg/kg	2 / 2	0.037 - 0.061	--	i	0.021	a	0.061	Y	3	--	--	Y, 1
53494-70-5	Endrin ketone	mg/kg	1 / 2	-- - 0.004			NA		--	--	--	--	--	Y, 2
Polychlorinated Biphenyls														
--	Total PCB Aroclors [3]	mg/kg	6 / 6	0.13 - 62	--	j	0.000332	b	62	Y	186,747	--	--	Y, 1
Metals														
7429-90-5	Aluminum	mg/kg	6 / 6	8,040 - 16,900			NA		--	--	--	5 / 5	8,190 - 13,050	Y, 2
7440-43-9	Cadmium	mg/kg	3 / 6	1.0 - 9.4	6.1	a	0.36	a	6.1	Y	17	5 / 5	0.6 - 2.2	Y, 1
7439-89-6	Iron	mg/kg	6 / 6	16,500 - 28,600			NA		--	--	--	5 / 5	20,200 - 29,800	N, 4
7439-92-1	Lead	mg/kg	6 / 6	32 - 137	107	c	11	a	107	Y	10	5 / 5	62.7 - 270	N, 4
7439-97-6	Mercury	mg/kg	6 / 6	0.048 - 0.19	0.15	c	0.00051	c	0.15	Y	300	4 / 5	0.18 - 0.26	N, 4
7440-62-2	Vanadium	mg/kg	6 / 6	13 - 24	22	c	7.8	a	22	Y	3	5 / 5	31.1 - 51.9	N, 4
7440-66-6	Zinc	mg/kg	6 / 6	23 - 148	122	c	46	a	122	Y	3	5 / 5	114 - 376	N, 4
Other														
57-12-5	Cyanide	mg/kg	4 / 6	0.21 - 6.1	3.4	h	1.33	b	3.4	Y	3	--	--	Y, 1

Notes:

[1] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 4.1.00. 95% UCLs were calculated for data sets with fewer than 70% non-detects and more than 4 samples. The following are codes for the basis of the 95% UCL concentration:
a = 95% Kaplan-Meier (t) UCL
b = 95% Adjusted Gamma UCL
c = 95% Student's-t UCL
d = 95% Chebyshev (Mean, Sd) UCL
e = 95% Approximate Gamma UCL
f = Maximum since 95% UCL is greater than the maximum.
g = 95% Kaplan-Meier (% Bootstrap) UCL
h = 95% Kaplan-Meier (BCA) UCL
i = Only one detected value in the data set; therefore, the data set was not processed.
i = Data set is too small (*i.e.* , four or fewer samples or has only one detected value); therefore, the data set was not processed.
j = Calculated 95% UCL concentration exceeds the maximum detected concentration; maximum concentration used.

[2] Screening values protective of birds and mammals and the lower of the values for birds and mammals, where both are available, were selected based on the following hierarchy:
a = USEPA Ecological Soil Screening Levels protective of birds and/or mammals (accessed online at: http://www.epa.gov/ecotox/ecossl/).
b = USEPA Region 5 Ecological Screening Levels for soil where protective of birds and/or mammals (accessed online at: http://www.epa.gov/reg5rcra/ca/edql.htm).
c = NJDEP Site Remediation Program Ecological Screening Criteria for soil where protective of birds and/or mammals (accessed online at: http://www.nj.gov/dep/srp/guidance/ecoscreening/).

[3] Exposure point concentrations (EPC) for the COPEC refinement are equivalent to 95% UCL concentrations, where available, or maximum detected concentrations.

[4] Data are from five soil samples collected from reference area established for OU4 Bound Brook Study Area.

[5] Total DDx is the sum of detected 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT concentrations within a given sample.

[6] Selection of PAHs as COPECs was based on data for total low molecular weight PAHs (LMW PAHs) and total high molecular weight PAHs (HMW PAHs).

[7] Selection of PCB Aroclors as COPECs was based on data for "Total PCB Aroclors," which is the sum of detected Aroclor 1242, Aroclor 1254, and Aroclor 1260 concentrations within a given sample.

NA = Not Available

Rationale Codes:
1 - HQ based on EPC for COPEC refinement is > 1.
2 - No screening value is available.
3 - HQ based on EPC for COPEC refinement is <= 1.
4 - Maximum concentration is within range of concentrations detected in reference area samples.
5 - For data sets with more than twenty samples, frequency of detection <= 5%.
6 - EPC does not exceed Screening Value

APPENDIX H

ProUCL Version 4.1.00 Output Files for ERA

Surface Water

Arsenic

General Statistics (µg/L)

Number of Valid Observations	11	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	1.9	Minimum of Log Data	0.642
Maximum	4.7	Maximum of Log Data	1.548
Mean	3.541	Mean of log Data	1.242
Geometric Mean	3.462	SD of log Data	0.235
Median	3.5		
SD	0.726		
Std. Error of Mean	0.219		
Coefficient of Variation	0.205		
Skewness	-0.752		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.928	Shapiro Wilk Test Statistic	0.846
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	3.937	95% H-UCL	4.094
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.65
95% Adjusted-CLT UCL (Chen-1995)	3.848	97.5% Chebyshev (MVUE) UCL	5.126
95% Modified-t UCL (Johnson-1978)	3.929	99% Chebyshev (MVUE) UCL	6.061

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	16.24	Data appear Normal at 5% Significance Level	
Theta Star	0.218		
MLE of Mean	3.541		
MLE of Standard Deviation	0.879		
nu star	357.3		
Approximate Chi Square Value (.05)	314.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	3.901
Adjusted Chi Square Value	307.9	95% Jackknife UCL	3.937
		95% Standard Bootstrap UCL	3.893
Anderson-Darling Test Statistic	0.564	95% Bootstrap-t UCL	3.917
Anderson-Darling 5% Critical Value	0.729	95% Hall's Bootstrap UCL	3.913
Kolmogorov-Smirnov Test Statistic	0.228	95% Percentile Bootstrap UCL	3.864
Kolmogorov-Smirnov 5% Critical Value	0.255	95% BCA Bootstrap UCL	3.836
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	4.494
		97.5% Chebyshev(Mean, Sd) UCL	4.907
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.718
95% Approximate Gamma UCL (Use when n >= 40)	4.023		
95% Adjusted Gamma UCL (Use when n < 40)	4.108		

Potential UCL to Use	Use 95% Student's-t UCL	3.937

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Copper

General Statistics (µg/L)

Number of Valid Observations	11	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	1.5	Minimum of Log Data	0.405
Maximum	2.4	Maximum of Log Data	0.875
Mean	1.832	Mean of log Data	0.595
Geometric Mean	1.814	SD of log Data	0.145
Median	1.8		
SD	0.285		
Std. Error of Mean	0.0859		
Coefficient of Variation	0.155		
Skewness	1.41		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.782	Shapiro Wilk Test Statistic	0.822
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.987	95% H-UCL	1.992
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2.181
95% Adjusted-CLT UCL (Chen-1995)	2.012	97.5% Chebyshev (MVUE) UCL	2.332
95% Modified-t UCL (Johnson-1978)	1.994	99% Chebyshev (MVUE) UCL	2.629

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	36.54	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0501		
MLE of Mean	1.832		
MLE of Standard Deviation	0.303		
nu star	803.9		
Approximate Chi Square Value (.05)	739.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	1.973
Adjusted Chi Square Value	728.9	95% Jackknife UCL	1.987
		95% Standard Bootstrap UCL	1.967
Anderson-Darling Test Statistic	1.069	95% Bootstrap-t UCL	2.188
Anderson-Darling 5% Critical Value	0.728	95% Hall's Bootstrap UCL	3.136
Kolmogorov-Smirnov Test Statistic	0.349	95% Percentile Bootstrap UCL	1.973
Kolmogorov-Smirnov 5% Critical Value	0.255	95% BCA Bootstrap UCL	2
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.206
		97.5% Chebyshev(Mean, Sd) UCL	2.368
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.686
95% Approximate Gamma UCL (Use when n >= 40)	1.992		
95% Adjusted Gamma UCL (Use when n < 40)	2.02		

Potential UCL to Use		Use 95% Student's-t UCL	1.987
		or 95% Modified-t UCL	1.994

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Nickel

General Statistics (µg/L)

Number of Valid Observations	11	Number of Distinct Observations	8

Raw Statistics		Log-transformed Statistics	
Minimum	2.1	Minimum of Log Data	0.742
Maximum	4.1	Maximum of Log Data	1.411
Mean	3.409	Mean of log Data	1.212
Geometric Mean	3.361	SD of log Data	0.184
Median	3.5		
SD	0.554		
Std. Error of Mean	0.167		
Coefficient of Variation	0.163		
Skewness	-1.271		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.9	Shapiro Wilk Test Statistic	0.832
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	3.712	95% H-UCL	3.808
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.243
95% Adjusted-CLT UCL (Chen-1995)	3.615	97.5% Chebyshev (MVUE) UCL	4.602
95% Modified-t UCL (Johnson-1978)	3.701	99% Chebyshev (MVUE) UCL	5.307

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	25.89	Data appear Normal at 5% Significance Level	
Theta Star	0.132		
MLE of Mean	3.409		
MLE of Standard Deviation	0.67		
nu star	569.6		
Approximate Chi Square Value (.05)	515.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	3.684
Adjusted Chi Square Value	506.8	95% Jackknife UCL	3.712
		95% Standard Bootstrap UCL	3.67
Anderson-Darling Test Statistic	0.615	95% Bootstrap-t UCL	3.652
Anderson-Darling 5% Critical Value	0.729	95% Hall's Bootstrap UCL	3.634
Kolmogorov-Smirnov Test Statistic	0.264	95% Percentile Bootstrap UCL	3.664
Kolmogorov-Smirnov 5% Critical Value	0.255	95% BCA Bootstrap UCL	3.618
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	4.137
		97.5% Chebyshev(Mean, Sd) UCL	4.452
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.071
95% Approximate Gamma UCL (Use when n >= 40)	3.769		
95% Adjusted Gamma UCL (Use when n < 40)	3.831		

Potential UCL to Use	Use 95% Student's-t UCL	3.712

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Zinc

General Statistics (µg/L)

Number of Valid Observations	11	Number of Distinct Observations	10
Raw Statistics		Log-transformed Statistics	
Minimum	2.4	Minimum of Log Data	0.875
Maximum	8.7	Maximum of Log Data	2.163
Mean	5.318	Mean of log Data	1.587
Geometric Mean	4.889	SD of log Data	0.442
Median	5.3		
SD	2.177		
Std. Error of Mean	0.656		
Coefficient of Variation	0.409		
Skewness	0.17		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.922	Shapiro Wilk Test Statistic	0.925
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	6.508	95% H-UCL	7.237
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8.498
95% Adjusted-CLT UCL (Chen-1995)	6.434	97.5% Chebyshev (MVUE) UCL	9.864
95% Modified-t UCL (Johnson-1978)	6.513	99% Chebyshev (MVUE) UCL	12.55
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.505	Data appear Normal at 5% Significance Level	
Theta Star	1.181		
MLE of Mean	5.318		
MLE of Standard Deviation	2.506		
nu star	99.11		
Approximate Chi Square Value (.05)	77.14	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	6.398
Adjusted Chi Square Value	73.99	95% Jackknife UCL	6.508
		95% Standard Bootstrap UCL	6.327
Anderson-Darling Test Statistic	0.379	95% Bootstrap-t UCL	6.542
Anderson-Darling 5% Critical Value	0.731	95% Hall's Bootstrap UCL	6.322
Kolmogorov-Smirnov Test Statistic	0.204	95% Percentile Bootstrap UCL	6.355
Kolmogorov-Smirnov 5% Critical Value	0.256	95% BCA Bootstrap UCL	6.382
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	8.179
		97.5% Chebyshev(Mean, Sd) UCL	9.417
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	11.85
95% Approximate Gamma UCL (Use when n >= 40)	6.833		
95% Adjusted Gamma UCL (Use when n < 40)	7.124		
Potential UCL to Use		Use 95% Student's-t UCL	6.508

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Congeners (µg/L)

General Statistics (µg/L)

Number of Valid Observations	19	Number of Distinct Observations	19

Raw Statistics		Log-transformed Statistics	
Minimum	0.0048	Minimum of Log Data	-5.342
Maximum	0.26	Maximum of Log Data	-1.36
Mean	0.079	Mean of log Data	-2.874
Geometric Mean	0.057	SD of log Data	0.981
Median	0.066		
SD	0.059		
Std. Error of Mean	0.0136		
Coefficient of Variation	0.751		
Skewness	1.566		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.869	Shapiro Wilk Test Statistic	0.88
Shapiro Wilk Critical Value	0.901	Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.102	95% H-UCL	0.166
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.184
95% Adjusted-CLT UCL (Chen-1995)	0.106	97.5% Chebyshev (MVUE) UCL	0.226
95% Modified-t UCL (Johnson-1978)	0.103	99% Chebyshev (MVUE) UCL	0.308

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.419	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0556		
MLE of Mean	0.0789		
MLE of Standard Deviation	0.0662		
nu star	53.92		
Approximate Chi Square Value (.05)	38.05	Nonparametric Statistics	
Adjusted Level of Significance	0.0369	95% CLT UCL	0.101
Adjusted Chi Square Value	36.88	95% Jackknife UCL	0.102
		95% Standard Bootstrap UCL	0.1
Anderson-Darling Test Statistic	0.532	95% Bootstrap-t UCL	0.112
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL	0.122
Kolmogorov-Smirnov Test Statistic	0.195	95% Percentile Bootstrap UCL	0.102
Kolmogorov-Smirnov 5% Critical Value	0.202	95% BCA Bootstrap UCL	0.107
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.138
		97.5% Chebyshev(Mean, Sd) UCL	0.164
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.214
95% Approximate Gamma UCL (Use when n >= 40)	0.112		
95% Adjusted Gamma UCL (Use when n < 40)	0.115		

Potential UCL to Use	Use 95% Approximate Gamma UCL	0.11

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

TCDD TEQ (PCBs) for Birds

General Statistics (µg/L)

Number of Valid Observations	19	Number of Distinct Observations	19
Number of Missing Values	1		

Raw Statistics		Log-transformed Statistics	
Minimum	1.8E-07	Minimum of Log Data	-15.51
Maximum	2.4E-06	Maximum of Log Data	-12.93
Mean	1.5E-06	Mean of log Data	-13.6
Geometric Mean	1.2E-06	SD of log Data	0.784
Median	1.7E-06		
SD	6.91E-07		
Std. Error of Mean	1.58E-07		
Coefficient of Variation	N/A		
Skewness	-0.796		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.908	Shapiro Wilk Test Statistic	0.739
Shapiro Wilk Critical Value	0.901	Shapiro Wilk Critical Value	0.901
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.78E-06	95% H-UCL	2.58E-06
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.04E-06
95% Adjusted-CLT UCL (Chen-1995)	1.74E-06	97.5% Chebyshev (MVUE) UCL	3.64E-06
95% Modified-t UCL (Johnson-1978)	1.78E-06	99% Chebyshev (MVUE) UCL	4.82E-06

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.29	Data appear Normal at 5% Significance Level	
Theta Star	6.57E-07		
MLE of Mean	1.51E-06		
MLE of Standard Deviation	9.95E-07		
nu star	87.02		
Approximate Chi Square Value (.05)	66.52	Nonparametric Statistics	
Adjusted Level of Significance	0.0369	95% CLT UCL	1.77E-06
Adjusted Chi Square Value	64.95	95% Jackknife UCL	1.78E-06
		95% Standard Bootstrap UCL	1.75E-06
Anderson-Darling Test Statistic	1.587	95% Bootstrap-t UCL	1.75E-06
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	1.73E-06
Kolmogorov-Smirnov Test Statistic	0.235	95% Percentile Bootstrap UCL	1.74E-06
Kolmogorov-Smirnov 5% Critical Value	0.2	95% BCA Bootstrap UCL	1.74E-06
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.20E-06
		97.5% Chebyshev(Mean, Sd) UCL	2.50E-06
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.08E-06
95% Approximate Gamma UCL (Use when n >= 40)	1.97E-06		
95% Adjusted Gamma UCL (Use when n < 40)	2.02E-06		

Potential UCL to Use	Use 95% Student's-t UCL	1.8E-06

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

TCDD TEQ (PCBs) for Mammals

General Statistics (µg/L)

Number of Valid Observations	19	Number of Distinct Observations	19

Raw Statistics		Log-transformed Statistics	
Minimum	1.6E-08	Minimum of Log Data	-17.97
Maximum	4.9E-07	Maximum of Log Data	-14.52
Mean	1.5E-07	Mean of log Data	-15.9
Geometric Mean	1.2E-07	SD of log Data	0.767
Median	1.6E-07		
SD	9.99E-08		
Std. Error of Mean	2.29E-08		
Coefficient of Variation	N/A		
Skewness	2.071		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.781	Shapiro Wilk Test Statistic	0.846
Shapiro Wilk Critical Value	0.901	Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.94E-07	95% H-UCL	2.52E-07
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2.97E-07
95% Adjusted-CLT UCL (Chen-1995)	2.03E-07	97.5% Chebyshev (MVUE) UCL	3.55E-07
95% Modified-t UCL (Johnson-1978)	1.96E-07	99% Chebyshev (MVUE) UCL	4.70E-07

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.091	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	7.37E-08		
MLE of Mean	1.54E-07		
MLE of Standard Deviation	1.07E-07		
nu star	79.46		
Approximate Chi Square Value (.05)	59.92	Nonparametric Statistics	
Adjusted Level of Significance	0.0369	95% CLT UCL	1.92E-07
Adjusted Chi Square Value	58.44	95% Jackknife UCL	1.94E-07
		95% Standard Bootstrap UCL	1.90E-07
Anderson-Darling Test Statistic	1.01	95% Bootstrap-t UCL	2.09E-07
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	3.93E-07
Kolmogorov-Smirnov Test Statistic	0.198	95% Percentile Bootstrap UCL	1.96E-07
Kolmogorov-Smirnov 5% Critical Value	0.2	95% BCA Bootstrap UCL	2.02E-07
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.54E-07
		97.5% Chebyshev(Mean, Sd) UCL	2.97E-07
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.82E-07
95% Approximate Gamma UCL (Use when n >= 40)	2.04E-07		
95% Adjusted Gamma UCL (Use when n < 40)	2.09E-07		

Potential UCL to Use	Use 95% Approximate Gamma UCL	2.0E-07

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Sediment

Anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	6
		Percent Non-Detects	85.71%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Anthracene was not processed!

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.18	Minimum Detected	-1.715
Maximum Detected	0.74	Maximum Detected	-0.301
Mean of Detected	0.37	Mean of Detected	-1.226
SD of Detected	0.32	SD of Detected	0.801
Minimum Non-Detect	0.011	Minimum Non-Detect	-4.51
Maximum Non-Detect	0.013	Maximum Non-Detect	-4.343

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	57.14%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.763	Shapiro Wilk Test Statistic	0.779
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.162	Mean	-3.45
SD	0.268	SD	2.132
95% DL/2 (t) UCL	0.359	95% H-Stat (DL/2) UCL	157.2

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.404	Mean in Log Scale	-2.748
SD	0.262	SD in Log Scale	1.53
95% MLE (t) UCL	0.596	Mean in Original Scale	0.171
95% MLE (Tiku) UCL	0.689	SD in Original Scale	0.262
		95% t UCL	0.364
		95% Percentile Bootstrap UCL	0.331
		95% BCA Bootstrap UCL	0.4
		95% H UCL	5.56

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Lognormal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.261
5% K-S Critical Value	N/A	SD	0.195
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0905
		95% KM (t) UCL	0.437
Assuming Gamma Distribution		95% KM (z) UCL	0.41
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.413
Minimum	N/A	95% KM (bootstrap t) UCL	5
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.74
Median	N/A	95% KM (Chebyshev) UCL	0.656
SD	N/A	97.5% KM (Chebyshev) UCL	0.826
k star	N/A	99% KM (Chebyshev) UCL	1.161
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.437
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.74
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.18	Minimum Detected	-1.715
Maximum Detected	0.77	Maximum Detected	-0.261
Mean of Detected	0.38	Mean of Detected	-1.212
SD of Detected	0.338	SD of Detected	0.824
Minimum Non-Detect	0.013	Minimum Non-Detect	-4.343
Maximum Non-Detect	0.014	Maximum Non-Detect	-4.269

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	57.14%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.763	Shapiro Wilk Test Statistic	0.778
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.167	Mean	-3.387
SD	0.279	SD	2.089
95% DL/2 (t) UCL	0.372	95% H-Stat (DL/2) UCL	120.2

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.418	Mean in Log Scale	-2.796
SD	0.276	SD in Log Scale	1.635
95% MLE (t) UCL	0.62	Mean in Original Scale	0.175
95% MLE (Tiku) UCL	0.718	SD in Original Scale	0.273
		95% t UCL	0.376
		95% Percentile Bootstrap UCL	0.364
		95% BCA Bootstrap UCL	0.408
		95% H UCL	9.74

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Lognormal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.266
5% K-S Critical Value	N/A	SD	0.206
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0953
		95% KM (t) UCL	0.451
Assuming Gamma Distribution		95% KM (z) UCL	0.422
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.426
Minimum	N/A	95% KM (bootstrap t) UCL	5.526
Maximum	N/A	95% KM (BCA) UCL	0.77
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.77
Median	N/A	95% KM (Chebyshev) UCL	0.681
SD	N/A	97.5% KM (Chebyshev) UCL	0.861
k star	N/A	99% KM (Chebyshev) UCL	1.214
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.451
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.77
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,I)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	6
		Percent Non-Detects	85.71%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Benzo(g,h,I)perylene was not processed!

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	6
		Percent Non-Detects	85.71%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Benzo(k)fluoranthene was not processed!

Bis(2-ethylhexyl)phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	5
		Percent Non-Detects	71.43%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.14	Minimum Detected	-1.966
Maximum Detected	2.6	Maximum Detected	0.956
Mean of Detected	1.37	Mean of Detected	-0.505
SD of Detected	1.739	SD of Detected	2.066
Minimum Non-Detect	0.033	Minimum Non-Detect	-3.411
Maximum Non-Detect	0.04	Maximum Non-Detect	-3.219

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	5
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	71.43%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).
Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.404	Mean	-3.012
SD	0.969	SD	1.91
95% DL/2 (t) UCL	1.116	95% H-Stat (DL/2) UCL	46.94

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.491
5% K-S Critical Value	N/A	SD	0.861
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.46
		95% KM (t) UCL	1.386
Assuming Gamma Distribution		95% KM (z) UCL	1.248
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.326
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	2.6
Mean	N/A	95% KM (Percentile Bootstrap) UCL	2.6
Median	N/A	95% KM (Chebyshev) UCL	2.497
SD	N/A	97.5% KM (Chebyshev) UCL	3.365
k star	N/A	99% KM (Chebyshev) UCL	5.07
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	99% KM (Chebyshev) UCL	5.07
95% Gamma Approximate UCL (Use when n >= 40)	N/A		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.2	Minimum Detected	-1.609
Maximum Detected	0.83	Maximum Detected	-0.186
Mean of Detected	0.417	Mean of Detected	-1.103
SD of Detected	0.358	SD of Detected	0.796
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.016	Maximum Non-Detect	-4.135

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	57.14%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.774	Shapiro Wilk Test Statistic	0.8
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.183	Mean	-3.279
SD	0.301	SD	2.087
95% DL/2 (t) UCL	0.404	95% H-Stat (DL/2) UCL	131.9

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.454	Mean in Log Scale	-2.631
SD	0.292	SD in Log Scale	1.534
95% MLE (t) UCL	0.669	Mean in Original Scale	0.193
95% MLE (Tiku) UCL	0.773	SD in Original Scale	0.294
		95% t UCL	0.409
		95% Percentile Bootstrap UCL	0.394
		95% BCA Bootstrap UCL	0.456
		95% H UCL	6.399

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.293
5% K-S Critical Value	N/A	SD	0.219
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.102
		95% KM (t) UCL	0.49
Assuming Gamma Distribution		95% KM (z) UCL	0.46
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.461
Minimum	N/A	95% KM (bootstrap t) UCL	2.659
Maximum	N/A	95% KM (BCA) UCL	0.83
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.83
Median	N/A	95% KM (Chebyshev) UCL	0.736
SD	N/A	97.5% KM (Chebyshev) UCL	0.927
k star	N/A	99% KM (Chebyshev) UCL	1.303
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.49
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	0.83
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	6
		Percent Non-Detects	85.71%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Dibenzo(a,h)anthracene was not processed!

Fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	3
		Percent Non-Detects	42.86%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.11	Minimum Detected	-2.207
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.563	Mean of Detected	-0.965
SD of Detected	0.572	SD of Detected	1.039
Minimum Non-Detect	0.011	Minimum Non-Detect	-4.51
Maximum Non-Detect	0.013	Maximum Non-Detect	-4.343

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	42.86%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions
It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.808	Shapiro Wilk Test Statistic	0.953
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.324	Mean	-2.745
SD	0.502	SD	2.339
95% DL/2 (t) UCL	0.693	95% H-Stat (DL/2) UCL	1739

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0978	Mean in Log Scale	-2.242
SD	0.707	SD in Log Scale	1.754
95% MLE (t) UCL	0.617	Mean in Original Scale	0.33
95% MLE (Tiku) UCL	0.696	SD in Original Scale	0.498
		95% t UCL	0.695
		95% Percentile Bootstrap UCL	0.663
		95% BCA Bootstrap UCL	0.76
		95% H UCL	35.53

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.523	Data appear Normal at 5% Significance Level
Theta Star	1.075	
nu star	4.187	

A-D Test Statistic	0.356	Nonparametric Statistics	
5% A-D Critical Value	0.663	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.663	Mean	0.369
5% K-S Critical Value	0.4	SD	0.436
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.19
		95% KM (t) UCL	0.738
Assuming Gamma Distribution		95% KM (z) UCL	0.682
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.706
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.075
Maximum	1.4	95% KM (BCA) UCL	0.809
Mean	0.321	95% KM (Percentile Bootstrap) UCL	0.806
Median	0.11	95% KM (Chebyshev) UCL	1.198
SD	0.504	97.5% KM (Chebyshev) UCL	1.557
k star	0.178	99% KM (Chebyshev) UCL	2.262
Theta star	1.806		
Nu star	2.491	Potential UCLs to Use	
AppChi2	0.239	95% KM (t) UCL	0.738
95% Gamma Approximate UCL (Use when n >= 40)	3.348	95% KM (Percentile Bootstrap) UCL	0.806
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.12	Minimum Detected	-2.12
Maximum Detected	0.44	Maximum Detected	-0.821
Mean of Detected	0.23	Mean of Detected	-1.66
SD of Detected	0.182	SD of Detected	0.728
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.016	Maximum Non-Detect	-4.135

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	57.14%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.773	Shapiro Wilk Test Statistic	0.796
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.103	Mean	-3.518
SD	0.159	SD	1.788
95% DL/2 (t) UCL	0.219	95% H-Stat (DL/2) UCL	12.42

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.247	Mean in Log Scale	-3.056
SD	0.149	SD in Log Scale	1.401
95% MLE (t) UCL	0.357	Mean in Original Scale	0.109
95% MLE (Tiku) UCL	0.41	SD in Original Scale	0.155
		95% t UCL	0.222
		95% Percentile Bootstrap UCL	0.214
		95% BCA Bootstrap UCL	0.245
		95% H UCL	2.051

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.167
5% K-S Critical Value	N/A	SD	0.111
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0516
		95% KM (t) UCL	0.267
Assuming Gamma Distribution		95% KM (z) UCL	0.252
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.252
Minimum	N/A	95% KM (bootstrap t) UCL	1.711
Maximum	N/A	95% KM (BCA) UCL	0.44
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.44
Median	N/A	95% KM (Chebyshev) UCL	0.392
SD	N/A	97.5% KM (Chebyshev) UCL	0.489
k star	N/A	99% KM (Chebyshev) UCL	0.68
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.267
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	0.44
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	7	Number of Distinct Observations	7

Raw Statistics		Log-transformed Statistics	
Minimum	11.5	Minimum of Log Data	2.442
Maximum	70.2	Maximum of Log Data	4.251
Mean	25.83	Mean of log Data	3.032
Geometric Mean	20.74	SD of log Data	0.67
Median	15.9		
SD	21.16		
Std. Error of Mean	7.998		
Coefficient of Variation	0.819		
Skewness	1.946		

Warning: A sample size of 'n' = 7 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 7 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.746	Shapiro Wilk Test Statistic	0.873
Shapiro Wilk Critical Value	0.803	Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	41.37	95% H-UCL	56.36
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	52.86
95% Adjusted-CLT UCL (Chen-1995)	45.27	97.5% Chebyshev (MVUE) UCL	64.89
95% Modified-t UCL (Johnson-1978)	42.35	99% Chebyshev (MVUE) UCL	88.54

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.486	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	17.38		
MLE of Mean	25.83		
MLE of Standard Deviation	21.19		
nu star	20.8		
Approximate Chi Square Value (.05)	11.44	Nonparametric Statistics	
Adjusted Level of Significance	0.0158	95% CLT UCL	38.98
Adjusted Chi Square Value	9.421	95% Jackknife UCL	41.37
		95% Standard Bootstrap UCL	38.06
Anderson-Darling Test Statistic	0.555	95% Bootstrap-t UCL	72.8
Anderson-Darling 5% Critical Value	0.714	95% Hall's Bootstrap UCL	87.71
Kolmogorov-Smirnov Test Statistic	0.255	95% Percentile Bootstrap UCL	38.6
Kolmogorov-Smirnov 5% Critical Value	0.315	95% BCA Bootstrap UCL	43.89
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	60.69
		97.5% Chebyshev(Mean, Sd) UCL	75.78
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	105.4
95% Approximate Gamma UCL (Use when n >= 40)	46.95		
95% Adjusted Gamma UCL (Use when n < 40)	57.03		

Potential UCL to Use	Use 95% Approximate Gamma UCL	46.95

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.17	Minimum Detected	-1.772
Maximum Detected	0.72	Maximum Detected	-0.329
Mean of Detected	0.36	Mean of Detected	-1.254
SD of Detected	0.312	SD of Detected	0.803
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.016	Maximum Non-Detect	-4.135

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	57.14%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.777	Shapiro Wilk Test Statistic	0.807
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.159	Mean	-3.344
SD	0.261	SD	2.01
95% DL/2 (t) UCL	0.35	95% H-Stat (DL/2) UCL	69.2

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.394	Mean in Log Scale	-2.802
SD	0.255	SD in Log Scale	1.554
95% MLE (t) UCL	0.581	Mean in Original Scale	0.166
95% MLE (Tiku) UCL	0.671	SD in Original Scale	0.256
		95% t UCL	0.354
		95% Percentile Bootstrap UCL	0.34
		95% BCA Bootstrap UCL	0.443
		95% H UCL	6.036

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.251
5% K-S Critical Value	N/A	SD	0.191
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0886
		95% KM (t) UCL	0.424
Assuming Gamma Distribution		95% KM (z) UCL	0.397
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.397
Minimum	N/A	95% KM (bootstrap t) UCL	2.531
Maximum	N/A	95% KM (BCA) UCL	0.72
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.72
Median	N/A	95% KM (Chebyshev) UCL	0.638
SD	N/A	97.5% KM (Chebyshev) UCL	0.805
k star	N/A	99% KM (Chebyshev) UCL	1.133
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.424
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	0.72
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.34	Minimum Detected	-1.079
Maximum Detected	1.6	Maximum Detected	0.47
Mean of Detected	0.77	Mean of Detected	-0.534
SD of Detected	0.719	SD of Detected	0.871
Minimum Non-Detect	0.013	Minimum Non-Detect	-4.343
Maximum Non-Detect	0.014	Maximum Non-Detect	-4.269

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	57.14%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.768	Shapiro Wilk Test Statistic	0.791
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.334	Mean	-3.096
SD	0.582	SD	2.449
95% DL/2 (t) UCL	0.761	95% H-Stat (DL/2) UCL	3207

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.855	Mean in Log Scale	-2.22
SD	0.587	SD in Log Scale	1.738
95% MLE (t) UCL	1.286	Mean in Original Scale	0.351
95% MLE (Tiku) UCL	1.492	SD in Original Scale	0.571
		95% t UCL	0.771
		95% Percentile Bootstrap UCL	0.754
		95% BCA Bootstrap UCL	0.889
		95% H UCL	32.86

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.524
5% K-S Critical Value	N/A	SD	0.439
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.203
		95% KM (t) UCL	0.919
Assuming Gamma Distribution		95% KM (z) UCL	0.859
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.863
Minimum	N/A	95% KM (bootstrap t) UCL	8.513
Maximum	N/A	95% KM (BCA) UCL	1.6
Mean	N/A	95% KM (Percentile Bootstrap) UCL	1.6
Median	N/A	95% KM (Chebyshev) UCL	1.411
SD	N/A	97.5% KM (Chebyshev) UCL	1.794
k star	N/A	99% KM (Chebyshev) UCL	2.548
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.919
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	1.6
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total LMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	4
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.17	Minimum Detected	-1.772
Maximum Detected	0.87	Maximum Detected	-0.139
Mean of Detected	0.41	Mean of Detected	-1.191
SD of Detected	0.398	SD of Detected	0.912
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.016	Maximum Non-Detect	-4.135

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	57.14%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.771	Shapiro Wilk Test Statistic	0.801
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.18	Mean	-3.317
SD	0.315	SD	2.058
95% DL/2 (t) UCL	0.411	95% H-Stat (DL/2) UCL	101.7

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.943
		SD in Log Scale	1.759
		Mean in Original Scale	0.185
		SD in Original Scale	0.312
		95% t UCL	0.414
		95% Percentile Bootstrap UCL	0.384
		95% BCA Bootstrap UCL	0.451
		95% H-UCL	18.29

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A	Kaplan-Meier (KM) Method	
5% A-D Critical Value	N/A	Mean	0.273
K-S Test Statistic	N/A	SD	0.244
5% K-S Critical Value	N/A	SE of Mean	0.113
Data not Gamma Distributed at 5% Significance Level		95% KM (t) UCL	0.492
		95% KM (z) UCL	0.459
Assuming Gamma Distribution		95% KM (jackknife) UCL	0.46
Gamma ROS Statistics using Extrapolated Data		95% KM (bootstrap t) UCL	3.969
Minimum	N/A	95% KM (BCA) UCL	N/A
Maximum	N/A	95% KM (Percentile Bootstrap) UCL	0.87
Mean	N/A	95% KM (Chebyshev) UCL	0.765
Median	N/A	97.5% KM (Chebyshev) UCL	0.978
SD	N/A	99% KM (Chebyshev) UCL	1.396
k star	N/A		
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.492
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	0.87
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total HMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	3
		Percent Non-Detects	42.86%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.11	Minimum Detected	-2.207
Maximum Detected	7.89	Maximum Detected	2.066
Mean of Detected	2.868	Mean of Detected	0.24
SD of Detected	3.435	SD of Detected	1.781
Minimum Non-Detect	0.016	Minimum Non-Detect	-4.135
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	42.86%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.813	Shapiro Wilk Test Statistic	0.913
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.642	Mean	-1.907
SD	2.87	SD	2.959
95% DL/2 (t) UCL	3.75	95% H-Stat (DL/2) UCL	1662242

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.32	Mean in Log Scale	-1.847
SD	4.014	SD in Log Scale	2.891
95% MLE (t) UCL	3.268	Mean in Original Scale	1.643
95% MLE (Tiku) UCL	3.711	SD in Original Scale	2.869
		95% t UCL	3.75
		95% Percentile Bootstrap UCL	3.626
		95% BCA Bootstrap UCL	4.133
		95% H UCL	853884

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.351	Data appear Normal at 5% Significance Level
Theta Star	8.169	
nu star	2.808	

		Nonparametric Statistics	
A-D Test Statistic	0.313		
5% A-D Critical Value	0.671	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.671	Mean	1.686
5% K-S Critical Value	0.405	SD	2.63
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.148
		95% KM (t) UCL	3.917
Assuming Gamma Distribution		95% KM (z) UCL	3.574
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.733
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.665
Maximum	7.89	95% KM (BCA) UCL	4.78
Mean	1.639	95% KM (Percentile Bootstrap) UCL	4.341
Median	0.11	95% KM (Chebyshev) UCL	6.69
SD	2.872	97.5% KM (Chebyshev) UCL	8.855
k star	0.167	99% KM (Chebyshev) UCL	13.11
Theta star	9.813		
Nu star	2.338	Potential UCLs to Use	
AppChi2	0.207	95% KM (t) UCL	3.917
95% Gamma Approximate UCL (Use when n >= 40)	18.53	95% KM (Percentile Bootstrap) UCL	4.341
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

2-Methylnaphthalene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	14
Number of Distinct Detected Data	14	Number of Non-Detect Data	11
		Percent Non-Detects	44.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0011	Minimum Detected	-6.812
Maximum Detected	0.14	Maximum Detected	-1.966
Mean of Detected	0.0193	Mean of Detected	-4.916
SD of Detected	0.0365	SD of Detected	1.349
Minimum Non-Detect	0.0058	Minimum Non-Detect	-5.15
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.526	Shapiro Wilk Test Statistic	0.963
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.296	Mean	-3.47
SD	0.492	SD	2.448
95% DL/2 (t) UCL	0.465	95% H-Stat (DL/2) UCL	6.562
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.039
		SD in Log Scale	1.032
		Mean in Original Scale	0.0134
		SD in Original Scale	0.0277
		95% t UCL	0.0229
		95% Percentile Bootstrap UCL	0.0234
		95% BCA Bootstrap UCL	0.0293
		95% H-UCL	0.0188
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.545	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.0354		
nu star	15.26		
A-D Test Statistic	0.835	Nonparametric Statistics	
5% A-D Critical Value	0.781	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.781	Mean	0.0167
5% K-S Critical Value	0.239	SD	0.0324
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.00818
		95% KM (t) UCL	0.0307
Assuming Gamma Distribution		95% KM (z) UCL	0.0302
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0308
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0688
Maximum	0.14	95% KM (BCA) UCL	0.033
Mean	0.0149	95% KM (Percentile Bootstrap) UCL	0.0315
Median	0.0079	95% KM (Chebyshev) UCL	0.0524
SD	0.0278	97.5% KM (Chebyshev) UCL	0.0678
k star	0.455	99% KM (Chebyshev) UCL	0.0981
Theta star	0.0328		
Nu star	22.74	Potential UCLs to Use	
AppChi2	12.89	95% KM (BCA) UCL	0.033
95% Gamma Approximate UCL (Use when n >= 40)	0.0263		
95% Adjusted Gamma UCL (Use when n < 40)	0.0274		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

3&4-Methylphenol

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	23
		Percent Non-Detects	92.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.15	Minimum Detected	-1.897
Maximum Detected	0.38	Maximum Detected	-0.968
Mean of Detected	0.265	Mean of Detected	-1.432
SD of Detected	0.163	SD of Detected	0.657
Minimum Non-Detect	0.022	Minimum Non-Detect	-3.817
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).
Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.335	Mean	-2.031
SD	0.466	SD	1.406
95% DL/2 (t) UCL	0.494	95% H-Stat (DL/2) UCL	0.847

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A	Kaplan-Meier (KM) Method	
5% A-D Critical Value	N/A	Mean	0.164
K-S Test Statistic	N/A	SD	0.0541
5% K-S Critical Value	N/A	SE of Mean	0.0186
Data not Gamma Distributed at 5% Significance Level		95% KM (t) UCL	0.195
		95% KM (z) UCL	0.194
Assuming Gamma Distribution		95% KM (jackknife) UCL	0.313
Gamma ROS Statistics using Extrapolated Data		95% KM (bootstrap t) UCL	0.17
Minimum	N/A	95% KM (BCA) UCL	N/A
Maximum	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Mean	N/A	95% KM (Chebyshev) UCL	0.244
Median	N/A	97.5% KM (Chebyshev) UCL	0.279
SD	N/A	99% KM (Chebyshev) UCL	0.348
k star	N/A		
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.195
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	9
		Percent Non-Detects	36.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0023	Minimum Detected	-6.075
Maximum Detected	0.85	Maximum Detected	-0.163
Mean of Detected	0.14	Mean of Detected	-3.193
SD of Detected	0.235	SD of Detected	1.737
Minimum Non-Detect	7.10E-04	Minimum Non-Detect	-7.25
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.632	Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.369	Mean	-2.564
SD	0.488	SD	2.296
95% DL/2 (t) UCL	0.536	95% H-Stat (DL/2) UCL	8.7
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.532
		SD in Log Scale	1.638
		Mean in Original Scale	0.0988
		SD in Original Scale	0.194
		95% t UCL	0.165
		95% Percentile Bootstrap UCL	0.166
		95% BCA Bootstrap UCL	0.202
		95% H-UCL	0.349
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.46	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.305		
nu star	14.72		
A-D Test Statistic	0.556	Nonparametric Statistics	
5% A-D Critical Value	0.795	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.795	Mean	0.122
5% K-S Critical Value	0.227	SD	0.214
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0509
		95% KM (t) UCL	0.209
Assuming Gamma Distribution		95% KM (z) UCL	0.206
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.209
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.324
Maximum	0.85	95% KM (BCA) UCL	0.221
Mean	0.107	95% KM (Percentile Bootstrap) UCL	0.215
Median	0.039	95% KM (Chebyshev) UCL	0.344
SD	0.194	97.5% KM (Chebyshev) UCL	0.44
k star	0.307	99% KM (Chebyshev) UCL	0.628
Theta star	0.348		
Nu star	15.34	Potential UCLs to Use	
AppChi2	7.498	95% KM (BCA) UCL	0.221
95% Gamma Approximate UCL (Use when n >= 40)	0.219		
95% Adjusted Gamma UCL (Use when n < 40)	0.23		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	18
Number of Distinct Detected Data	18	Number of Non-Detect Data	7
		Percent Non-Detects	28.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	9.20E-04	Minimum Detected	-6.991
Maximum Detected	3.1	Maximum Detected	1.131
Mean of Detected	0.242	Mean of Detected	-4.36
SD of Detected	0.73	SD of Detected	2.376
Minimum Non-Detect	7.40E-04	Minimum Non-Detect	-7.209
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	96.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.375	Shapiro Wilk Test Statistic	0.873
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.407	Mean	-3.501
SD	0.725	SD	2.866
95% DL/2 (t) UCL	0.655	95% H-Stat (DL/2) UCL	43.59
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.703
		SD in Log Scale	2.269
		Mean in Original Scale	0.176
		SD in Original Scale	0.624
		95% t UCL	0.39
		95% Percentile Bootstrap UCL	0.413
		95% BCA Bootstrap UCL	0.583
		95% H-UCL	0.921
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.239	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.013		
nu star	8.609		
A-D Test Statistic	2.222	Nonparametric Statistics	
5% A-D Critical Value	0.866	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.866	Mean	0.19
5% K-S Critical Value	0.223	SD	0.612
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.127
		95% KM (t) UCL	0.407
Assuming Gamma Distribution		95% KM (z) UCL	0.399
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.406
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.125
Maximum	3.1	95% KM (BCA) UCL	0.403
Mean	0.174	95% KM (Percentile Bootstrap) UCL	0.425
Median	0.0027	95% KM (Chebyshev) UCL	0.743
SD	0.624	97.5% KM (Chebyshev) UCL	0.983
k star	0.156	99% KM (Chebyshev) UCL	1.453
Theta star	1.121		
Nu star	7.782	Potential UCLs to Use	
AppChi2	2.609	99% KM (Chebyshev) UCL	1.453
95% Gamma Approximate UCL (Use when n >= 40)	0.52		
95% Adjusted Gamma UCL (Use when n < 40)	0.564		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acetone

General Statistics (Units in mg/kg)

Number of Valid Data	23	Number of Detected Data	7
Number of Distinct Detected Data	5	Number of Non-Detect Data	16
		Percent Non-Detects	69.57%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.01	Minimum Detected	-4.605
Maximum Detected	0.44	Maximum Detected	-0.821
Mean of Detected	0.0876	Mean of Detected	-3.242
SD of Detected	0.156	SD of Detected	1.17
Minimum Non-Detect	0.0026	Minimum Non-Detect	-5.952
Maximum Non-Detect	0.0048	Maximum Non-Detect	-5.339

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	7
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	69.57%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.521	Shapiro Wilk Test Statistic	0.807
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0279	Mean	-5.394
SD	0.0908	SD	1.584
95% DL/2 (t) UCL	0.0604	95% H-Stat (DL/2) UCL	0.0499

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-5.985
		SD in Log Scale	2.041
		Mean in Original Scale	0.0273
		SD in Original Scale	0.091
		95% t UCL	0.0599
		95% Percentile Bootstrap UCL	0.0645
		95% BCA Bootstrap UCL	0.0881
		95% H-UCL	0.121

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.52	Data appear Lognormal at 5% Significance Level
Theta Star	0.168	
nu star	7.28	

		Nonparametric Statistics	
A-D Test Statistic	1.182	Kaplan-Meier (KM) Method	
5% A-D Critical Value	0.737		
K-S Test Statistic	0.737	Mean	0.0336
5% K-S Critical Value	0.323	SD	0.0872
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0196
		95% KM (t) UCL	0.0673
Assuming Gamma Distribution		95% KM (z) UCL	0.0659
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0608
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.288
Maximum	0.44	95% KM (BCA) UCL	0.0835
Mean	0.0267	95% KM (Percentile Bootstrap) UCL	0.0712
Median	1.00E-06	95% KM (Chebyshev) UCL	0.119
SD	0.0912	97.5% KM (Chebyshev) UCL	0.156
k star	0.129	99% KM (Chebyshev) UCL	0.229
Theta star	0.207		
Nu star	5.912	Potential UCLs to Use	
AppChi2	1.595	95% KM (BCA) UCL	0.0835
95% Gamma Approximate UCL (Use when n >= 40)	0.0988		
95% Adjusted Gamma UCL (Use when n < 40)	0.109		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aldrin

General Statistics (Units in mg/kg)

Number of Valid Data	23	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	19
		Percent Non-Detects	82.61%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	5.80E-04	Minimum Detected	-7.452
Maximum Detected	7.70E-04	Maximum Detected	-7.169
Mean of Detected	6.48E-04	Mean of Detected	-7.348
SD of Detected	8.42E-05	SD of Detected	0.124
Minimum Non-Detect	4.90E-04	Minimum Non-Detect	-7.621
Maximum Non-Detect	0.0073	Maximum Non-Detect	-4.92

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.843	Shapiro Wilk Test Statistic	0.865
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00103	Mean	-7.375
SD	0.00108	SD	0.993
95% DL/2 (t) UCL	0.00142	95% H-Stat (DL/2) UCL	0.00175

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.643
		SD in Log Scale	0.164
		Mean in Original Scale	4.86E-04
		SD in Original Scale	8.86E-05
		95% t UCL	5.18E-04
		95% Percentile Bootstrap UCL	5.18E-04
		95% BCA Bootstrap UCL	5.24E-04
		95% H-UCL	5.16E-04

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	21.15	Data appear Normal at 5% Significance Level
Theta Star	3.06E-05	
nu star	169.2	

		Nonparametric Statistics	
A-D Test Statistic	0.461		
5% A-D Critical Value	0.656	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.656	Mean	5.98E-04
5% K-S Critical Value	0.394	SD	4.68E-05
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.36E-05
		95% KM (t) UCL	6.21E-04
Assuming Gamma Distribution		95% KM (z) UCL	6.20E-04
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.21E-04
Minimum	1.00E-06	95% KM (bootstrap t) UCL	6.38E-04
Maximum	7.70E-04	95% KM (BCA) UCL	7.70E-04
Mean	2.25E-04	95% KM (Percentile Bootstrap) UCL	6.52E-04
Median	1.94E-04	95% KM (Chebyshev) UCL	6.57E-04
SD	2.33E-04	97.5% KM (Chebyshev) UCL	6.83E-04
k star	0.367	99% KM (Chebyshev) UCL	7.33E-04
Theta star	6.12E-04		
Nu star	16.9	Potential UCLs to Use	
AppChi2	8.602	95% KM (t) UCL	6.21E-04
95% Gamma Approximate UCL (Use when n >= 40)	4.42E-04	95% KM (Percentile Bootstrap) UCL	6.52E-04
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	25	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	3090	Minimum of Log Data	8.036
Maximum	72500	Maximum of Log Data	11.19
Mean	10455	Mean of log Data	8.923
Geometric Mean	7504	SD of log Data	0.698
Median	6510		
SD	13722		
Std. Error of Mean	2744		
Coefficient of Variation	1.312		
Skewness	4.164		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.473	Shapiro Wilk Test Statistic	0.875
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	15150	95% H-UCL	12990
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	15649
95% Adjusted-CLT UCL (Chen-1995)	17411	97.5% Chebyshev (MVUE) UCL	18326
95% Modified-t UCL (Johnson-1978)	15531	99% Chebyshev (MVUE) UCL	23585
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.483	Data do not follow a Discernable Distribution (0.05)	
Theta Star	7050		
MLE of Mean	10455		
MLE of Standard Deviation	8586		
nu star	74.15		
Approximate Chi Square Value (.05)	55.32	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	14969
Adjusted Chi Square Value	54.21	95% Jackknife UCL	15150
		95% Standard Bootstrap UCL	14930
Anderson-Darling Test Statistic	1.881	95% Bootstrap-t UCL	23217
Anderson-Darling 5% Critical Value	0.76	95% Hall's Bootstrap UCL	30570
Kolmogorov-Smirnov Test Statistic	0.222	95% Percentile Bootstrap UCL	15306
Kolmogorov-Smirnov 5% Critical Value	0.177	95% BCA Bootstrap UCL	18959
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	22417
		97.5% Chebyshev(Mean, Sd) UCL	27594
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	37761
95% Approximate Gamma UCL (Use when n >= 40)	14014		
95% Adjusted Gamma UCL (Use when n < 40)	14301		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	22417

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	19
Number of Distinct Detected Data	18	Number of Non-Detect Data	6
		Percent Non-Detects	24.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00175	Minimum Detected	-6.348
Maximum Detected	2.7	Maximum Detected	0.993
Mean of Detected	0.452	Mean of Detected	-1.987
SD of Detected	0.728	SD of Detected	1.871
Minimum Non-Detect	0.036	Minimum Non-Detect	-3.324
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.62	Shapiro Wilk Test Statistic	0.957
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.547	Mean	-1.704
SD	0.708	SD	1.873
95% DL/2 (t) UCL	0.789	95% H-Stat (DL/2) UCL	4.446
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.152
		SD in Log Scale	1.682
		Mean in Original Scale	0.363
		SD in Original Scale	0.651
		95% t UCL	0.586
		95% Percentile Bootstrap UCL	0.582
		95% BCA Bootstrap UCL	0.649
		95% H-UCL	1.574
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.48	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.942		
nu star	18.23		
A-D Test Statistic	0.406	Nonparametric Statistics	
5% A-D Critical Value	0.8	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.8	Mean	0.397
5% K-S Critical Value	0.21	SD	0.656
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.141
		95% KM (t) UCL	0.639
Assuming Gamma Distribution		95% KM (z) UCL	0.629
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.638
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.999
Maximum	2.7	95% KM (BCA) UCL	0.667
Mean	0.375	95% KM (Percentile Bootstrap) UCL	0.635
Median	0.188	95% KM (Chebyshev) UCL	1.012
SD	0.647	97.5% KM (Chebyshev) UCL	1.279
k star	0.41	99% KM (Chebyshev) UCL	1.802
Theta star	0.914		
Nu star	20.5	Potential UCLs to Use	
AppChi2	11.22	95% KM (Chebyshev) UCL	1.012
95% Gamma Approximate UCL (Use when n >= 40)	0.685		
95% Adjusted Gamma UCL (Use when n < 40)	0.714		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	18	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.62	Minimum Detected	-0.478
Maximum Detected	23	Maximum Detected	3.135
Mean of Detected	3.895	Mean of Detected	0.877
SD of Detected	5.18	SD of Detected	0.902
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.599	Shapiro Wilk Test Statistic	0.925
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.739	Mean	0.594
SD	5.131	SD	1.671
95% DL/2 (t) UCL	5.495	95% H-Stat (DL/2) UCL	23.76

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.617	Mean in Log Scale	0.789
SD	5.177	SD in Log Scale	0.987
95% MLE (t) UCL	5.388	Mean in Original Scale	3.75
95% MLE (Tiku) UCL	5.259	SD in Original Scale	5.123
		95% t UCL	5.503
		95% Percentile Bootstrap UCL	5.542
		95% BCA Bootstrap UCL	6.122
		95% H UCL	5.904

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.056	Data appear Lognormal at 5% Significance Level
Theta Star	3.689	
nu star	50.68	

A-D Test Statistic	1.564	Nonparametric Statistics	
5% A-D Critical Value	0.768	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.768	Mean	3.764
5% K-S Critical Value	0.182	SD	5.01
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.024
		95% KM (t) UCL	5.515
Assuming Gamma Distribution		95% KM (z) UCL	5.448
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.508
Minimum	1.00E-06	95% KM (bootstrap t) UCL	8.111
Maximum	23	95% KM (BCA) UCL	5.706
Mean	3.739	95% KM (Percentile Bootstrap) UCL	5.599
Median	1.7	95% KM (Chebyshev) UCL	8.226
SD	5.131	97.5% KM (Chebyshev) UCL	10.16
k star	0.555	99% KM (Chebyshev) UCL	13.95
Theta star	6.739		
Nu star	27.74	Potential UCLs to Use	
AppChi2	16.73	95% KM (Chebyshev) UCL	8.226
95% Gamma Approximate UCL (Use when n >= 40)	6.201		
95% Adjusted Gamma UCL (Use when n < 40)	6.425		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	20	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0112	Minimum Detected	-4.496
Maximum Detected	8.3	Maximum Detected	2.116
Mean of Detected	1.833	Mean of Detected	-0.029
SD of Detected	1.913	SD of Detected	1.457
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.785	Shapiro Wilk Test Statistic	0.887
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.768	Mean	-0.0903
SD	1.901	SD	1.459
95% DL/2 (t) UCL	2.419	95% H-Stat (DL/2) UCL	6.735

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.48	Mean in Log Scale	-0.103
SD	2.229	SD in Log Scale	1.473
95% MLE (t) UCL	2.243	Mean in Original Scale	1.766
95% MLE (Tiku) UCL	2.258	SD in Original Scale	1.903
		95% t UCL	2.417
		95% Percentile Bootstrap UCL	2.401
		95% BCA Bootstrap UCL	2.643
		95% H UCL	6.901

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.831	Data appear Gamma Distributed at 5% Significance Level
Theta Star	2.205	
nu star	39.9	

A-D Test Statistic	0.294	Nonparametric Statistics	
5% A-D Critical Value	0.775	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.775	Mean	1.766
5% K-S Critical Value	0.184	SD	1.864
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.381
		95% KM (t) UCL	2.418
Assuming Gamma Distribution		95% KM (z) UCL	2.393
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.418
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.876
Maximum	8.3	95% KM (BCA) UCL	2.396
Mean	1.76	95% KM (Percentile Bootstrap) UCL	2.443
Median	1.3	95% KM (Chebyshev) UCL	3.427
SD	1.908	97.5% KM (Chebyshev) UCL	4.145
k star	0.508	99% KM (Chebyshev) UCL	5.556
Theta star	3.465		
Nu star	25.39	Potential UCLs to Use	
AppChi2	14.91	95% KM (Chebyshev) UCL	3.427
95% Gamma Approximate UCL (Use when n >= 40)	2.996		
95% Adjusted Gamma UCL (Use when n < 40)	3.111		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	22	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.514
Maximum Detected	13	Maximum Detected	2.565
Mean of Detected	2.001	Mean of Detected	-0.0588
SD of Detected	2.686	SD of Detected	1.505
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.638	Shapiro Wilk Test Statistic	0.923
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.93	Mean	-0.119
SD	2.654	SD	1.504
95% DL/2 (t) UCL	2.838	95% H-Stat (DL/2) UCL	7.349

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.477	Mean in Log Scale	-0.136
SD	3.112	SD in Log Scale	1.524
95% MLE (t) UCL	2.542	Mean in Original Scale	1.927
95% MLE (Tiku) UCL	2.551	SD in Original Scale	2.656
		95% t UCL	2.836
		95% Percentile Bootstrap UCL	2.878
		95% BCA Bootstrap UCL	3.493
		95% H UCL	7.609

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.719	Data appear Gamma Distributed at 5% Significance Level
Theta Star	2.784	
nu star	34.51	

		Nonparametric Statistics	
A-D Test Statistic	0.298		
5% A-D Critical Value	0.781	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.781	Mean	1.928
5% K-S Critical Value	0.185	SD	2.602
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.532
		95% KM (t) UCL	2.837
Assuming Gamma Distribution		95% KM (z) UCL	2.802
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.836
Minimum	1.00E-06	95% KM (bootstrap t) UCL	3.754
Maximum	13	95% KM (BCA) UCL	2.805
Mean	1.921	95% KM (Percentile Bootstrap) UCL	2.895
Median	1.1	95% KM (Chebyshev) UCL	4.245
SD	2.66	97.5% KM (Chebyshev) UCL	5.247
k star	0.469	99% KM (Chebyshev) UCL	7.217
Theta star	4.095		
Nu star	23.46	Potential UCLs to Use	
AppChi2	13.44	95% KM (Chebyshev) UCL	4.245
95% Gamma Approximate UCL (Use when n >= 40)	3.354		
95% Adjusted Gamma UCL (Use when n < 40)	3.488		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	23
Number of Distinct Detected Data	22	Number of Non-Detect Data	2
		Percent Non-Detects	8.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.008	Minimum Detected	-4.828
Maximum Detected	9	Maximum Detected	2.197
Mean of Detected	1.186	Mean of Detected	-0.676
SD of Detected	1.84	SD of Detected	1.59
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	2.3	Maximum Non-Detect	0.833
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	92.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.551	Shapiro Wilk Test Statistic	0.916
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.146	Mean	-0.679
SD	1.773	SD	1.542
95% DL/2 (t) UCL	1.753	95% H-Stat (DL/2) UCL	4.639
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.746
		SD in Log Scale	1.551
		Mean in Original Scale	1.112
		SD in Original Scale	1.781
		95% t UCL	1.721
		95% Percentile Bootstrap UCL	1.729
		95% BCA Bootstrap UCL	2.136
		95% H-UCL	4.455
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.648	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.831		
nu star	29.8		
A-D Test Statistic	0.383	Nonparametric Statistics	
5% A-D Critical Value	0.786	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.786	Mean	1.129
5% K-S Critical Value	0.189	SD	1.744
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.358
		95% KM (t) UCL	1.741
Assuming Gamma Distribution		95% KM (z) UCL	1.717
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.74
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.576
Maximum	9	95% KM (BCA) UCL	1.825
Mean	1.121	95% KM (Percentile Bootstrap) UCL	1.778
Median	0.6	95% KM (Chebyshev) UCL	2.688
SD	1.78	97.5% KM (Chebyshev) UCL	3.362
k star	0.458	99% KM (Chebyshev) UCL	4.688
Theta star	2.449		
Nu star	22.88	Potential UCLs to Use	
AppChi2	13	95% KM (Chebyshev) UCL	2.688
95% Gamma Approximate UCL (Use when n >= 40)	1.973		
95% Adjusted Gamma UCL (Use when n < 40)	2.053		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	21
Number of Distinct Detected Data	18	Number of Non-Detect Data	4
		Percent Non-Detects	16.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00915	Minimum Detected	-4.694
Maximum Detected	9.1	Maximum Detected	2.208
Mean of Detected	1.563	Mean of Detected	-0.247
SD of Detected	1.98	SD of Detected	1.445
Minimum Non-Detect	0.06	Minimum Non-Detect	-2.813
Maximum Non-Detect	1.5	Maximum Non-Detect	0.405
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	64.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.664	Shapiro Wilk Test Statistic	0.901
5% Shapiro Wilk Critical Value	0.908	5% Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.354	Mean	-0.562
SD	1.877	SD	1.61
95% DL/2 (t) UCL	1.996	95% H-Stat (DL/2) UCL	6.296
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.122	Mean in Log Scale	-0.583
SD	3.045	SD in Log Scale	1.564
95% MLE (t) UCL	1.164	Mean in Original Scale	1.333
95% MLE (Tiku) UCL	1.74	SD in Original Scale	1.887
		95% t UCL	1.978
		95% Percentile Bootstrap UCL	1.957
		95% BCA Bootstrap UCL	2.323
		95% H UCL	5.423
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.759	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.058		
nu star	31.89		
A-D Test Statistic	0.367	Nonparametric Statistics	
5% A-D Critical Value	0.778	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.778	Mean	1.337
5% K-S Critical Value	0.196	SD	1.848
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.379
		95% KM (t) UCL	1.985
Assuming Gamma Distribution		95% KM (z) UCL	1.96
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.97
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.48
Maximum	9.1	95% KM (BCA) UCL	2.021
Mean	1.318	95% KM (Percentile Bootstrap) UCL	2.021
Median	0.55	95% KM (Chebyshev) UCL	2.989
SD	1.897	97.5% KM (Chebyshev) UCL	3.704
k star	0.298	99% KM (Chebyshev) UCL	5.109
Theta star	4.418		
Nu star	14.92	Potential UCLs to Use	
AppChi2	7.203	95% KM (Chebyshev) UCL	2.989
95% Gamma Approximate UCL (Use when n >= 40)	2.729		
95% Adjusted Gamma UCL (Use when n < 40)	2.874		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

alpha-BHC

General Statistics (Units in mg/kg)			
Number of Valid Data	23	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	19
		Percent Non-Detects	82.61%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	8.90E-04	Minimum Detected	-7.024
Maximum Detected	0.0046	Maximum Detected	-5.382
Mean of Detected	0.00197	Mean of Detected	-6.479
SD of Detected	0.00177	SD of Detected	0.757
Minimum Non-Detect	4.10E-04	Minimum Non-Detect	-7.799
Maximum Non-Detect	0.0073	Maximum Non-Detect	-4.92
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.731	Shapiro Wilk Test Statistic	0.823
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00124	Mean	-7.319
SD	0.00131	SD	1.176
95% DL/2 (t) UCL	0.00171	95% H-Stat (DL/2) UCL	0.00265
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.451
		SD in Log Scale	1.092
		Mean in Original Scale	4.75E-04
		SD in Original Scale	9.60E-04
		95% t UCL	8.19E-04
		95% Percentile Bootstrap UCL	8.38E-04
		95% BCA Bootstrap UCL	0.00107
		95% H-UCL	7.19E-04
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.712	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.00276		
nu star	5.692		
A-D Test Statistic	0.581	Nonparametric Statistics	
5% A-D Critical Value	0.66	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.66	Mean	0.00111
5% K-S Critical Value	0.398	SD	8.10E-04
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.10E-04
		95% KM (t) UCL	0.00147
Assuming Gamma Distribution		95% KM (z) UCL	0.00146
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0014
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.00232
Maximum	0.0046	95% KM (BCA) UCL	0.0046
Mean	3.43E-04	95% KM (Percentile Bootstrap) UCL	0.00172
Median	1.00E-06	95% KM (Chebyshev) UCL	0.00203
SD	0.001	97.5% KM (Chebyshev) UCL	0.00242
k star	0.173	99% KM (Chebyshev) UCL	0.0032
Theta star	0.00198		
Nu star	7.974	Potential UCLs to Use	
AppChi2	2.72	95% KM (t) UCL	0.00147
95% Gamma Approximate UCL (Use when n >= 40)	0.001		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

gamma-BHC (Lindane)

General Statistics (Units in mg/kg)			
Number of Valid Data	22	Number of Detected Data	4
Number of Distinct Detected Data	3	Number of Non-Detect Data	18
		Percent Non-Detects	81.82%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	7.00E-04	Minimum Detected	-7.264
Maximum Detected	0.0025	Maximum Detected	-5.991
Mean of Detected	0.0015	Mean of Detected	-6.6
SD of Detected	7.44E-04	SD of Detected	0.521
Minimum Non-Detect	4.30E-04	Minimum Non-Detect	-7.752
Maximum Non-Detect	0.0073	Maximum Non-Detect	-4.92

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.922	Shapiro Wilk Test Statistic	0.941
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00119	Mean	-7.31
SD	0.00114	SD	1.163
95% DL/2 (t) UCL	0.00161	95% H-Stat (DL/2) UCL	0.00269
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.172
		SD in Log Scale	0.936
		Mean in Original Scale	4.59E-04
		SD in Original Scale	5.85E-04
		95% t UCL	6.74E-04
		95% Percentile Bootstrap UCL	6.66E-04
		95% BCA Bootstrap UCL	7.32E-04
		95% H-UCL	7.29E-04
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.491	Data appear Normal at 5% Significance Level	
Theta Star	0.00101		
nu star	11.93		
A-D Test Statistic	0.331	Nonparametric Statistics	
5% A-D Critical Value	0.659	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.659	Mean	9.13E-04
5% K-S Critical Value	0.396	SD	4.86E-04
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.45E-04
		95% KM (t) UCL	0.00116
Assuming Gamma Distribution		95% KM (z) UCL	0.00115
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00134
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.00116
Maximum	0.0025	95% KM (BCA) UCL	N/A
Mean	2.74E-04	95% KM (Percentile Bootstrap) UCL	0.00168
Median	1.00E-06	95% KM (Chebyshev) UCL	0.00154
SD	6.55E-04	97.5% KM (Chebyshev) UCL	0.00182
k star	0.181	99% KM (Chebyshev) UCL	0.00235
Theta star	0.00151		
Nu star	7.974	Potential UCLs to Use	
AppChi2	2.72	95% KM (t) UCL	0.00116
95% Gamma Approximate UCL (Use when n >= 40)	8.02E-04	95% KM (Percentile Bootstrap) UCL	0.00168
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bis(2-ethylhexyl)phthalate

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	11
		Percent Non-Detects	44.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.092	Minimum Detected	-2.386
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.511	Mean of Detected	-0.971
SD of Detected	0.41	SD of Detected	0.815
Minimum Non-Detect	0.089	Minimum Non-Detect	-2.419
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.853	Shapiro Wilk Test Statistic	0.959
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.461	Mean	-1.368
SD	0.46	SD	1.218
95% DL/2 (t) UCL	0.618	95% H-Stat (DL/2) UCL	1.07
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.561
		SD in Log Scale	0.983
		Mean in Original Scale	0.337
		SD in Original Scale	0.365
		95% t UCL	0.462
		95% Percentile Bootstrap UCL	0.454
		95% BCA Bootstrap UCL	0.482
		95% H-UCL	0.559
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.479	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.345		
nu star	41.4		
A-D Test Statistic	0.406	Nonparametric Statistics	
5% A-D Critical Value	0.748	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.748	Mean	0.368
5% K-S Critical Value	0.232	SD	0.371
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0827
		95% KM (t) UCL	0.509
Assuming Gamma Distribution		95% KM (z) UCL	0.504
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.497
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.552
Maximum	1.4	95% KM (BCA) UCL	0.55
Mean	0.316	95% KM (Percentile Bootstrap) UCL	0.522
Median	0.22	95% KM (Chebyshev) UCL	0.728
SD	0.382	97.5% KM (Chebyshev) UCL	0.884
k star	0.209	99% KM (Chebyshev) UCL	1.191
Theta star	1.516		
Nu star	10.44	Potential UCLs to Use	
AppChi2	4.217	95% KM (t) UCL	0.509
95% Gamma Approximate UCL (Use when n >= 40)	0.783		
95% Adjusted Gamma UCL (Use when n < 40)	0.836		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

beta-BHC

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	15
		Percent Non-Detects	93.75%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable beta-BHC was not processed!

Cadmium

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	17
Number of Distinct Detected Data	15	Number of Non-Detect Data	8
		Percent Non-Detects	32.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.66	Minimum Detected	-0.416
Maximum Detected	5.2	Maximum Detected	1.649
Mean of Detected	2.145	Mean of Detected	0.545
SD of Detected	1.445	SD of Detected	0.691
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.38	Maximum Non-Detect	-0.968
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	17
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	32.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.878	Shapiro Wilk Test Statistic	0.935
5% Shapiro Wilk Critical Value	0.892	5% Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.467	Mean	-1.63
SD	1.554	SD	3.434
95% DL/2 (t) UCL	1.998	95% H-Stat (DL/2) UCL	6317
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.172	Mean in Log Scale	0.00156
SD	1.92	SD in Log Scale	1.012
95% MLE (t) UCL	1.829	Mean in Original Scale	1.567
95% MLE (Tiku) UCL	1.876	SD in Original Scale	1.462
		95% t UCL	2.067
		95% Percentile Bootstrap UCL	2.041
		95% BCA Bootstrap UCL	2.14
		95% H UCL	2.805
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	2.054	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.044		
nu star	69.85		
A-D Test Statistic	0.422	Nonparametric Statistics	
5% A-D Critical Value	0.748	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.748	Mean	1.67
5% K-S Critical Value	0.211	SD	1.348
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.278
		95% KM (t) UCL	2.145
Assuming Gamma Distribution		95% KM (z) UCL	2.127
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.134
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.245
Maximum	5.2	95% KM (BCA) UCL	2.166
Mean	1.459	95% KM (Percentile Bootstrap) UCL	2.129
Median	0.91	95% KM (Chebyshev) UCL	2.881
SD	1.561	97.5% KM (Chebyshev) UCL	3.406
k star	0.177	99% KM (Chebyshev) UCL	4.435
Theta star	8.262		
Nu star	8.828	Potential UCLs to Use	
AppChi2	3.224	95% KM (Percentile Bootstrap) UCL	2.129
95% Gamma Approximate UCL (Use when n >= 40)	3.995		
95% Adjusted Gamma UCL (Use when n < 40)	4.298		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total Chlordane

General Statistics (Units in mg/kg)			
Number of Valid Data	23	Number of Detected Data	14
Number of Distinct Detected Data	14	Number of Non-Detect Data	9
		Percent Non-Detects	39.13%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0022	Minimum Detected	-6.119
Maximum Detected	0.092	Maximum Detected	-2.386
Mean of Detected	0.019	Mean of Detected	-4.531
SD of Detected	0.0237	SD of Detected	1.108
Minimum Non-Detect	4.80E-04	Minimum Non-Detect	-7.642
Maximum Non-Detect	0.073	Maximum Non-Detect	-2.617
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.65%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.687	Shapiro Wilk Test Statistic	0.955
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0138	Mean	-5.208
SD	0.0206	SD	1.508
95% DL/2 (t) UCL	0.0211	95% H-Stat (DL/2) UCL	0.0487
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.296
		SD in Log Scale	1.35
		Mean in Original Scale	0.0123
		SD in Original Scale	0.0201
		95% t UCL	0.0195
		95% Percentile Bootstrap UCL	0.0201
		95% BCA Bootstrap UCL	0.0232
		95% H-UCL	0.0298
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.846	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0224		
nu star	23.7		
A-D Test Statistic	0.444	Nonparametric Statistics	
5% A-D Critical Value	0.76	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.76	Mean	0.0128
5% K-S Critical Value	0.235	SD	0.0196
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00426
		95% KM (t) UCL	0.0201
Assuming Gamma Distribution		95% KM (z) UCL	0.0198
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0199
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0271
Maximum	0.092	95% KM (BCA) UCL	0.0203
Mean	0.0117	95% KM (Percentile Bootstrap) UCL	0.0206
Median	0.00304	95% KM (Chebyshev) UCL	0.0313
SD	0.0204	97.5% KM (Chebyshev) UCL	0.0394
k star	0.217	99% KM (Chebyshev) UCL	0.0552
Theta star	0.0539		
Nu star	9.974	Potential UCLs to Use	
AppChi2	3.925	95% KM (BCA) UCL	0.0203
95% Gamma Approximate UCL (Use when n >= 40)	0.0297		
95% Adjusted Gamma UCL (Use when n < 40)	0.0319		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics (Units in mg/kg)

Number of Valid Observations	25	Number of Distinct Observations	21

Raw Statistics		Log-transformed Statistics	
Minimum	8.1	Minimum of Log Data	2.092
Maximum	95.3	Maximum of Log Data	4.557
Mean	22.15	Mean of log Data	2.803
Geometric Mean	16.49	SD of log Data	0.688
Median	12		
SD	23.34		
Std. Error of Mean	4.669		
Coefficient of Variation	1.054		
Skewness	2.705		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.578	Shapiro Wilk Test Statistic	0.833
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	30.14	95% H-UCL	28.18
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	33.95
95% Adjusted-CLT UCL (Chen-1995)	32.53	97.5% Chebyshev (MVUE) UCL	39.7
95% Modified-t UCL (Johnson-1978)	30.56	99% Chebyshev (MVUE) UCL	50.99

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.65	Data do not follow a Discernable Distribution (0.05)	
Theta Star	13.42		
MLE of Mean	22.15		
MLE of Standard Deviation	17.24		
nu star	82.5		
Approximate Chi Square Value (.05)	62.57	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	29.83
Adjusted Chi Square Value	61.39	95% Jackknife UCL	30.14
		95% Standard Bootstrap UCL	29.79
Anderson-Darling Test Statistic	2.124	95% Bootstrap-t UCL	43.02
Anderson-Darling 5% Critical Value	0.758	95% Hall's Bootstrap UCL	69.52
Kolmogorov-Smirnov Test Statistic	0.225	95% Percentile Bootstrap UCL	30.25
Kolmogorov-Smirnov 5% Critical Value	0.177	95% BCA Bootstrap UCL	33.34
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	42.5
		97.5% Chebyshev(Mean, Sd) UCL	51.31
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	68.6
95% Approximate Gamma UCL (Use when n >= 40)	29.21		
95% Adjusted Gamma UCL (Use when n < 40)	29.77		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	42.5

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	22	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.015	Minimum Detected	-4.2
Maximum Detected	9.4	Maximum Detected	2.241
Mean of Detected	2.005	Mean of Detected	0.0561
SD of Detected	2.132	SD of Detected	1.428
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.787	Shapiro Wilk Test Statistic	0.912
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.933	Mean	-0.00859
SD	2.118	SD	1.435
95% DL/2 (t) UCL	2.658	95% H-Stat (DL/2) UCL	6.874
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.6	Mean in Log Scale	-0.0172
SD	2.495	SD in Log Scale	1.445
95% MLE (t) UCL	2.454	Mean in Original Scale	1.932
95% MLE (Tiku) UCL	2.47	SD in Original Scale	2.119
		95% t UCL	2.657
		95% Percentile Bootstrap UCL	2.646
		95% BCA Bootstrap UCL	2.876
		95% H UCL	6.994
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.826	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.427		
nu star	39.66		
A-D Test Statistic	0.185	Nonparametric Statistics	
5% A-D Critical Value	0.776	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.776	Mean	1.932
5% K-S Critical Value	0.184	SD	2.076
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.424
		95% KM (t) UCL	2.658
Assuming Gamma Distribution		95% KM (z) UCL	2.63
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.658
Minimum	1.00E-06	95% KM (bootstrap t) UCL	3.019
Maximum	9.4	95% KM (BCA) UCL	2.715
Mean	1.925	95% KM (Percentile Bootstrap) UCL	2.641
Median	1.4	95% KM (Chebyshev) UCL	3.782
SD	2.126	97.5% KM (Chebyshev) UCL	4.582
k star	0.505	99% KM (Chebyshev) UCL	6.153
Theta star	3.812		
Nu star	25.25	Potential UCLs to Use	
AppChi2	14.8	95% KM (Chebyshev) UCL	3.782
95% Gamma Approximate UCL (Use when n >= 40)	3.283		
95% Adjusted Gamma UCL (Use when n < 40)	3.409		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg)			
Number of Valid Observations	25	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	5	Minimum of Log Data	1.609
Maximum	829	Maximum of Log Data	6.72
Mean	68.21	Mean of log Data	3.226
Geometric Mean	25.17	SD of log Data	1.272
Median	23		
SD	162.7		
Std. Error of Mean	32.55		
Coefficient of Variation	2.386		
Skewness	4.604		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.38	Shapiro Wilk Test Statistic	0.937
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	123.9	95% H-UCL	118.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	124.4
95% Adjusted-CLT UCL (Chen-1995)	153.8	97.5% Chebyshev (MVUE) UCL	155.1
95% Modified-t UCL (Johnson-1978)	128.9	99% Chebyshev (MVUE) UCL	215.3
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.57	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	119.7		
MLE of Mean	68.21		
MLE of Standard Deviation	90.35		
nu star	28.49		
Approximate Chi Square Value (.05)	17.31	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	121.7
Adjusted Chi Square Value	16.72	95% Jackknife UCL	123.9
		95% Standard Bootstrap UCL	119.6
Anderson-Darling Test Statistic	1.522	95% Bootstrap-t UCL	277.6
Anderson-Darling 5% Critical Value	0.796	95% Hall's Bootstrap UCL	312.4
Kolmogorov-Smirnov Test Statistic	0.173	95% Percentile Bootstrap UCL	131
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	170
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	210.1
		97.5% Chebyshev(Mean, Sd) UCL	271.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	392
95% Approximate Gamma UCL (Use when n >= 40)	112.3		
95% Adjusted Gamma UCL (Use when n < 40)	116.2		
Potential UCL to Use		Use 95% Approximate Gamma UCL	112.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cyanide

General Statistics (Units in mg/kg)			
Number of Valid Data	18	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	6
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.14	Minimum Detected	-1.966
Maximum Detected	4.3	Maximum Detected	1.459
Mean of Detected	1.283	Mean of Detected	-0.213
SD of Detected	1.247	SD of Detected	1.066
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.062	Maximum Non-Detect	-2.781
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.836	Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.857	Mean	-2.061
SD	1.179	SD	2.887
95% DL/2 (t) UCL	1.341	95% H-Stat (DL/2) UCL	535.9
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.518	Mean in Log Scale	-1.103
SD	1.536	SD in Log Scale	1.589
95% MLE (t) UCL	1.147	Mean in Original Scale	0.876
95% MLE (Tiku) UCL	1.193	SD in Original Scale	1.164
		95% t UCL	1.354
		95% Percentile Bootstrap UCL	1.333
		95% BCA Bootstrap UCL	1.459
		95% H UCL	4.673
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.972	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.32		
nu star	23.32		
A-D Test Statistic	0.198	Nonparametric Statistics	
5% A-D Critical Value	0.752	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.752	Mean	0.902
5% K-S Critical Value	0.251	SD	1.114
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.274
		95% KM (t) UCL	1.379
Assuming Gamma Distribution		95% KM (z) UCL	1.353
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.361
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.648
Maximum	4.3	95% KM (BCA) UCL	1.416
Mean	0.855	95% KM (Percentile Bootstrap) UCL	1.392
Median	0.36	95% KM (Chebyshev) UCL	2.097
SD	1.18	97.5% KM (Chebyshev) UCL	2.614
k star	0.175	99% KM (Chebyshev) UCL	3.63
Theta star	4.897		
Nu star	6.286	Potential UCLs to Use	
AppChi2	1.788	95% KM (BCA) UCL	1.416
95% Gamma Approximate UCL (Use when n >= 40)	3.007		
95% Adjusted Gamma UCL (Use when n < 40)	3.428		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	18
Number of Distinct Detected Data	17	Number of Non-Detect Data	7
		Percent Non-Detects	28.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0027	Minimum Detected	-5.915
Maximum Detected	2.4	Maximum Detected	0.875
Mean of Detected	0.335	Mean of Detected	-2.151
SD of Detected	0.565	SD of Detected	1.653
Minimum Non-Detect	0.04	Minimum Non-Detect	-3.219
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.582	Shapiro Wilk Test Statistic	0.982
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.475	Mean	-1.75
SD	0.594	SD	1.722
95% DL/2 (t) UCL	0.678	95% H-Stat (DL/2) UCL	2.652
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.3
		SD in Log Scale	1.444
		Mean in Original Scale	0.263
		SD in Original Scale	0.49
		95% t UCL	0.43
		95% Percentile Bootstrap UCL	0.444
		95% BCA Bootstrap UCL	0.518
		95% H-UCL	0.711
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.526	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.638		
nu star	18.92		
A-D Test Statistic	0.376	Nonparametric Statistics	
5% A-D Critical Value	0.792	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.792	Mean	0.29
5% K-S Critical Value	0.214	SD	0.492
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.106
		95% KM (t) UCL	0.471
Assuming Gamma Distribution		95% KM (z) UCL	0.464
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.47
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.671
Maximum	2.4	95% KM (BCA) UCL	0.493
Mean	0.277	95% KM (Percentile Bootstrap) UCL	0.474
Median	0.158	95% KM (Chebyshev) UCL	0.751
SD	0.486	97.5% KM (Chebyshev) UCL	0.95
k star	0.461	99% KM (Chebyshev) UCL	1.342
Theta star	0.6		
Nu star	23.04	Potential UCLs to Use	
AppChi2	13.12	95% KM (Chebyshev) UCL	0.751
95% Gamma Approximate UCL (Use when n >= 40)	0.486		
95% Adjusted Gamma UCL (Use when n < 40)	0.505		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics (Units in mg/kg)

Number of Valid Data	20	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	16
		Percent Non-Detects	80.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0038	Minimum Detected	-5.573
Maximum Detected	0.03	Maximum Detected	-3.507
Mean of Detected	0.015	Mean of Detected	-4.527
SD of Detected	0.0123	SD of Detected	0.976
Minimum Non-Detect	0.00088	Minimum Non-Detect	-7.036
Maximum Non-Detect	0.0063	Maximum Non-Detect	-5.067

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	18
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	90.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.908	Shapiro Wilk Test Statistic	0.92
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00394	Mean	-6.547
SD	0.00753	SD	1.314
95% DL/2 (t) UCL	0.00685	95% H-Stat (DL/2) UCL	0.00871

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.46
		SD in Log Scale	1.672
		Mean in Original Scale	0.00326
		SD in Original Scale	0.00775
		95% t UCL	0.00626
		95% Percentile Bootstrap UCL	0.00639
		95% BCA Bootstrap UCL	0.00701
		95% H-UCL	0.0097

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.59	Data appear Normal at 5% Significance Level
Theta Star	0.0254	
nu star	4.717	

		Nonparametric Statistics	
A-D Test Statistic	0.341		
5% A-D Critical Value	0.662	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.662	Mean	0.00604
5% K-S Critical Value	0.399	SD	0.00653
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00169
		95% KM (t) UCL	0.00895
Assuming Gamma Distribution		95% KM (z) UCL	0.00881
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00842
Minimum	0.000001	95% KM (bootstrap t) UCL	0.00855
Maximum	0.03	95% KM (BCA) UCL	0.03
Mean	0.00299	95% KM (Percentile Bootstrap) UCL	0.021
Median	0.000001	95% KM (Chebyshev) UCL	0.0134
SD	0.00785	97.5% KM (Chebyshev) UCL	0.0166
k star	0.142	99% KM (Chebyshev) UCL	0.0228
Theta star	0.0211		
Nu star	5.683	Potential UCLs to Use	
AppChi2	1.48	95% KM (t) UCL	0.00895
95% Gamma Approximate UCL (Use when n >= 40)	0.0115	95% KM (Percentile Bootstrap) UCL	0.021
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

alpha-Endosulfan

General Statistics (Units in mg/kg)			
Number of Valid Data	21	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	17
		Percent Non-Detects	80.95%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	7.80E-04	Minimum Detected	-7.156
Maximum Detected	0.0023	Maximum Detected	-6.075
Mean of Detected	0.00147	Mean of Detected	-6.605
SD of Detected	6.72E-04	SD of Detected	0.476
Minimum Non-Detect	4.30E-04	Minimum Non-Detect	-7.752
Maximum Non-Detect	0.0073	Maximum Non-Detect	-4.92

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.968	Shapiro Wilk Test Statistic	0.98
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00124	Mean	-7.255
SD	0.00114	SD	1.158
95% DL/2 (t) UCL	0.00166	95% H-Stat (DL/2) UCL	0.00284
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.026
		SD in Log Scale	0.856
		Mean in Original Scale	4.91E-04
		SD in Original Scale	5.62E-04
		95% t UCL	7.02E-04
		95% Percentile Bootstrap UCL	6.99E-04
		95% BCA Bootstrap UCL	7.74E-04
		95% H-UCL	7.44E-04
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.719	Data appear Normal at 5% Significance Level	
Theta Star	8.55E-04		
nu star	13.75		
A-D Test Statistic	0.227	Nonparametric Statistics	
5% A-D Critical Value	0.659	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.659	Mean	9.77E-04
5% K-S Critical Value	0.396	SD	4.40E-04
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.36E-04
		95% KM (t) UCL	0.00121
Assuming Gamma Distribution		95% KM (z) UCL	0.0012
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00122
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0012
Maximum	0.0023	95% KM (BCA) UCL	N/A
Mean	2.81E-04	95% KM (Percentile Bootstrap) UCL	0.00177
Median	1.00E-06	95% KM (Chebyshev) UCL	0.00157
SD	6.46E-04	97.5% KM (Chebyshev) UCL	0.00183
k star	0.183	99% KM (Chebyshev) UCL	0.00233
Theta star	0.00154		
Nu star	7.67	Potential UCLs to Use	
AppChi2	2.545	95% KM (t) UCL	0.00121
95% Gamma Approximate UCL (Use when n >= 40)	8.46E-04	95% KM (Percentile Bootstrap) UCL	0.00177
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin

General Statistics (Units in mg/kg)

Number of Valid Data	22	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	19
		Percent Non-Detects	86.36%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00098	Minimum Detected	-6.928
Maximum Detected	0.017	Maximum Detected	-4.075
Mean of Detected	0.00836	Mean of Detected	-5.317
SD of Detected	0.00808	SD of Detected	1.462
Minimum Non-Detect	0.00084	Minimum Non-Detect	-7.082
Maximum Non-Detect	0.015	Maximum Non-Detect	-4.2

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.45%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.982	Shapiro Wilk Test Statistic	0.952
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00238	Mean	-6.787
SD	0.00384	SD	1.137
95% DL/2 (t) UCL	0.00379	95% H-Stat (DL/2) UCL	0.00429

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-9.955
		SD in Log Scale	2.129
		Mean in Original Scale	0.00117
		SD in Original Scale	0.00384
		95% t UCL	0.00258
		95% Percentile Bootstrap UCL	0.00267
		95% BCA Bootstrap UCL	0.0035
		95% H-UCL	0.00356

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.002
5% K-S Critical Value	N/A	SD	0.00352
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00092308
		95% KM (t) UCL	0.00359
Assuming Gamma Distribution		95% KM (z) UCL	0.00352
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00598
Minimum	N/A	95% KM (bootstrap t) UCL	0.00299
Maximum	N/A	95% KM (BCA) UCL	0.017
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.017
Median	N/A	95% KM (Chebyshev) UCL	0.00602
SD	N/A	97.5% KM (Chebyshev) UCL	0.00776
k star	N/A	99% KM (Chebyshev) UCL	0.0112
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.00359
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	0.017
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin aldehyde

General Statistics (Units in mg/kg)

Number of Valid Data	23	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	20
		Percent Non-Detects	86.96%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0026	Minimum Detected	-5.952
Maximum Detected	0.0067	Maximum Detected	-5.006
Mean of Detected	0.004	Mean of Detected	-5.624
SD of Detected	0.00234	SD of Detected	0.536
Minimum Non-Detect	0.0012	Minimum Non-Detect	-6.725
Maximum Non-Detect	0.015	Maximum Non-Detect	-4.2

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.768	Shapiro Wilk Test Statistic	0.78
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00186	Mean	-6.633
SD	0.00186	SD	0.798
95% DL/2 (t) UCL	0.00253	95% H-Stat (DL/2) UCL	0.00267

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.301
		SD in Log Scale	0.839
		Mean in Original Scale	0.00104
		SD in Original Scale	0.00139
		95% t UCL	0.00153
		95% Percentile Bootstrap UCL	0.00154
		95% BCA Bootstrap UCL	0.00179
		95% H-UCL	0.00146

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.00279
5% K-S Critical Value	N/A	SD	8.53E-04
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2.23E-04
		95% KM (t) UCL	0.00318
Assuming Gamma Distribution		95% KM (z) UCL	0.00316
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00307
Minimum	N/A	95% KM (bootstrap t) UCL	0.00779
Maximum	N/A	95% KM (BCA) UCL	0.0067
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	0.00376
SD	N/A	97.5% KM (Chebyshev) UCL	0.00418
k star	N/A	99% KM (Chebyshev) UCL	0.00501
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.00318
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin ketone

General Statistics (Units in mg/kg)			
Number of Valid Data	23	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	19
		Percent Non-Detects	82.61%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0019	Minimum Detected	-6.266
Maximum Detected	0.02	Maximum Detected	-3.912
Mean of Detected	0.0109	Mean of Detected	-4.914
SD of Detected	0.00898	SD of Detected	1.122
Minimum Non-Detect	8.30E-04	Minimum Non-Detect	-7.094
Maximum Non-Detect	0.015	Maximum Non-Detect	-4.2
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	91.30%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.873	Shapiro Wilk Test Statistic	0.897
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00307	Mean	-6.663
SD	0.00518	SD	1.248
95% DL/2 (t) UCL	0.00492	95% H-Stat (DL/2) UCL	0.00598
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.403
		SD in Log Scale	1.844
		Mean in Original Scale	0.002
		SD in Original Scale	0.00531
		95% t UCL	0.00391
		95% Percentile Bootstrap UCL	0.00386
		95% BCA Bootstrap UCL	0.00465
		95% H-UCL	0.00546
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.523	Data appear Normal at 5% Significance Level	
Theta Star	0.0208		
nu star	4.182		
A-D Test Statistic	0.388	Nonparametric Statistics	
5% A-D Critical Value	0.663	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.663	Mean	0.00348
5% K-S Critical Value	0.4	SD	0.00469
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00113
		95% KM (t) UCL	0.00543
Assuming Gamma Distribution		95% KM (z) UCL	0.00534
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0055
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.00474
Maximum	0.02	95% KM (BCA) UCL	0.02
Mean	0.00189	95% KM (Percentile Bootstrap) UCL	0.0173
Median	1.00E-06	95% KM (Chebyshev) UCL	0.00842
SD	0.00536	97.5% KM (Chebyshev) UCL	0.0106
k star	0.143	99% KM (Chebyshev) UCL	0.0147
Theta star	0.0132		
Nu star	6.563	Potential UCLs to Use	
AppChi2	1.934	95% KM (t) UCL	0.00543
95% Gamma Approximate UCL (Use when n >= 40)	0.00641	95% KM (Percentile Bootstrap) UCL	0.0173
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	21	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.033	Minimum Detected	-3.411
Maximum Detected	16	Maximum Detected	2.773
Mean of Detected	3.488	Mean of Detected	0.566
SD of Detected	3.942	SD of Detected	1.429
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.76	Shapiro Wilk Test Statistic	0.934
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.357	Mean	0.48
SD	3.914	SD	1.462
95% DL/2 (t) UCL	4.697	95% H-Stat (DL/2) UCL	12.01

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.972	Mean in Log Scale	0.475
SD	4.326	SD in Log Scale	1.469
95% MLE (t) UCL	4.452	Mean in Original Scale	3.356
95% MLE (Tiku) UCL	4.423	SD in Original Scale	3.915
		95% t UCL	4.696
		95% Percentile Bootstrap UCL	4.767
		95% BCA Bootstrap UCL	4.942
		95% H UCL	12.18

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.78	Data appear Gamma Distributed at 5% Significance Level
Theta Star	4.472	
nu star	37.44	

		Nonparametric Statistics	
A-D Test Statistic	0.227		
5% A-D Critical Value	0.778	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.778	Mean	3.355
5% K-S Critical Value	0.184	SD	3.837
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.784
		95% KM (t) UCL	4.696
Assuming Gamma Distribution		95% KM (z) UCL	4.644
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.695
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.55
Maximum	16	95% KM (BCA) UCL	4.726
Mean	3.349	95% KM (Percentile Bootstrap) UCL	4.667
Median	1.7	95% KM (Chebyshev) UCL	6.772
SD	3.921	97.5% KM (Chebyshev) UCL	8.25
k star	0.483	99% KM (Chebyshev) UCL	11.15
Theta star	6.935		
Nu star	24.14	Potential UCLs to Use	
AppChi2	13.96	95% KM (Chebyshev) UCL	6.772
95% Gamma Approximate UCL (Use when n >= 40)	5.793		
95% Adjusted Gamma UCL (Use when n < 40)	6.02		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluorene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	17
Number of Distinct Detected Data	15	Number of Non-Detect Data	8
		Percent Non-Detects	32.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	8.05E-04	Minimum Detected	-7.125
Maximum Detected	2.3	Maximum Detected	0.833
Mean of Detected	0.215	Mean of Detected	-3.115
SD of Detected	0.546	SD of Detected	1.904
Minimum Non-Detect	0.034	Minimum Non-Detect	-3.381
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.402	Shapiro Wilk Test Statistic	0.98
5% Shapiro Wilk Critical Value	0.892	5% Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.426	Mean	-2.321
SD	0.612	SD	2.118
95% DL/2 (t) UCL	0.635	95% H-Stat (DL/2) UCL	5.609
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.267
		SD in Log Scale	1.617
		Mean in Original Scale	0.157
		SD in Original Scale	0.454
		95% t UCL	0.313
		95% Percentile Bootstrap UCL	0.334
		95% BCA Bootstrap UCL	0.436
		95% H-UCL	0.429
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.38	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.567		
nu star	12.93		
A-D Test Statistic	0.87	Nonparametric Statistics	
5% A-D Critical Value	0.817	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.817	Mean	0.173
5% K-S Critical Value	0.223	SD	0.454
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0962
		95% KM (t) UCL	0.338
Assuming Gamma Distribution		95% KM (z) UCL	0.331
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.337
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.856
Maximum	2.3	95% KM (BCA) UCL	0.343
Mean	0.161	95% KM (Percentile Bootstrap) UCL	0.346
Median	0.0449	95% KM (Chebyshev) UCL	0.592
SD	0.455	97.5% KM (Chebyshev) UCL	0.774
k star	0.302	99% KM (Chebyshev) UCL	1.13
Theta star	0.533		
Nu star	15.12	Potential UCLs to Use	
AppChi2	7.345	95% KM (BCA) UCL	0.343
95% Gamma Approximate UCL (Use when n >= 40)	0.332		
95% Adjusted Gamma UCL (Use when n < 40)	0.349		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

Heptachlor

General Statistics (Units in mg/kg)

Number of Valid Data	23	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	21
		Percent Non-Detects	91.30%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0013	Minimum Detected	-6.645
Maximum Detected	0.0014	Maximum Detected	-6.571
Mean of Detected	0.00135	Mean of Detected	-6.608
SD of Detected	0.000070711	SD of Detected	0.0524
Minimum Non-Detect	0.00063	Minimum Non-Detect	-7.37
Maximum Non-Detect	0.0073	Maximum Non-Detect	-4.92

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00111	Mean	-7.241
SD	0.00106	SD	0.933
95% DL/2 (t) UCL	0.00149	95% H-Stat (DL/2) UCL	0.0018

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.00131
5% K-S Critical Value	N/A	SD	0.000024206
Data not Gamma Distributed at 5% Significance Level		SE of Mean	8.5582E-06
		95% KM (t) UCL	0.00132
Assuming Gamma Distribution		95% KM (z) UCL	0.00132
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00137
Minimum	N/A	95% KM (bootstrap t) UCL	0.00131
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	0.00134
SD	N/A	97.5% KM (Chebyshev) UCL	0.00136
k star	N/A	99% KM (Chebyshev) UCL	0.00139
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.00132
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor epoxide

General Statistics (Units in mg/kg)

Number of Valid Data	13	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	11
		Percent Non-Detects	84.62%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0019	Minimum Detected	-6.266
Maximum Detected	0.0069	Maximum Detected	-4.976
Mean of Detected	0.0044	Mean of Detected	-5.621
SD of Detected	0.00354	SD of Detected	0.912
Minimum Non-Detect	0.00048	Minimum Non-Detect	-7.642
Maximum Non-Detect	0.0073	Maximum Non-Detect	-4.92

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00212	Mean	-6.643
SD	0.00183	SD	1.187
95% DL/2 (t) UCL	0.00303	95% H-Stat (DL/2) UCL	0.00785

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.00232
5% K-S Critical Value	N/A	SD	0.00138
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00056417
		95% KM (t) UCL	0.00332
Assuming Gamma Distribution		95% KM (z) UCL	0.00324
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0057
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	0.0069
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	0.00478
SD	N/A	97.5% KM (Chebyshev) UCL	0.00584
k star	N/A	99% KM (Chebyshev) UCL	0.00793
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.00332
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.
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Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	23
Number of Distinct Detected Data	22	Number of Non-Detect Data	2
		Percent Non-Detects	8.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0101	Minimum Detected	-4.595
Maximum Detected	7.5	Maximum Detected	2.015
Mean of Detected	1.241	Mean of Detected	-0.422
SD of Detected	1.547	SD of Detected	1.379
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	2.3	Maximum Non-Detect	0.833
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	88.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.646	Shapiro Wilk Test Statistic	0.911
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.196	Mean	-0.445
SD	1.496	SD	1.345
95% DL/2 (t) UCL	1.707	95% H-Stat (DL/2) UCL	3.571
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.502
		SD in Log Scale	1.363
		Mean in Original Scale	1.166
		SD in Original Scale	1.505
		95% t UCL	1.68
		95% Percentile Bootstrap UCL	1.705
		95% BCA Bootstrap UCL	1.918
		95% H-UCL	3.523
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.824	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.505		
nu star	37.92		
A-D Test Statistic	0.323	Nonparametric Statistics	
5% A-D Critical Value	0.774	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.774	Mean	1.177
5% K-S Critical Value	0.187	SD	1.475
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.303
		95% KM (t) UCL	1.695
Assuming Gamma Distribution		95% KM (z) UCL	1.675
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.694
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.239
Maximum	7.5	95% KM (BCA) UCL	1.736
Mean	1.175	95% KM (Percentile Bootstrap) UCL	1.707
Median	0.82	95% KM (Chebyshev) UCL	2.496
SD	1.504	97.5% KM (Chebyshev) UCL	3.067
k star	0.522	99% KM (Chebyshev) UCL	4.188
Theta star	2.253		
Nu star	26.08	Potential UCLs to Use	
AppChi2	15.44	95% KM (Chebyshev) UCL	2.496
95% Gamma Approximate UCL (Use when n >= 40)	1.985		
95% Adjusted Gamma UCL (Use when n < 40)	2.059		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	25	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	8.75	Minimum of Log Data	2.169
Maximum	389	Maximum of Log Data	5.964
Mean	102.9	Mean of log Data	4.123
Geometric Mean	61.74	SD of log Data	1.089
Median	62.7		
SD	102		
Std. Error of Mean	20.4		
Coefficient of Variation	0.992		
Skewness	1.374		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.833	Shapiro Wilk Test Statistic	0.962
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	137.8	95% H-UCL	199.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	226
95% Adjusted-CLT UCL (Chen-1995)	142.4	97.5% Chebyshev (MVUE) UCL	277.1
95% Modified-t UCL (Johnson-1978)	138.7	99% Chebyshev (MVUE) UCL	377.6
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.01	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	101.9		
MLE of Mean	102.9		
MLE of Standard Deviation	102.4		
nu star	50.48		
Approximate Chi Square Value (.05)	35.16	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	136.4
Adjusted Chi Square Value	34.29	95% Jackknife UCL	137.8
		95% Standard Bootstrap UCL	135.9
Anderson-Darling Test Statistic	0.403	95% Bootstrap-t UCL	142.5
Anderson-Darling 5% Critical Value	0.77	95% Hall's Bootstrap UCL	143.4
Kolmogorov-Smirnov Test Statistic	0.132	95% Percentile Bootstrap UCL	136.8
Kolmogorov-Smirnov 5% Critical Value	0.179	95% BCA Bootstrap UCL	140.5
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	191.8
		97.5% Chebyshev(Mean, Sd) UCL	230.3
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	305.8
95% Approximate Gamma UCL (Use when n >= 40)	147.7		
95% Adjusted Gamma UCL (Use when n < 40)	151.4		
Potential UCL to Use		Use 95% Approximate Gamma UCL	147.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	25	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	91.6	Minimum of Log Data	4.517
Maximum	2410	Maximum of Log Data	7.787
Mean	312.2	Mean of log Data	5.381
Geometric Mean	217.2	SD of log Data	0.708
Median	190		
SD	455.9		
Std. Error of Mean	91.19		
Coefficient of Variation	1.46		
Skewness	4.393		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.43	Shapiro Wilk Test Statistic	0.86
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	468.2	95% H-UCL	380.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	458.8
95% Adjusted-CLT UCL (Chen-1995)	547.8	97.5% Chebyshev (MVUE) UCL	538
95% Modified-t UCL (Johnson-1978)	481.6	99% Chebyshev (MVUE) UCL	693.7
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.367	Data do not follow a Discernable Distribution (0.05)	
Theta Star	228.4		
MLE of Mean	312.2		
MLE of Standard Deviation	267		
nu star	68.35		
Approximate Chi Square Value (.05)	50.32	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	462.2
Adjusted Chi Square Value	49.26	95% Jackknife UCL	468.2
		95% Standard Bootstrap UCL	460
Anderson-Darling Test Statistic	2.07	95% Bootstrap-t UCL	848.4
Anderson-Darling 5% Critical Value	0.761	95% Hall's Bootstrap UCL	1032
Kolmogorov-Smirnov Test Statistic	0.222	95% Percentile Bootstrap UCL	483.6
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	594.1
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	709.7
		97.5% Chebyshev(Mean, Sd) UCL	881.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1220
95% Approximate Gamma UCL (Use when n >= 40)	424.1		
95% Adjusted Gamma UCL (Use when n < 40)	433.2		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	709.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	8
Number of Distinct Detected Data	7	Number of Non-Detect Data	17
		Percent Non-Detects	68.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.04	Minimum Detected	-3.219
Maximum Detected	0.54	Maximum Detected	-0.616
Mean of Detected	0.225	Mean of Detected	-1.953
SD of Detected	0.193	SD of Detected	1.113
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.04	Maximum Non-Detect	-3.219

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	8
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	68.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.844	Shapiro Wilk Test Statistic	0.829
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0732	Mean	-5.646
SD	0.149	SD	2.753
95% DL/2 (t) UCL	0.124	95% H-Stat (DL/2) UCL	2.95

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.534
		SD in Log Scale	2.243
		Mean in Original Scale	0.0766
		SD in Original Scale	0.147
		95% t UCL	0.127
		95% Percentile Bootstrap UCL	0.126
		95% BCA Bootstrap UCL	0.135
		95% H-UCL	0.984

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.847	Data appear Normal at 5% Significance Level
Theta Star	0.266	
nu star	13.55	

		Nonparametric Statistics	
A-D Test Statistic	0.692	Kaplan-Meier (KM) Method	
5% A-D Critical Value	0.732	Mean	0.0992
K-S Test Statistic	0.732	SD	0.134
5% K-S Critical Value	0.3	SE of Mean	0.0286
Data appear Gamma Distributed at 5% Significance Level		95% KM (t) UCL	0.148
		95% KM (z) UCL	0.146
Assuming Gamma Distribution		95% KM (jackknife) UCL	0.146
Gamma ROS Statistics using Extrapolated Data		95% KM (bootstrap t) UCL	0.18
Minimum	1.00E-06	95% KM (BCA) UCL	0.165
Maximum	0.54	95% KM (Percentile Bootstrap) UCL	0.153
Mean	0.072	95% KM (Chebyshev) UCL	0.224
Median	1.00E-06	97.5% KM (Chebyshev) UCL	0.278
SD	0.15	99% KM (Chebyshev) UCL	0.384
k star	0.122		
Theta star	0.589		
Nu star	6.118	Potential UCLs to Use	
AppChi2	1.7	95% KM (t) UCL	0.148
95% Gamma Approximate UCL (Use when n >= 40)	0.259	95% KM (Percentile Bootstrap) UCL	0.153
95% Adjusted Gamma UCL (Use when n < 40)	0.285		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Methoxychlor

General Statistics (Units in mg/kg)

Number of Valid Data	23	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	18
		Percent Non-Detects	78.26%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.004	Minimum Detected	-5.521
Maximum Detected	0.057	Maximum Detected	-2.865
Mean of Detected	0.023	Mean of Detected	-4.239
SD of Detected	0.0229	SD of Detected	1.117
Minimum Non-Detect	0.0036	Minimum Non-Detect	-5.627
Maximum Non-Detect	0.073	Maximum Non-Detect	-2.617

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.854	Shapiro Wilk Test Statistic	0.939
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00817	Mean	-5.614
SD	0.0145	SD	1.065
95% DL/2 (t) UCL	0.0133	95% H-Stat (DL/2) UCL	0.0116

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.499
		SD in Log Scale	2.006
		Mean in Original Scale	0.00525
		SD in Original Scale	0.0137
		95% t UCL	0.0101
		95% Percentile Bootstrap UCL	0.0106
		95% BCA Bootstrap UCL	0.0133
		95% H-UCL	0.0235

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.618	Data appear Normal at 5% Significance Level
Theta Star	0.0372	
nu star	6.182	

		Nonparametric Statistics	
A-D Test Statistic	0.337	Kaplan-Meier (KM) Method	
5% A-D Critical Value	0.689		
K-S Test Statistic	0.689	Mean	0.00831
5% K-S Critical Value	0.363	SD	0.0126
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.003
		95% KM (t) UCL	0.0135
Assuming Gamma Distribution		95% KM (z) UCL	0.0132
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0124
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0233
Maximum	0.057	95% KM (BCA) UCL	0.04
Mean	0.005	95% KM (Percentile Bootstrap) UCL	0.0181
Median	0.000001	95% KM (Chebyshev) UCL	0.0214
SD	0.0137	97.5% KM (Chebyshev) UCL	0.027
k star	0.136	99% KM (Chebyshev) UCL	0.0381
Theta star	0.0368		
Nu star	6.247	Potential UCLs to Use	
AppChi2	1.768	95% KM (t) UCL	0.0135
95% Gamma Approximate UCL (Use when n >= 40)	0.0177	95% KM (Percentile Bootstrap) UCL	0.0181
95% Adjusted Gamma UCL (Use when n < 40)	0.0195		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Naphthalene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	15
Number of Distinct Detected Data	14	Number of Non-Detect Data	10
		Percent Non-Detects	40.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00102	Minimum Detected	-6.888
Maximum Detected	0.97	Maximum Detected	-0.0305
Mean of Detected	0.0836	Mean of Detected	-4.568
SD of Detected	0.247	SD of Detected	1.865
Minimum Non-Detect	0.0021	Minimum Non-Detect	-6.166
Maximum Non-Detect	3.1	Maximum Non-Detect	1.131
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.369	Shapiro Wilk Test Statistic	0.921
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.29	Mean	-3.496
SD	0.48	SD	2.507
95% DL/2 (t) UCL	0.455	95% H-Stat (DL/2) UCL	8.246
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.839
		SD in Log Scale	1.52
		Mean in Original Scale	0.0526
		SD in Original Scale	0.193
		95% t UCL	0.119
		95% Percentile Bootstrap UCL	0.128
		95% BCA Bootstrap UCL	0.172
		95% H-UCL	0.0684
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.305	Data appear Lognormal at 5% Significance Level	
Theta Star	0.274		
nu star	9.159		
A-D Test Statistic	1.701	Nonparametric Statistics	
5% A-D Critical Value	0.83	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.83	Mean	0.065
5% K-S Critical Value	0.239	SD	0.21
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0486
		95% KM (t) UCL	0.148
Assuming Gamma Distribution		95% KM (z) UCL	0.145
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.148
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.97
Maximum	0.97	95% KM (BCA) UCL	0.17
Mean	0.0502	95% KM (Percentile Bootstrap) UCL	0.154
Median	0.0016	95% KM (Chebyshev) UCL	0.277
SD	0.194	97.5% KM (Chebyshev) UCL	0.369
k star	0.155	99% KM (Chebyshev) UCL	0.549
Theta star	0.323		
Nu star	7.768	Potential UCLs to Use	
AppChi2	2.602	99% KM (Chebyshev) UCL	0.549
95% Gamma Approximate UCL (Use when n >= 40)	0.15		
95% Adjusted Gamma UCL (Use when n < 40)	0.162		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Nickel

General Statistics (Units in mg/kg)			
Number of Valid Observations	23	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	7.7	Minimum of Log Data	2.041
Maximum	94.4	Maximum of Log Data	4.548
Mean	19.78	Mean of log Data	2.77
Geometric Mean	15.96	SD of log Data	0.578
Median	14.6		
SD	18.65		
Std. Error of Mean	3.888		
Coefficient of Variation	0.943		
Skewness	3.308		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.564	Shapiro Wilk Test Statistic	0.838
Shapiro Wilk Critical Value	0.914	Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	26.46	95% H-UCL	24.25
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	29.02
95% Adjusted-CLT UCL (Chen-1995)	29.04	97.5% Chebyshev (MVUE) UCL	33.49
95% Modified-t UCL (Johnson-1978)	26.91	99% Chebyshev (MVUE) UCL	42.26
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.189	Data do not follow a Discernable Distribution (0.05)	
Theta Star	9.039		
MLE of Mean	19.78		
MLE of Standard Deviation	13.37		
nu star	100.7		
Approximate Chi Square Value (.05)	78.53	Nonparametric Statistics	
Adjusted Level of Significance	0.0389	95% CLT UCL	26.18
Adjusted Chi Square Value	77.11	95% Jackknife UCL	26.46
		95% Standard Bootstrap UCL	26
Anderson-Darling Test Statistic	2.048	95% Bootstrap-t UCL	35.5
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	48.7
Kolmogorov-Smirnov Test Statistic	0.278	95% Percentile Bootstrap UCL	27.21
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	29.78
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	36.73
		97.5% Chebyshev(Mean, Sd) UCL	44.06
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	58.47
95% Approximate Gamma UCL (Use when n >= 40)	25.36		
95% Adjusted Gamma UCL (Use when n < 40)	25.83		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	36.73

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	21	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.01	Minimum Detected	-4.605
Maximum Detected	17	Maximum Detected	2.833
Mean of Detected	2.119	Mean of Detected	-0.156
SD of Detected	3.466	SD of Detected	1.621
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.544	Shapiro Wilk Test Statistic	0.935
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.043	Mean	-0.212
SD	3.414	SD	1.612
95% DL/2 (t) UCL	3.211	95% H-Stat (DL/2) UCL	8.971
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.43	Mean in Log Scale	-0.24
SD	3.989	SD in Log Scale	1.642
95% MLE (t) UCL	2.795	Mean in Original Scale	2.039
95% MLE (Tiku) UCL	2.798	SD in Original Scale	3.417
		95% t UCL	3.208
		95% Percentile Bootstrap UCL	3.21
		95% BCA Bootstrap UCL	3.922
		95% H UCL	9.503
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.614	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.45		
nu star	29.48		
A-D Test Statistic	0.388	Nonparametric Statistics	
5% A-D Critical Value	0.79	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.79	Mean	2.039
5% K-S Critical Value	0.186	SD	3.347
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.684
		95% KM (t) UCL	3.209
Assuming Gamma Distribution		95% KM (z) UCL	3.164
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.208
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.071
Maximum	17	95% KM (BCA) UCL	3.263
Mean	2.034	95% KM (Percentile Bootstrap) UCL	3.307
Median	0.99	95% KM (Chebyshev) UCL	5.02
SD	3.419	97.5% KM (Chebyshev) UCL	6.31
k star	0.428	99% KM (Chebyshev) UCL	8.844
Theta star	4.753		
Nu star	21.4	Potential UCLs to Use	
AppChi2	11.89	95% KM (Chebyshev) UCL	5.02
95% Gamma Approximate UCL (Use when n >= 40)	3.662		
95% Adjusted Gamma UCL (Use when n < 40)	3.817		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	23
Number of Distinct Detected Data	21	Number of Non-Detect Data	2
		Percent Non-Detects	8.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.021	Minimum Detected	-3.863
Maximum Detected	15	Maximum Detected	2.708
Mean of Detected	3.735	Mean of Detected	0.764
SD of Detected	3.497	SD of Detected	1.405
Minimum Non-Detect	0.2	Minimum Non-Detect	-1.609
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	21
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	16.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.814	Shapiro Wilk Test Statistic	0.845
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.448	Mean	0.548
SD	3.492	SD	1.542
95% DL/2 (t) UCL	4.643	95% H-Stat (DL/2) UCL	15.86
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.128	Mean in Log Scale	0.565
SD	3.864	SD in Log Scale	1.513
95% MLE (t) UCL	4.45	Mean in Original Scale	3.45
95% MLE (Tiku) UCL	4.439	SD in Original Scale	3.49
		95% t UCL	4.645
		95% Percentile Bootstrap UCL	4.545
		95% BCA Bootstrap UCL	4.807
		95% H UCL	14.9
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.932	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4.009		
nu star	42.85		
A-D Test Statistic	0.422	Nonparametric Statistics	
5% A-D Critical Value	0.769	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.769	Mean	3.441
5% K-S Critical Value	0.187	SD	3.429
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.701
		95% KM (t) UCL	4.64
Assuming Gamma Distribution		95% KM (z) UCL	4.594
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.63
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.245
Maximum	15	95% KM (BCA) UCL	4.706
Mean	3.436	95% KM (Percentile Bootstrap) UCL	4.656
Median	2.7	95% KM (Chebyshev) UCL	6.497
SD	3.505	97.5% KM (Chebyshev) UCL	7.82
k star	0.38	99% KM (Chebyshev) UCL	10.42
Theta star	9.037		
Nu star	19.01	Potential UCLs to Use	
AppChi2	10.13	95% KM (Chebyshev) UCL	6.497
95% Gamma Approximate UCL (Use when n >= 40)	6.451		
95% Adjusted Gamma UCL (Use when n < 40)	6.745		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Silver

General Statistics (Units in mg/kg)

Number of Valid Data	25	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	20
		Percent Non-Detects	80.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.38	Minimum Detected	-0.968
Maximum Detected	2.3	Maximum Detected	0.833
Mean of Detected	1.09	Mean of Detected	-0.174
SD of Detected	0.861	SD of Detected	0.805
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.44	Maximum Non-Detect	-0.821

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	84.00%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.834	Shapiro Wilk Test Statistic	0.876
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.244	Mean	-5.284
SD	0.561	SD	3.295
95% DL/2 (t) UCL	0.436	95% H-Stat (DL/2) UCL	72.61

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.987
		SD in Log Scale	1.869
		Mean in Original Scale	0.256
		SD in Original Scale	0.554
		95% t UCL	0.445
		95% Percentile Bootstrap UCL	0.446
		95% BCA Bootstrap UCL	0.518
		95% H-UCL	1.217

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.963	Data appear Normal at 5% Significance Level
Theta Star	1.132	
nu star	9.626	

		Nonparametric Statistics	
A-D Test Statistic	0.477		
5% A-D Critical Value	0.684	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.684	Mean	0.522
5% K-S Critical Value	0.36	SD	0.446
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0998
		95% KM (t) UCL	0.693
Assuming Gamma Distribution		95% KM (z) UCL	0.686
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.655
Minimum	0.000001	95% KM (bootstrap t) UCL	1.168
Maximum	2.3	95% KM (BCA) UCL	1.748
Mean	0.218	95% KM (Percentile Bootstrap) UCL	0.824
Median	0.000001	95% KM (Chebyshev) UCL	0.957
SD	0.567	97.5% KM (Chebyshev) UCL	1.145
k star	0.103	99% KM (Chebyshev) UCL	1.515
Theta star	2.122		
Nu star	5.137	Potential UCLs to Use	
AppChi2	1.216	95% KM (t) UCL	0.693
95% Gamma Approximate UCL (Use when n >= 40)	0.921	95% KM (Percentile Bootstrap) UCL	0.824
95% Adjusted Gamma UCL (Use when n < 40)	1.025		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total LMW PAHs

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	24	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0136	Minimum Detected	-4.3
Maximum Detected	23.07	Maximum Detected	3.139
Mean of Detected	2.957	Mean of Detected	0.116
SD of Detected	4.983	SD of Detected	1.639
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.553	Shapiro Wilk Test Statistic	0.937
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.847	Mean	0.0494
SD	4.909	SD	1.639
95% DL/2 (t) UCL	4.527	95% H-Stat (DL/2) UCL	12.58
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.927	Mean in Log Scale	0.0312
SD	5.764	SD in Log Scale	1.66
95% MLE (t) UCL	3.9	Mean in Original Scale	2.844
95% MLE (Tiku) UCL	3.905	SD in Original Scale	4.911
		95% t UCL	4.525
		95% Percentile Bootstrap UCL	4.609
		95% BCA Bootstrap UCL	5.323
		95% H UCL	13.12
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.582	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	5.081		
nu star	27.94		
A-D Test Statistic	0.631	Nonparametric Statistics	
5% A-D Critical Value	0.794	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.794	Mean	2.845
5% K-S Critical Value	0.186	SD	4.811
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.983
		95% KM (t) UCL	4.527
Assuming Gamma Distribution		95% KM (z) UCL	4.462
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.525
Minimum	1.00E-06	95% KM (bootstrap t) UCL	7.71
Maximum	23.07	95% KM (BCA) UCL	4.814
Mean	2.839	95% KM (Percentile Bootstrap) UCL	4.587
Median	1.44	95% KM (Chebyshev) UCL	7.13
SD	4.914	97.5% KM (Chebyshev) UCL	8.984
k star	0.411	99% KM (Chebyshev) UCL	12.63
Theta star	6.902		
Nu star	20.57	Potential UCLs to Use	
AppChi2	11.27	95% KM (Chebyshev) UCL	7.13
95% Gamma Approximate UCL (Use when n >= 40)	5.181		
95% Adjusted Gamma UCL (Use when n < 40)	5.406		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total HMW PAHs

General Statistics (Units in mg/kg)			
Number of Valid Data	25	Number of Detected Data	24
Number of Distinct Detected Data	24	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.146	Minimum Detected	-1.927
Maximum Detected	100.7	Maximum Detected	4.612
Mean of Detected	19.22	Mean of Detected	2.29
SD of Detected	21.85	SD of Detected	1.452
Minimum Non-Detect	0.42	Minimum Non-Detect	-0.868
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.735	Shapiro Wilk Test Statistic	0.908
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	18.46	Mean	2.136
SD	21.73	SD	1.617
95% DL/2 (t) UCL	25.9	95% H-Stat (DL/2) UCL	95.18
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	17.43	Mean in Log Scale	2.176
SD	22.64	SD in Log Scale	1.532
95% MLE (t) UCL	25.18	Mean in Original Scale	18.47
95% MLE (Tiku) UCL	24.81	SD in Original Scale	21.72
		95% t UCL	25.91
		95% Percentile Bootstrap UCL	26.35
		95% BCA Bootstrap UCL	28.26
		95% H UCL	78.6
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.798	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	24.07		
nu star	38.32		
A-D Test Statistic	0.284	Nonparametric Statistics	
5% A-D Critical Value	0.777	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.777	Mean	18.46
5% K-S Critical Value	0.184	SD	21.29
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	4.35
		95% KM (t) UCL	25.9
Assuming Gamma Distribution		95% KM (z) UCL	25.61
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	25.88
Minimum	1.00E-06	95% KM (bootstrap t) UCL	30.08
Maximum	100.7	95% KM (BCA) UCL	26.7
Mean	18.45	95% KM (Percentile Bootstrap) UCL	25.6
Median	13.01	95% KM (Chebyshev) UCL	37.42
SD	21.74	97.5% KM (Chebyshev) UCL	45.62
k star	0.467	99% KM (Chebyshev) UCL	61.74
Theta star	39.51		
Nu star	23.35	Potential UCLs to Use	
AppChi2	13.36	95% KM (Chebyshev) UCL	37.42
95% Gamma Approximate UCL (Use when n >= 40)	32.26		
95% Adjusted Gamma UCL (Use when n < 40)	33.55		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc

General Statistics (Units in mg/kg)

Number of Valid Observations	25	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	24.65	Minimum of Log Data	3.205
Maximum	600	Maximum of Log Data	6.397
Mean	171.7	Mean of log Data	4.698
Geometric Mean	109.8	SD of log Data	0.924
Median	95.5		
SD	183.1		
Std. Error of Mean	36.62		
Coefficient of Variation	1.067		
Skewness	1.519		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.707	Shapiro Wilk Test Statistic	0.919
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	234.3	95% H-UCL	264.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	312.7
95% Adjusted-CLT UCL (Chen-1995)	243.8	97.5% Chebyshev (MVUE) UCL	376.9
95% Modified-t UCL (Johnson-1978)	236.2	99% Chebyshev (MVUE) UCL	503
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.134	Data appear Lognormal at 5% Significance Level	
Theta Star	151.3		
MLE of Mean	171.7		
MLE of Standard Deviation	161.2		
nu star	56.72		
Approximate Chi Square Value (.05)	40.41	Nonparametric Statistics	
Adjusted Level of Significance	0.0395	95% CLT UCL	231.9
Adjusted Chi Square Value	39.47	95% Jackknife UCL	234.3
		95% Standard Bootstrap UCL	230.8
Anderson-Darling Test Statistic	1.517	95% Bootstrap-t UCL	246
Anderson-Darling 5% Critical Value	0.767	95% Hall's Bootstrap UCL	230.3
Kolmogorov-Smirnov Test Statistic	0.217	95% Percentile Bootstrap UCL	238.2
Kolmogorov-Smirnov 5% Critical Value	0.179	95% BCA Bootstrap UCL	242.9
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	331.3
		97.5% Chebyshev(Mean, Sd) UCL	400.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	536.1
95% Approximate Gamma UCL (Use when n >= 40)	241		
95% Adjusted Gamma UCL (Use when n < 40)	246.7		
Potential UCL to Use		Use 95% H-UCL	264.6

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)			
Number of Valid Data	29	Number of Detected Data	25
Number of Distinct Detected Data	22	Number of Non-Detect Data	4
		Percent Non-Detects	13.79%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.03	Minimum Detected	-3.507
Maximum Detected	11	Maximum Detected	2.398
Mean of Detected	1.322	Mean of Detected	-1.215
SD of Detected	3.014	SD of Detected	1.61
Minimum Non-Detect	0.043	Minimum Non-Detect	-3.147
Maximum Non-Detect	0.15	Maximum Non-Detect	-1.897
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	15
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	48.28%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.453	Shapiro Wilk Test Statistic	0.927
5% Shapiro Wilk Critical Value	0.918	5% Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.145	Mean	-1.518
SD	2.826	SD	1.688
95% DL/2 (t) UCL	2.038	95% H-Stat (DL/2) UCL	2.721
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.544
		SD in Log Scale	1.721
		Mean in Original Scale	1.144
		SD in Original Scale	2.827
		95% t UCL	2.037
		95% Percentile Bootstrap UCL	2.054
		95% BCA Bootstrap UCL	2.401
		95% H-UCL	2.909
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.409	Data appear Lognormal at 5% Significance Level	
Theta Star	3.231		
nu star	20.46		
A-D Test Statistic	2.221	Nonparametric Statistics	
5% A-D Critical Value	0.822	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.822	Mean	1.146
5% K-S Critical Value	0.186	SD	2.777
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.526
		95% KM (t) UCL	2.042
Assuming Gamma Distribution		95% KM (z) UCL	2.012
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.039
Minimum	1.00E-06	95% KM (bootstrap t) UCL	4.207
Maximum	11	95% KM (BCA) UCL	2.032
Mean	1.14	95% KM (Percentile Bootstrap) UCL	2.063
Median	0.16	95% KM (Chebyshev) UCL	3.44
SD	2.829	97.5% KM (Chebyshev) UCL	4.433
k star	0.232	99% KM (Chebyshev) UCL	6.383
Theta star	4.916		
Nu star	13.45	Potential UCLs to Use	
AppChi2	6.195	99% KM (Chebyshev) UCL	6.383
95% Gamma Approximate UCL (Use when n >= 40)	2.474		
95% Adjusted Gamma UCL (Use when n < 40)	2.597		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total DDx

General Statistics (Units in mg/kg)			
Number of Valid Data	23	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	11
		Percent Non-Detects	47.83%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0018	Minimum Detected	-6.32
Maximum Detected	0.06	Maximum Detected	-2.813
Mean of Detected	0.0196	Mean of Detected	-4.316
SD of Detected	0.0164	SD of Detected	1.012
Minimum Non-Detect	0.0013	Minimum Non-Detect	-6.645
Maximum Non-Detect	0.0063	Maximum Non-Detect	-5.067
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	56.52%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.87	Shapiro Wilk Test Statistic	0.949
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.011	Mean	-5.413
SD	0.0148	SD	1.44
95% DL/2 (t) UCL	0.0163	95% H-Stat (DL/2) UCL	0.0331
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.00167	Mean in Log Scale	-5.49
SD	0.0241	SD in Log Scale	1.474
95% MLE (t) UCL	0.0103	Mean in Original Scale	0.0108
95% MLE (Tiku) UCL	0.0133	SD in Original Scale	0.0149
		95% t UCL	0.0162
		95% Percentile Bootstrap UCL	0.0162
		95% BCA Bootstrap UCL	0.0179
		95% H UCL	0.0335
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.142	Data appear Normal at 5% Significance Level	
Theta Star	0.0171		
nu star	27.42		
A-D Test Statistic	0.238	Nonparametric Statistics	
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	0.0111
5% K-S Critical Value	0.25	SD	0.0144
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00313
		95% KM (t) UCL	0.0165
Assuming Gamma Distribution		95% KM (z) UCL	0.0163
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.016
Minimum	0.000001	95% KM (bootstrap t) UCL	0.019
Maximum	0.06	95% KM (BCA) UCL	0.0186
Mean	0.0102	95% KM (Percentile Bootstrap) UCL	0.017
Median	0.0018	95% KM (Chebyshev) UCL	0.0248
SD	0.0153	97.5% KM (Chebyshev) UCL	0.0307
k star	0.182	99% KM (Chebyshev) UCL	0.0423
Theta star	0.0562		
Nu star	8.357	Potential UCLs to Use	
AppChi2	2.944	95% KM (t) UCL	0.0165
95% Gamma Approximate UCL (Use when n >= 40)	0.029	95% KM (Percentile Bootstrap) UCL	0.017
95% Adjusted Gamma UCL (Use when n < 40)	0.0315		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

2-Methylnaphthalene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	3
		Percent Non-Detects	27.27%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0095	Minimum Detected	-4.656
Maximum Detected	0.065	Maximum Detected	-2.733
Mean of Detected	0.0349	Mean of Detected	-3.569
SD of Detected	0.0214	SD of Detected	0.75
Minimum Non-Detect	0.0016	Minimum Non-Detect	-6.438
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.893	Shapiro Wilk Test Statistic	0.883
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.435	Mean	-3.098
SD	0.905	SD	2.291
95% DL/2 (t) UCL	0.929	95% H-Stat (DL/2) UCL	42.24

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.765
		SD in Log Scale	0.824
		Mean in Original Scale	0.0301
		SD in Original Scale	0.0203
		95% t UCL	0.0412
		95% Percentile Bootstrap UCL	0.0396
		95% BCA Bootstrap UCL	0.0406
		95% H-UCL	0.0654

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.632	Data appear Normal at 5% Significance Level	
Theta Star	0.0214		
nu star	26.11		

		Nonparametric Statistics	
A-D Test Statistic	0.478		
5% A-D Critical Value	0.723	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.723	Mean	0.0321
5% K-S Critical Value	0.297	SD	0.0205
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00732
		95% KM (t) UCL	0.0454
Assuming Gamma Distribution		95% KM (z) UCL	0.0441
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0454
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0465
Maximum	0.065	95% KM (BCA) UCL	0.0441
Mean	0.0311	95% KM (Percentile Bootstrap) UCL	0.0441
Median	0.0314	95% KM (Chebyshev) UCL	0.064
SD	0.0207	97.5% KM (Chebyshev) UCL	0.0778
k star	0.504	99% KM (Chebyshev) UCL	0.105
Theta star	0.0617		
Nu star	11.09	Potential UCLs to Use	
AppChi2	4.632	95% KM (t) UCL	0.0454
95% Gamma Approximate UCL (Use when n >= 40)	0.0745	95% KM (Percentile Bootstrap) UCL	0.0441
95% Adjusted Gamma UCL (Use when n < 40)	0.0868		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

3&4-Methylphenol

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	10
		Percent Non-Detects	90.91%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 3&4-Methylphenol was not processed!

Acetone

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	9
		Percent Non-Detects	81.82%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.3	Minimum Detected	0.833
Maximum Detected	3	Maximum Detected	1.099
Mean of Detected	2.65	Mean of Detected	0.966
SD of Detected	0.495	SD of Detected	0.188
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.02	Maximum Non-Detect	-3.912

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	81.82%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).
Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.486	Mean	-4.213
SD	1.081	SD	2.62
95% DL/2 (t) UCL	1.077	95% H-Stat (DL/2) UCL	107.7

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A	Kaplan-Meier (KM) Method	
5% A-D Critical Value	N/A	Mean	2.364
K-S Test Statistic	N/A	SD	0.201
5% K-S Critical Value	N/A	SE of Mean	0.0858
Data not Gamma Distributed at 5% Significance Level		95% KM (t) UCL	2.519
		95% KM (z) UCL	2.505
Assuming Gamma Distribution		95% KM (jackknife) UCL	2.847
Gamma ROS Statistics using Extrapolated Data		95% KM (bootstrap t) UCL	2.364
Minimum	N/A	95% KM (BCA) UCL	3
Maximum	N/A	95% KM (Percentile Bootstrap) UCL	3
Mean	N/A	95% KM (Chebyshev) UCL	2.738
Median	N/A	97.5% KM (Chebyshev) UCL	2.9
SD	N/A	99% KM (Chebyshev) UCL	3.217
k star	N/A		
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	2.519
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	3
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	4
		Percent Non-Detects	36.36%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.014	Minimum Detected	-4.269
Maximum Detected	0.13	Maximum Detected	-2.04
Mean of Detected	0.072	Mean of Detected	-2.833
SD of Detected	0.0419	SD of Detected	0.764
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.943	Shapiro Wilk Test Statistic	0.898
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.455	Mean	-2.795
SD	0.895	SD	2.33
95% DL/2 (t) UCL	0.945	95% H-Stat (DL/2) UCL	72.28

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.222
		SD in Log Scale	0.912
		Mean in Original Scale	0.055
		SD in Original Scale	0.0412
		95% t UCL	0.0775
		95% Percentile Bootstrap UCL	0.0749
		95% BCA Bootstrap UCL	0.0769
		95% H-UCL	0.137

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.598	Data appear Normal at 5% Significance Level
Theta Star	0.0451	
nu star	22.37	

		Nonparametric Statistics	
A-D Test Statistic	0.312		
5% A-D Critical Value	0.713	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.713	Mean	0.0591
5% K-S Critical Value	0.314	SD	0.0419
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0151
		95% KM (t) UCL	0.0864
Assuming Gamma Distribution		95% KM (z) UCL	0.0839
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0859
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0883
Maximum	0.13	95% KM (BCA) UCL	0.0898
Mean	0.0552	95% KM (Percentile Bootstrap) UCL	0.087
Median	0.0517	95% KM (Chebyshev) UCL	0.125
SD	0.0432	97.5% KM (Chebyshev) UCL	0.153
k star	0.311	99% KM (Chebyshev) UCL	0.209
Theta star	0.177		
Nu star	6.845	Potential UCLs to Use	
AppChi2	2.086	95% KM (t) UCL	0.0864
95% Gamma Approximate UCL (Use when n >= 40)	0.181	95% KM (Percentile Bootstrap) UCL	0.087
95% Adjusted Gamma UCL (Use when n < 40)	0.224		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	4
		Percent Non-Detects	36.36%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0026	Minimum Detected	-5.952
Maximum Detected	0.024	Maximum Detected	-3.73
Mean of Detected	0.0133	Mean of Detected	-4.577
SD of Detected	0.00867	SD of Detected	0.86
Minimum Non-Detect	0.0075	Minimum Non-Detect	-4.893
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.903	Shapiro Wilk Test Statistic	0.892
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.419	Mean	-3.684
SD	0.912	SD	2.338
95% DL/2 (t) UCL	0.917	95% H-Stat (DL/2) UCL	30.99

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.738
		SD in Log Scale	0.732
		Mean in Original Scale	0.011
		SD in Original Scale	0.00755
		95% t UCL	0.0151
		95% Percentile Bootstrap UCL	0.0147
		95% BCA Bootstrap UCL	0.015
		95% H-UCL	0.0205

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.279	Data appear Normal at 5% Significance Level	
Theta Star	0.0104		
nu star	17.91		

		Nonparametric Statistics	
A-D Test Statistic	0.372		
5% A-D Critical Value	0.715	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.715	Mean	0.0117
5% K-S Critical Value	0.315	SD	0.00807
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00301
		95% KM (t) UCL	0.0172
Assuming Gamma Distribution		95% KM (z) UCL	0.0167
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0172
Minimum	0.0026	95% KM (bootstrap t) UCL	0.0178
Maximum	0.024	95% KM (BCA) UCL	0.0166
Mean	0.0117	95% KM (Percentile Bootstrap) UCL	0.0166
Median	0.011	95% KM (Chebyshev) UCL	0.0248
SD	0.00747	97.5% KM (Chebyshev) UCL	0.0305
k star	1.715	99% KM (Chebyshev) UCL	0.0417
Theta star	0.00684		
Nu star	37.72	Potential UCLs to Use	
AppChi2	24.66	95% KM (t) UCL	0.0172
95% Gamma Approximate UCL (Use when n >= 40)	0.0179	95% KM (Percentile Bootstrap) UCL	0.0166
95% Adjusted Gamma UCL (Use when n < 40)	0.0193		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	2
		Percent Non-Detects	18.18%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.003	Minimum Detected	-5.809
Maximum Detected	0.3	Maximum Detected	-1.204
Mean of Detected	0.15	Mean of Detected	-2.508
SD of Detected	0.114	SD of Detected	1.546
Minimum Non-Detect	4	Minimum Non-Detect	1.386
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.916	Shapiro Wilk Test Statistic	0.83
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.532	Mean	-1.906
SD	0.863	SD	1.926
95% DL/2 (t) UCL	1.003	95% H-Stat (DL/2) UCL	19.81

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.508
		SD in Log Scale	1.383
		Mean in Original Scale	0.137
		SD in Original Scale	0.106
		95% t UCL	0.195
		95% Percentile Bootstrap UCL	0.187
		95% BCA Bootstrap UCL	0.19
		95% H-UCL	1.106

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.709	Data appear Normal at 5% Significance Level	
Theta Star	0.212		
nu star	12.75		

		Nonparametric Statistics	
A-D Test Statistic	0.495		
5% A-D Critical Value	0.745	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.745	Mean	0.15
5% K-S Critical Value	0.287	SD	0.108
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.038
		95% KM (t) UCL	0.219
Assuming Gamma Distribution		95% KM (z) UCL	0.212
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.22
Minimum	0.003	95% KM (bootstrap t) UCL	0.223
Maximum	0.3	95% KM (BCA) UCL	0.207
Mean	0.148	95% KM (Percentile Bootstrap) UCL	0.211
Median	0.137	95% KM (Chebyshev) UCL	0.316
SD	0.102	97.5% KM (Chebyshev) UCL	0.387
k star	0.889	99% KM (Chebyshev) UCL	0.528
Theta star	0.166		
Nu star	19.55	Potential UCLs to Use	
AppChi2	10.52	95% KM (t) UCL	0.219
95% Gamma Approximate UCL (Use when n >= 40)	0.274	95% KM (Percentile Bootstrap) UCL	0.211
95% Adjusted Gamma UCL (Use when n < 40)	0.305		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	0.69	Minimum of Log Data	-0.371
Maximum	13	Maximum of Log Data	2.565
Mean	4.399	Mean of log Data	1.132
Geometric Mean	3.101	SD of log Data	0.888
Median	3.8		
SD	4.007		
Std. Error of Mean	1.208		
Coefficient of Variation	0.911		
Skewness	1.51		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.791	Shapiro Wilk Test Statistic	0.964
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	6.589	95% H-UCL	10.05
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9.78
95% Adjusted-CLT UCL (Chen-1995)	6.974	97.5% Chebyshev (MVUE) UCL	12.11
95% Modified-t UCL (Johnson-1978)	6.68	99% Chebyshev (MVUE) UCL	16.69
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.206	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.646		
MLE of Mean	4.399		
MLE of Standard Deviation	4.005		
nu star	26.54		
Approximate Chi Square Value (.05)	15.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	6.386
Adjusted Chi Square Value	14.46	95% Jackknife UCL	6.589
		95% Standard Bootstrap UCL	6.293
Anderson-Darling Test Statistic	0.393	95% Bootstrap-t UCL	9.211
Anderson-Darling 5% Critical Value	0.742	95% Hall's Bootstrap UCL	19.06
Kolmogorov-Smirnov Test Statistic	0.181	95% Percentile Bootstrap UCL	6.409
Kolmogorov-Smirnov 5% Critical Value	0.26	95% BCA Bootstrap UCL	6.799
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9.665
		97.5% Chebyshev(Mean, Sd) UCL	11.94
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	16.42
95% Approximate Gamma UCL (Use when n >= 40)	7.391		
95% Adjusted Gamma UCL (Use when n < 40)	8.074		
Potential UCL to Use		Use 95% Approximate Gamma UCL	7.391

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	9	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.16	Minimum Detected	-1.833
Maximum Detected	3.4	Maximum Detected	1.224
Mean of Detected	1.688	Mean of Detected	0.197
SD of Detected	1.131	SD of Detected	0.998
Minimum Non-Detect	0.0017	Minimum Non-Detect	-6.377
Maximum Non-Detect	0.0017	Maximum Non-Detect	-6.377

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.938	Shapiro Wilk Test Statistic	0.878
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.535	Mean	-0.463
SD	1.188	SD	2.387
95% DL/2 (t) UCL	2.184	95% H-Stat (DL/2) UCL	1045

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.481	Mean in Log Scale	-0.0112
SD	1.225	SD in Log Scale	1.173
95% MLE (t) UCL	2.15	Mean in Original Scale	1.546
95% MLE (Tiku) UCL	2.15	SD in Original Scale	1.172
		95% t UCL	2.186
		95% Percentile Bootstrap UCL	2.109
		95% BCA Bootstrap UCL	2.126
		95% H UCL	6.791

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.243	Data appear Normal at 5% Significance Level
Theta Star	1.358	
nu star	24.86	

		Nonparametric Statistics	
A-D Test Statistic	0.352		
5% A-D Critical Value	0.738	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.738	Mean	1.549
5% K-S Critical Value	0.271	SD	1.113
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.354
		95% KM (t) UCL	2.19
Assuming Gamma Distribution		95% KM (z) UCL	2.131
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.184
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.261
Maximum	3.4	95% KM (BCA) UCL	2.138
Mean	1.535	95% KM (Percentile Bootstrap) UCL	2.133
Median	1.2	95% KM (Chebyshev) UCL	3.092
SD	1.188	97.5% KM (Chebyshev) UCL	3.759
k star	0.375	99% KM (Chebyshev) UCL	5.07
Theta star	4.095		
Nu star	8.245	Potential UCLs to Use	
AppChi2	2.878	95% KM (t) UCL	2.19
95% Gamma Approximate UCL (Use when n >= 40)	4.397	95% KM (Percentile Bootstrap) UCL	2.133
95% Adjusted Gamma UCL (Use when n < 40)	5.302		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.18	Minimum Detected	-1.715
Maximum Detected	3.5	Maximum Detected	1.253
Mean of Detected	1.851	Mean of Detected	0.291
SD of Detected	1.228	SD of Detected	0.998
Minimum Non-Detect	0.0017	Minimum Non-Detect	-6.377
Maximum Non-Detect	0.0017	Maximum Non-Detect	-6.377

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.909	Shapiro Wilk Test Statistic	0.86
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.683	Mean	-0.378
SD	1.292	SD	2.413
95% DL/2 (t) UCL	2.389	95% H-Stat (DL/2) UCL	1334

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.624	Mean in Log Scale	0.0846
SD	1.333	SD in Log Scale	1.169
95% MLE (t) UCL	2.353	Mean in Original Scale	1.695
95% MLE (Tiku) UCL	2.353	SD in Original Scale	1.275
		95% t UCL	2.392
		95% Percentile Bootstrap UCL	2.321
		95% BCA Bootstrap UCL	2.315
		95% H UCL	7.393

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.249	Data appear Normal at 5% Significance Level
Theta Star	1.482	
nu star	24.97	

A-D Test Statistic	0.422	Nonparametric Statistics	
5% A-D Critical Value	0.738	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.738	Mean	1.699
5% K-S Critical Value	0.271	SD	1.21
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.385
		95% KM (t) UCL	2.396
Assuming Gamma Distribution		95% KM (z) UCL	2.332
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.389
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.486
Maximum	3.5	95% KM (BCA) UCL	2.412
Mean	1.683	95% KM (Percentile Bootstrap) UCL	2.362
Median	1.5	95% KM (Chebyshev) UCL	3.376
SD	1.292	97.5% KM (Chebyshev) UCL	4.102
k star	0.374	99% KM (Chebyshev) UCL	5.527
Theta star	4.505		
Nu star	8.218	Potential UCLs to Use	
AppChi2	2.862	95% KM (t) UCL	2.396
95% Gamma Approximate UCL (Use when n >= 40)	4.832	95% KM (Percentile Bootstrap) UCL	2.362
95% Adjusted Gamma UCL (Use when n < 40)	5.83		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	2
		Percent Non-Detects	18.18%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.2	Minimum Detected	-1.609
Maximum Detected	2.4	Maximum Detected	0.875
Mean of Detected	1.272	Mean of Detected	-0.1
SD of Detected	0.88	SD of Detected	0.993
Minimum Non-Detect	0.0024	Minimum Non-Detect	-6.032
Maximum Non-Detect	0.11	Maximum Non-Detect	-2.207

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	2
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	9
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	18.18%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.893	Shapiro Wilk Test Statistic	0.853
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.046	Mean	-0.957
SD	0.935	SD	2.27
95% DL/2 (t) UCL	1.557	95% H-Stat (DL/2) UCL	319.8

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.956	Mean in Log Scale	-0.507
SD	1.028	SD in Log Scale	1.269
95% MLE (t) UCL	1.518	Mean in Original Scale	1.058
95% MLE (Tiku) UCL	1.527	SD in Original Scale	0.92
		95% t UCL	1.561
		95% Percentile Bootstrap UCL	1.499
		95% BCA Bootstrap UCL	1.553
		95% H UCL	5.572

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.15	Data appear Normal at 5% Significance Level
Theta Star	1.106	
nu star	20.7	

		Nonparametric Statistics	
A-D Test Statistic	0.493		
5% A-D Critical Value	0.733	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.733	Mean	1.077
5% K-S Critical Value	0.284	SD	0.857
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.274
		95% KM (t) UCL	1.574
Assuming Gamma Distribution		95% KM (z) UCL	1.528
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.568
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.572
Maximum	2.4	95% KM (BCA) UCL	1.56
Mean	1.041	95% KM (Percentile Bootstrap) UCL	1.542
Median	0.89	95% KM (Chebyshev) UCL	2.272
SD	0.941	97.5% KM (Chebyshev) UCL	2.789
k star	0.255	99% KM (Chebyshev) UCL	3.805
Theta star	4.087		
Nu star	5.603	Potential UCLs to Use	
AppChi2	1.44	95% KM (t) UCL	1.574
95% Gamma Approximate UCL (Use when n >= 40)	4.049	95% KM (Percentile Bootstrap) UCL	1.542
95% Adjusted Gamma UCL (Use when n < 40)	5.177		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	8	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.14	Minimum Detected	-1.966
Maximum Detected	4.5	Maximum Detected	1.504
Mean of Detected	1.783	Mean of Detected	0.15
SD of Detected	1.45	SD of Detected	1.128
Minimum Non-Detect	0.0029	Minimum Non-Detect	-5.843
Maximum Non-Detect	0.0029	Maximum Non-Detect	-5.843

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.913	Shapiro Wilk Test Statistic	0.911
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.621	Mean	-0.458
SD	1.477	SD	2.283
95% DL/2 (t) UCL	2.428	95% H-Stat (DL/2) UCL	564.9

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.549	Mean in Log Scale	-0.0918
SD	1.52	SD in Log Scale	1.338
95% MLE (t) UCL	2.38	Mean in Original Scale	1.628
95% MLE (Tiku) UCL	2.366	SD in Original Scale	1.468
		95% t UCL	2.431
		95% Percentile Bootstrap UCL	2.345
		95% BCA Bootstrap UCL	2.388
		95% H UCL	10.6

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.983	Data appear Normal at 5% Significance Level
Theta Star	1.814	
nu star	19.66	

A-D Test Statistic	0.253	Nonparametric Statistics	
5% A-D Critical Value	0.743	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.743	Mean	1.634
5% K-S Critical Value	0.272	SD	1.394
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.443
		95% KM (t) UCL	2.437
Assuming Gamma Distribution		95% KM (z) UCL	2.363
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.43
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.711
Maximum	4.5	95% KM (BCA) UCL	2.412
Mean	1.621	95% KM (Percentile Bootstrap) UCL	2.371
Median	1.3	95% KM (Chebyshev) UCL	3.565
SD	1.477	97.5% KM (Chebyshev) UCL	4.401
k star	0.358	99% KM (Chebyshev) UCL	6.043
Theta star	4.526		
Nu star	7.879	Potential UCLs to Use	
AppChi2	2.665	95% KM (t) UCL	2.437
95% Gamma Approximate UCL (Use when n >= 40)	4.792	95% KM (Percentile Bootstrap) UCL	2.371
95% Adjusted Gamma UCL (Use when n < 40)	5.813		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

alpha-BHC

General Statistics (Units in mg/kg)			
Number of Valid Data	11	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	7
		Percent Non-Detects	63.64%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0046	Minimum Detected	-5.382
Maximum Detected	0.0073	Maximum Detected	-4.92
Mean of Detected	0.006	Mean of Detected	-5.129
SD of Detected	0.0011	SD of Detected	0.19
Minimum Non-Detect	4.50E-04	Minimum Non-Detect	-7.706
Maximum Non-Detect	0.024	Maximum Non-Detect	-3.73
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.958	Shapiro Wilk Test Statistic	0.943
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00434	Mean	-6.338
SD	0.0043	SD	1.666
95% DL/2 (t) UCL	0.00669	95% H-Stat (DL/2) UCL	0.0717
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.463
		SD in Log Scale	0.299
		Mean in Original Scale	0.00443
		SD in Original Scale	0.00143
		95% t UCL	0.00521
		95% Percentile Bootstrap UCL	0.00512
		95% BCA Bootstrap UCL	0.00528
		95% H-UCL	0.00534
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	9.632	Data appear Normal at 5% Significance Level	
Theta Star	6.23E-04		
nu star	77.05		
A-D Test Statistic	0.311	Nonparametric Statistics	
5% A-D Critical Value	0.656	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.656	Mean	0.00522
5% K-S Critical Value	0.394	SD	9.44E-04
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	3.63E-04
		95% KM (t) UCL	0.00588
Assuming Gamma Distribution		95% KM (z) UCL	0.00582
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00612
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.00569
Maximum	0.0073	95% KM (BCA) UCL	0.00661
Mean	0.00275	95% KM (Percentile Bootstrap) UCL	0.0064
Median	0.00312	95% KM (Chebyshev) UCL	0.00681
SD	0.0029	97.5% KM (Chebyshev) UCL	0.00749
k star	0.221	99% KM (Chebyshev) UCL	0.00884
Theta star	0.0125		
Nu star	4.851	Potential UCLs to Use	
AppChi2	1.084	95% KM (t) UCL	0.00588
95% Gamma Approximate UCL (Use when n >= 40)	0.0123	95% KM (Percentile Bootstrap) UCL	0.0064
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

beta-BHC

General Statistics (Units in mg/kg)

Number of Valid Data	10	Number of Detected Data	6
Number of Distinct Detected Data	5	Number of Non-Detect Data	4
		Percent Non-Detects	40.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0077	Minimum Detected	-4.867
Maximum Detected	0.023	Maximum Detected	-3.772
Mean of Detected	0.0143	Mean of Detected	-4.325
SD of Detected	0.00602	SD of Detected	0.43
Minimum Non-Detect	7.30E-04	Minimum Non-Detect	-7.222
Maximum Non-Detect	0.024	Maximum Non-Detect	-3.73

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.917	Shapiro Wilk Test Statistic	0.927
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0108	Mean	-5.077
SD	0.00725	SD	1.522
95% DL/2 (t) UCL	0.015	95% H-Stat (DL/2) UCL	0.173

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.566
		SD in Log Scale	0.493
		Mean in Original Scale	0.0116
		SD in Original Scale	0.00587
		95% t UCL	0.015
		95% Percentile Bootstrap UCL	0.0147
		95% BCA Bootstrap UCL	0.0151
		95% H-UCL	0.0169

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	3.484	Data appear Normal at 5% Significance Level
Theta Star	0.0041	
nu star	41.81	

		Nonparametric Statistics	
A-D Test Statistic	0.349		
5% A-D Critical Value	0.698	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.698	Mean	0.0125
5% K-S Critical Value	0.333	SD	0.00543
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00206
		95% KM (t) UCL	0.0162
Assuming Gamma Distribution		95% KM (z) UCL	0.0159
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0161
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0167
Maximum	0.023	95% KM (BCA) UCL	0.0174
Mean	0.0106	95% KM (Percentile Bootstrap) UCL	0.0164
Median	0.01	95% KM (Chebyshev) UCL	0.0214
SD	0.00737	97.5% KM (Chebyshev) UCL	0.0253
k star	0.335	99% KM (Chebyshev) UCL	0.033
Theta star	0.0316		
Nu star	6.696	Potential UCLs to Use	
AppChi2	2.005	95% KM (t) UCL	0.0162
95% Gamma Approximate UCL (Use when n >= 40)	0.0353	95% KM (Percentile Bootstrap) UCL	0.0164
95% Adjusted Gamma UCL (Use when n < 40)	0.0445		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bis(2-ethylhexyl)phthalate

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	0.15	Minimum of Log Data	-1.897
Maximum	47	Maximum of Log Data	3.85
Mean	17.42	Mean of log Data	2.159
Geometric Mean	8.664	SD of log Data	1.687
Median	18		
SD	14.97		
Std. Error of Mean	4.515		
Coefficient of Variation	0.859		
Skewness	0.753		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.929	Shapiro Wilk Test Statistic	0.85
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25.61	95% H-UCL	384.4
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	95.28
95% Adjusted-CLT UCL (Chen-1995)	25.94	97.5% Chebyshev (MVUE) UCL	124.3
95% Modified-t UCL (Johnson-1978)	25.78	99% Chebyshev (MVUE) UCL	181.3
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.674	Data appear Normal at 5% Significance Level	
Theta Star	25.84		
MLE of Mean	17.42		
MLE of Standard Deviation	21.22		
nu star	14.83		
Approximate Chi Square Value (.05)	7.145	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	24.85
Adjusted Chi Square Value	6.294	95% Jackknife UCL	25.61
		95% Standard Bootstrap UCL	24.58
Anderson-Darling Test Statistic	0.316	95% Bootstrap-t UCL	27.66
Anderson-Darling 5% Critical Value	0.758	95% Hall's Bootstrap UCL	26.66
Kolmogorov-Smirnov Test Statistic	0.2	95% Percentile Bootstrap UCL	24.5
Kolmogorov-Smirnov 5% Critical Value	0.264	95% BCA Bootstrap UCL	25.53
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	37.1
		97.5% Chebyshev(Mean, Sd) UCL	45.62
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	62.35
95% Approximate Gamma UCL (Use when n >= 40)	36.17		
95% Adjusted Gamma UCL (Use when n < 40)	41.05		
Potential UCL to Use		Use 95% Student's-t UCL	25.61

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	1.4	Minimum of Log Data	0.336
Maximum	68	Maximum of Log Data	4.22
Mean	15.53	Mean of log Data	2.198
Geometric Mean	9.008	SD of log Data	1.16
Median	14.8		
SD	18.5		
Std. Error of Mean	5.577		
Coefficient of Variation	1.191		
Skewness	2.625		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.648	Shapiro Wilk Test Statistic	0.901
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25.64	95% H-UCL	59.52
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	42.45
95% Adjusted-CLT UCL (Chen-1995)	29.42	97.5% Chebyshev (MVUE) UCL	53.83
95% Modified-t UCL (Johnson-1978)	26.37	99% Chebyshev (MVUE) UCL	76.19
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.827	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	18.78		
MLE of Mean	15.53		
MLE of Standard Deviation	17.07		
nu star	18.19		
Approximate Chi Square Value (.05)	9.531	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	24.7
Adjusted Chi Square Value	8.527	95% Jackknife UCL	25.64
		95% Standard Bootstrap UCL	24.52
Anderson-Darling Test Statistic	0.62	95% Bootstrap-t UCL	36.66
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	61.97
Kolmogorov-Smirnov Test Statistic	0.246	95% Percentile Bootstrap UCL	25.61
Kolmogorov-Smirnov 5% Critical Value	0.262	95% BCA Bootstrap UCL	28.17
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	39.84
		97.5% Chebyshev(Mean, Sd) UCL	50.36
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	71.02
95% Approximate Gamma UCL (Use when n >= 40)	29.64		
95% Adjusted Gamma UCL (Use when n < 40)	33.13		
Potential UCL to Use		Use 95% Approximate Gamma UCL	29.64

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total Chlordane

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	2
		Percent Non-Detects	18.18%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0057	Minimum Detected	-5.167
Maximum Detected	0.065	Maximum Detected	-2.733
Mean of Detected	0.0309	Mean of Detected	-3.782
SD of Detected	0.0229	SD of Detected	0.894
Minimum Non-Detect	0.2	Minimum Non-Detect	-1.609
Maximum Non-Detect	0.24	Maximum Non-Detect	-1.427

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.877	Shapiro Wilk Test Statistic	0.919
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0453	Mean	-3.497
SD	0.0383	SD	1.022
95% DL/2 (t) UCL	0.0662	95% H-Stat (DL/2) UCL	0.136

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.782
		SD in Log Scale	0.799
		Mean in Original Scale	0.0295
		SD in Original Scale	0.0208
		95% t UCL	0.0408
		95% Percentile Bootstrap UCL	0.0395
		95% BCA Bootstrap UCL	0.0408
		95% H-UCL	0.0609

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.26	Data appear Normal at 5% Significance Level	
Theta Star	0.0246		
nu star	22.69		

		Nonparametric Statistics	
A-D Test Statistic	0.319		
5% A-D Critical Value	0.732	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.732	Mean	0.0309
5% K-S Critical Value	0.283	SD	0.0216
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00765
		95% KM (t) UCL	0.0448
Assuming Gamma Distribution		95% KM (z) UCL	0.0435
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.045
Minimum	0.0057	95% KM (bootstrap t) UCL	0.0491
Maximum	0.065	95% KM (BCA) UCL	0.0436
Mean	0.0311	95% KM (Percentile Bootstrap) UCL	0.0428
Median	0.028	95% KM (Chebyshev) UCL	0.0643
SD	0.0205	97.5% KM (Chebyshev) UCL	0.0787
k star	1.62	99% KM (Chebyshev) UCL	0.107
Theta star	0.0192		
Nu star	35.65	Potential UCLs to Use	
AppChi2	22.98	95% KM (t) UCL	0.0448
95% Gamma Approximate UCL (Use when n >= 40)	0.0482	95% KM (Percentile Bootstrap) UCL	0.0428
95% Adjusted Gamma UCL (Use when n < 40)	0.0519		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	9.6	Minimum of Log Data	2.262
Maximum	78	Maximum of Log Data	4.357
Mean	35.14	Mean of log Data	3.335
Geometric Mean	28.09	SD of log Data	0.73
Median	39.5		
SD	23.13		
Std. Error of Mean	6.975		
Coefficient of Variation	0.658		
Skewness	0.66		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.898	Shapiro Wilk Test Statistic	0.922
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	47.78	95% H-UCL	65.56
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	71.18
95% Adjusted-CLT UCL (Chen-1995)	48.09	97.5% Chebyshev (MVUE) UCL	86.56
95% Modified-t UCL (Johnson-1978)	48.01	99% Chebyshev (MVUE) UCL	116.8
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.797	Data appear Normal at 5% Significance Level	
Theta Star	19.56		
MLE of Mean	35.14		
MLE of Standard Deviation	26.21		
nu star	39.52		
Approximate Chi Square Value (.05)	26.12	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	46.61
Adjusted Chi Square Value	24.36	95% Jackknife UCL	47.78
		95% Standard Bootstrap UCL	45.88
Anderson-Darling Test Statistic	0.419	95% Bootstrap-t UCL	50
Anderson-Darling 5% Critical Value	0.737	95% Hall's Bootstrap UCL	50.52
Kolmogorov-Smirnov Test Statistic	0.201	95% Percentile Bootstrap UCL	46.29
Kolmogorov-Smirnov 5% Critical Value	0.258	95% BCA Bootstrap UCL	47.43
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	65.54
		97.5% Chebyshev(Mean, Sd) UCL	78.69
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	104.5
95% Approximate Gamma UCL (Use when n >= 40)	53.16		
95% Adjusted Gamma UCL (Use when n < 40)	57.01		
Potential UCL to Use		Use 95% Student's-t UCL	47.78

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	9	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.25	Minimum Detected	-1.386
Maximum Detected	4	Maximum Detected	1.386
Mean of Detected	2.167	Mean of Detected	0.478
SD of Detected	1.388	SD of Detected	0.941
Minimum Non-Detect	0.0015	Minimum Non-Detect	-6.502
Maximum Non-Detect	0.0015	Maximum Non-Detect	-6.502

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.914	Shapiro Wilk Test Statistic	0.861
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.97	Mean	-0.219
SD	1.47	SD	2.48
95% DL/2 (t) UCL	2.773	95% H-Stat (DL/2) UCL	2368

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.904	Mean in Log Scale	0.283
SD	1.518	SD in Log Scale	1.103
95% MLE (t) UCL	2.734	Mean in Original Scale	1.987
95% MLE (Tiku) UCL	2.736	SD in Original Scale	1.446
		95% t UCL	2.777
		95% Percentile Bootstrap UCL	2.647
		95% BCA Bootstrap UCL	2.743
		95% H UCL	7.45

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.357	Data appear Normal at 5% Significance Level
Theta Star	1.596	
nu star	27.15	

		Nonparametric Statistics	
A-D Test Statistic	0.421		
5% A-D Critical Value	0.737	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.737	Mean	1.993
5% K-S Critical Value	0.27	SD	1.371
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.436
		95% KM (t) UCL	2.783
Assuming Gamma Distribution		95% KM (z) UCL	2.71
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.775
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.817
Maximum	4	95% KM (BCA) UCL	2.784
Mean	1.97	95% KM (Percentile Bootstrap) UCL	2.74
Median	1.6	95% KM (Chebyshev) UCL	3.892
SD	1.47	97.5% KM (Chebyshev) UCL	4.714
k star	0.376	99% KM (Chebyshev) UCL	6.329
Theta star	5.243		
Nu star	8.267	Potential UCLs to Use	
AppChi2	2.89	95% KM (t) UCL	2.783
95% Gamma Approximate UCL (Use when n >= 40)	5.634	95% KM (Percentile Bootstrap) UCL	2.74
95% Adjusted Gamma UCL (Use when n < 40)	6.792		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	5.3	Minimum of Log Data	1.668
Maximum	220	Maximum of Log Data	5.394
Mean	69.17	Mean of log Data	3.74
Geometric Mean	42.1	SD of log Data	1.163
Median	72.6		
SD	64.89		
Std. Error of Mean	19.57		
Coefficient of Variation	0.938		
Skewness	1.357		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.858	Shapiro Wilk Test Statistic	0.944
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	104.6	95% H-UCL	281
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	199.4
95% Adjusted-CLT UCL (Chen-1995)	109.9	97.5% Chebyshev (MVUE) UCL	252.9
95% Modified-t UCL (Johnson-1978)	106	99% Chebyshev (MVUE) UCL	358.1
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.893	Data appear Normal at 5% Significance Level	
Theta Star	77.45		
MLE of Mean	69.17		
MLE of Standard Deviation	73.19		
nu star	19.65		
Approximate Chi Square Value (.05)	10.59	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	101.4
Adjusted Chi Square Value	9.526	95% Jackknife UCL	104.6
		95% Standard Bootstrap UCL	99.92
Anderson-Darling Test Statistic	0.288	95% Bootstrap-t UCL	116.8
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	199.9
Kolmogorov-Smirnov Test Statistic	0.188	95% Percentile Bootstrap UCL	100.9
Kolmogorov-Smirnov 5% Critical Value	0.262	95% BCA Bootstrap UCL	105.4
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	154.5
		97.5% Chebyshev(Mean, Sd) UCL	191.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	263.8
95% Approximate Gamma UCL (Use when n >= 40)	128.3		
95% Adjusted Gamma UCL (Use when n < 40)	142.7		
Potential UCL to Use		Use 95% Student's-t UCL	104.6

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cyanide

General Statistics (Units in mg/kg)

Number of Valid Data	9	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	4
		Percent Non-Detects	44.44%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.85	Minimum Detected	-0.163
Maximum Detected	2.7	Maximum Detected	0.993
Mean of Detected	1.71	Mean of Detected	0.454
SD of Detected	0.747	SD of Detected	0.463
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.969	Shapiro Wilk Test Statistic	0.976
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.951	Mean	-2.51
SD	1.044	SD	3.53
95% DL/2 (t) UCL	1.598	95% H-Stat (DL/2) UCL	8141419

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.717	Mean in Log Scale	-0.157
SD	0.668	SD in Log Scale	0.831
95% MLE (t) UCL	2.131	Mean in Original Scale	1.137
95% MLE (Tiku) UCL	2.272	SD in Original Scale	0.866
		95% t UCL	1.674
		95% Percentile Bootstrap UCL	1.616
		95% BCA Bootstrap UCL	1.646
		95% H UCL	2.811

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.631	Data appear Normal at 5% Significance Level
Theta Star	0.65	
nu star	26.31	

		Nonparametric Statistics	
A-D Test Statistic	0.196		
5% A-D Critical Value	0.68	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.68	Mean	1.328
5% K-S Critical Value	0.358	SD	0.656
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.245
		95% KM (t) UCL	1.783
Assuming Gamma Distribution		95% KM (z) UCL	1.73
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.75
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.783
Maximum	2.7	95% KM (BCA) UCL	2.256
Mean	0.95	95% KM (Percentile Bootstrap) UCL	1.911
Median	0.85	95% KM (Chebyshev) UCL	2.394
SD	1.045	97.5% KM (Chebyshev) UCL	2.855
k star	0.163	99% KM (Chebyshev) UCL	3.761
Theta star	5.817		
Nu star	2.939	Potential UCLs to Use	
AppChi2	0.355	95% KM (t) UCL	1.783
95% Gamma Approximate UCL (Use when n >= 40)	7.873	95% KM (Percentile Bootstrap) UCL	1.911
95% Adjusted Gamma UCL (Use when n < 40)	12.49		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	11	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	3
		Percent Non-Detects	27.27%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.048	Minimum Detected	-3.037
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.435	Mean of Detected	-1.306
SD of Detected	0.379	SD of Detected	1.158
Minimum Non-Detect	0.0024	Minimum Non-Detect	-6.032
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.845	Shapiro Wilk Test Statistic	0.889
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.725	Mean	-1.415
SD	0.835	SD	2.181
95% DL/2 (t) UCL	1.182	95% H-Stat (DL/2) UCL	122
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.608
		SD in Log Scale	1.273
		Mean in Original Scale	0.355
		SD in Original Scale	0.349
		95% t UCL	0.546
		95% Percentile Bootstrap UCL	0.53
		95% BCA Bootstrap UCL	0.56
		95% H-UCL	1.88
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.83	Data appear Normal at 5% Significance Level	
Theta Star	0.524		
nu star	13.28		
A-D Test Statistic	0.446	Nonparametric Statistics	
5% A-D Critical Value	0.733	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.733	Mean	0.392
5% K-S Critical Value	0.3	SD	0.356
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.127
		95% KM (t) UCL	0.622
Assuming Gamma Distribution		95% KM (z) UCL	0.6
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.622
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.693
Maximum	1	95% KM (BCA) UCL	0.613
Mean	0.377	95% KM (Percentile Bootstrap) UCL	0.611
Median	0.27	95% KM (Chebyshev) UCL	0.945
SD	0.343	97.5% KM (Chebyshev) UCL	1.184
k star	0.389	99% KM (Chebyshev) UCL	1.653
Theta star	0.97		
Nu star	8.556	Potential UCLs to Use	
AppChi2	3.061	95% KM (t) UCL	0.622
95% Gamma Approximate UCL (Use when n >= 40)	1.054	95% KM (Percentile Bootstrap) UCL	0.611
95% Adjusted Gamma UCL (Use when n < 40)	1.266		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

alpha-Endosulfan

General Statistics (Units in mg/kg)

Number of Valid Data	9	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	8
		Percent Non-Detects	88.89%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Endosulfan I was not processed!

Endrin

General Statistics (Units in mg/kg)

Number of Valid Data	10	Number of Detected Data	6
Number of Distinct Detected Data	5	Number of Non-Detect Data	4
		Percent Non-Detects	40.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0094	Minimum Detected	-4.667
Maximum Detected	0.039	Maximum Detected	-3.244
Mean of Detected	0.0255	Mean of Detected	-3.83
SD of Detected	0.0138	SD of Detected	0.666
Minimum Non-Detect	9.10E-04	Minimum Non-Detect	-7.002
Maximum Non-Detect	0.048	Maximum Non-Detect	-3.037

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.838	Shapiro Wilk Test Statistic	0.809
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0198	Mean	-4.597
SD	0.0146	SD	1.697
95% DL/2 (t) UCL	0.0283	95% H-Stat (DL/2) UCL	0.596

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.217
		SD in Log Scale	0.807
		Mean in Original Scale	0.0192
		SD in Original Scale	0.0136
		95% t UCL	0.0271
		95% Percentile Bootstrap UCL	0.0258
		95% BCA Bootstrap UCL	0.0263
		95% H-UCL	0.0425

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.732	Data appear Normal at 5% Significance Level
Theta Star	0.0147	
nu star	20.79	

		Nonparametric Statistics	
A-D Test Statistic	0.582		
5% A-D Critical Value	0.701	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.701	Mean	0.0215
5% K-S Critical Value	0.334	SD	0.013
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00502
		95% KM (t) UCL	0.0307
Assuming Gamma Distribution		95% KM (z) UCL	0.0298
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0306
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0318
Maximum	0.039	95% KM (BCA) UCL	0.0335
Mean	0.0188	95% KM (Percentile Bootstrap) UCL	0.0308
Median	0.0176	95% KM (Chebyshev) UCL	0.0434
SD	0.0147	97.5% KM (Chebyshev) UCL	0.0529
k star	0.314	99% KM (Chebyshev) UCL	0.0715
Theta star	0.06		
Nu star	6.287	Potential UCLs to Use	
AppChi2	1.788	95% KM (t) UCL	0.0307
95% Gamma Approximate UCL (Use when n >= 40)	0.0663	95% KM (Percentile Bootstrap) UCL	0.0308
95% Adjusted Gamma UCL (Use when n < 40)	0.0844		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin ketone

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	10
		Percent Non-Detects	0.9091

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Endrin ketone was not processed!

Fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.35	Minimum Detected	-1.05
Maximum Detected	6.5	Maximum Detected	1.872
Mean of Detected	2.792	Mean of Detected	0.653
SD of Detected	2.138	SD of Detected	1.031
Minimum Non-Detect	0.0022	Minimum Non-Detect	-6.119
Maximum Non-Detect	0.0022	Maximum Non-Detect	-6.119

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.913	Shapiro Wilk Test Statistic	0.899
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.538	Mean	-0.026
SD	2.196	SD	2.454
95% DL/2 (t) UCL	3.738	95% H-Stat (DL/2) UCL	2445

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.433	Mean in Log Scale	0.431
SD	2.261	SD in Log Scale	1.225
95% MLE (t) UCL	3.669	Mean in Original Scale	2.553
95% MLE (Tiku) UCL	3.655	SD in Original Scale	2.177
		95% t UCL	3.743
		95% Percentile Bootstrap UCL	3.647
		95% BCA Bootstrap UCL	3.704
		95% H UCL	12.38

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.103	Data appear Normal at 5% Significance Level
Theta Star	2.53	
nu star	22.07	

		Nonparametric Statistics	
A-D Test Statistic	0.301		
5% A-D Critical Value	0.74	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.74	Mean	2.57
5% K-S Critical Value	0.271	SD	2.057
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.654
		95% KM (t) UCL	3.755
Assuming Gamma Distribution		95% KM (z) UCL	3.645
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.748
Minimum	1.00E-06	95% KM (bootstrap t) UCL	4.086
Maximum	6.5	95% KM (BCA) UCL	3.759
Mean	2.538	95% KM (Percentile Bootstrap) UCL	3.664
Median	2.3	95% KM (Chebyshev) UCL	5.42
SD	2.196	97.5% KM (Chebyshev) UCL	6.653
k star	0.36	99% KM (Chebyshev) UCL	9.075
Theta star	7.06		
Nu star	7.909	Potential UCLs to Use	
AppChi2	2.683	95% KM (t) UCL	3.755
95% Gamma Approximate UCL (Use when n >= 40)	7.483	95% KM (Percentile Bootstrap) UCL	3.664
95% Adjusted Gamma UCL (Use when n < 40)	9.074		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluorene

General Statistics (Units in mg/kg)			
Number of Valid Data	11	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	3
		Percent Non-Detects	27.27%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.014	Minimum Detected	-4.269
Maximum Detected	0.21	Maximum Detected	-1.561
Mean of Detected	0.108	Mean of Detected	-2.507
SD of Detected	0.0699	SD of Detected	0.92
Minimum Non-Detect	0.0016	Minimum Non-Detect	-6.438
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.952	Shapiro Wilk Test Statistic	0.899
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.488	Mean	-2.325
SD	0.881	SD	2.212
95% DL/2 (t) UCL	0.969	95% H-Stat (DL/2) UCL	58.21
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.743
		SD in Log Scale	1.003
		Mean in Original Scale	0.0913
		SD in Original Scale	0.0667
		95% t UCL	0.128
		95% Percentile Bootstrap UCL	0.122
		95% BCA Bootstrap UCL	0.125
		95% H-UCL	0.276
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.286	Data appear Normal at 5% Significance Level	
Theta Star	0.084		
nu star	20.58		
A-D Test Statistic	0.288	Nonparametric Statistics	
5% A-D Critical Value	0.725	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.725	Mean	0.0976
5% K-S Critical Value	0.298	SD	0.0684
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0244
		95% KM (t) UCL	0.142
Assuming Gamma Distribution		95% KM (z) UCL	0.138
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.141
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.15
Maximum	0.21	95% KM (BCA) UCL	0.144
Mean	0.0957	95% KM (Percentile Bootstrap) UCL	0.141
Median	0.0943	95% KM (Chebyshev) UCL	0.204
SD	0.0668	97.5% KM (Chebyshev) UCL	0.25
k star	0.453	99% KM (Chebyshev) UCL	0.34
Theta star	0.211		
Nu star	9.975	Potential UCLs to Use	
AppChi2	3.926	95% KM (t) UCL	0.142
95% Gamma Approximate UCL (Use when n >= 40)	0.243	95% KM (Percentile Bootstrap) UCL	0.141
95% Adjusted Gamma UCL (Use when n < 40)	0.287		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	11	Number of Detected Data	9
Number of Distinct Detected Data	7	Number of Non-Detect Data	2
		Percent Non-Detects	18.18%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.26	Minimum Detected	-1.347
Maximum Detected	3.1	Maximum Detected	1.131
Mean of Detected	1.601	Mean of Detected	0.178
SD of Detected	1.118	SD of Detected	0.896
Minimum Non-Detect	0.0025	Minimum Non-Detect	-5.991
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.858	Shapiro Wilk Test Statistic	0.88
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.537	Mean	-0.379
SD	1.154	SD	2.251
95% DL/2 (t) UCL	2.168	95% H-Stat (DL/2) UCL	509
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.0302
		SD in Log Scale	1.02
		Mean in Original Scale	1.413
		SD in Original Scale	1.1
		95% t UCL	2.014
		95% Percentile Bootstrap UCL	1.923
		95% BCA Bootstrap UCL	1.991
		95% H-UCL	4.345
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.313	Data appear Normal at 5% Significance Level	
Theta Star	1.22		
nu star	23.63		
A-D Test Statistic	0.46	Nonparametric Statistics	
5% A-D Critical Value	0.731	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.731	Mean	1.467
5% K-S Critical Value	0.283	SD	1.078
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.362
		95% KM (t) UCL	2.122
Assuming Gamma Distribution		95% KM (z) UCL	2.062
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.119
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.2
Maximum	3.1	95% KM (BCA) UCL	2.095
Mean	1.439	95% KM (Percentile Bootstrap) UCL	2.094
Median	1.3	95% KM (Chebyshev) UCL	3.043
SD	1.109	97.5% KM (Chebyshev) UCL	3.725
k star	0.386	99% KM (Chebyshev) UCL	5.064
Theta star	3.725		
Nu star	8.502	Potential UCLs to Use	
AppChi2	3.029	95% KM (t) UCL	2.122
95% Gamma Approximate UCL (Use when n >= 40)	4.04	95% KM (Percentile Bootstrap) UCL	2.094
95% Adjusted Gamma UCL (Use when n < 40)	4.853		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	15.6	Minimum of Log Data	2.747
Maximum	290	Maximum of Log Data	5.67
Mean	156.9	Mean of log Data	4.75
Geometric Mean	115.6	SD of log Data	0.949
Median	200		
SD	99.94		
Std. Error of Mean	30.13		
Coefficient of Variation	0.637		
Skewness	-0.169		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.885	Shapiro Wilk Test Statistic	0.86
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	211.5	95% H-UCL	432.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	398
95% Adjusted-CLT UCL (Chen-1995)	204.8	97.5% Chebyshev (MVUE) UCL	495.9
95% Modified-t UCL (Johnson-1978)	211.3	99% Chebyshev (MVUE) UCL	688.2
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.359	Data appear Normal at 5% Significance Level	
Theta Star	115.5		
MLE of Mean	156.9		
MLE of Standard Deviation	134.6		
nu star	29.9		
Approximate Chi Square Value (.05)	18.41	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	206.5
Adjusted Chi Square Value	16.96	95% Jackknife UCL	211.5
		95% Standard Bootstrap UCL	203.8
Anderson-Darling Test Statistic	0.648	95% Bootstrap-t UCL	207.7
Anderson-Darling 5% Critical Value	0.74	95% Hall's Bootstrap UCL	198.4
Kolmogorov-Smirnov Test Statistic	0.266	95% Percentile Bootstrap UCL	202.8
Kolmogorov-Smirnov 5% Critical Value	0.259	95% BCA Bootstrap UCL	202
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	288.3
		97.5% Chebyshev(Mean, Sd) UCL	345.1
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	456.7
95% Approximate Gamma UCL (Use when n >= 40)	254.8		
95% Adjusted Gamma UCL (Use when n < 40)	276.7		
Potential UCL to Use		Use 95% Student's-t UCL	211.5

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Mercury

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	10
Raw Statistics		Log-transformed Statistics	
Minimum	0.032	Minimum of Log Data	-3.442
Maximum	0.91	Maximum of Log Data	-0.0943
Mean	0.351	Mean of log Data	-1.477
Geometric Mean	0.228	SD of log Data	1.075
Median	0.29		
SD	0.298		
Std. Error of Mean	0.0899		
Coefficient of Variation	0.849		
Skewness	0.855		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.887	Shapiro Wilk Test Statistic	0.949
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.514	95% H-UCL	1.185
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.947
95% Adjusted-CLT UCL (Chen-1995)	0.524	97.5% Chebyshev (MVUE) UCL	1.193
95% Modified-t UCL (Johnson-1978)	0.518	99% Chebyshev (MVUE) UCL	1.676
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.009	Data appear Normal at 5% Significance Level	
Theta Star	0.348		
MLE of Mean	0.351		
MLE of Standard Deviation	0.35		
nu star	22.19		
Approximate Chi Square Value (.05)	12.48	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	0.499
Adjusted Chi Square Value	11.31	95% Jackknife UCL	0.514
		95% Standard Bootstrap UCL	0.494
Anderson-Darling Test Statistic	0.252	95% Bootstrap-t UCL	0.561
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL	0.566
Kolmogorov-Smirnov Test Statistic	0.166	95% Percentile Bootstrap UCL	0.491
Kolmogorov-Smirnov 5% Critical Value	0.261	95% BCA Bootstrap UCL	0.522
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.743
		97.5% Chebyshev(Mean, Sd) UCL	0.913
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.246
95% Approximate Gamma UCL (Use when n >= 40)	0.624		
95% Adjusted Gamma UCL (Use when n < 40)	0.689		
Potential UCL to Use		Use 95% Student's-t UCL	0.514

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Methoxychlor

General Statistics (Units in mg/kg)

Number of Valid Data	8	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	6
		Percent Non-Detects	75.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.079	Minimum Detected	-2.538
Maximum Detected	0.12	Maximum Detected	-2.12
Mean of Detected	0.0995	Mean of Detected	-2.329
SD of Detected	0.029	SD of Detected	0.296
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.24	Maximum Non-Detect	-1.427

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).
Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0536	Mean	-4.151
SD	0.0562	SD	2.019
95% DL/2 (t) UCL	0.0912	95% H-Stat (DL/2) UCL	13.59

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A	Kaplan-Meier (KM) Method	
5% A-D Critical Value	N/A	Mean	0.0858
K-S Test Statistic	N/A	SD	0.0153
5% K-S Critical Value	N/A	SE of Mean	0.00882
Data not Gamma Distributed at 5% Significance Level		95% KM (t) UCL	0.103
		95% KM (z) UCL	0.1
Assuming Gamma Distribution		95% KM (jackknife) UCL	0.116
Gamma ROS Statistics using Extrapolated Data		95% KM (bootstrap t) UCL	0.0886
Minimum	N/A	95% KM (BCA) UCL	N/A
Maximum	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Mean	N/A	95% KM (Chebyshev) UCL	0.124
Median	N/A	97.5% KM (Chebyshev) UCL	0.141
SD	N/A	99% KM (Chebyshev) UCL	0.174
k star	N/A		
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.103
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Naphthalene

General Statistics (Units in mg/kg)			
Number of Valid Data	11	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	2
		Percent Non-Detects	18.18%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0071	Minimum Detected	-4.948
Maximum Detected	0.42	Maximum Detected	-0.868
Mean of Detected	0.0763	Mean of Detected	-3.36
SD of Detected	0.131	SD of Detected	1.231
Minimum Non-Detect	0.0013	Minimum Non-Detect	-6.645
Maximum Non-Detect	5	Maximum Non-Detect	1.609
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.541	Shapiro Wilk Test Statistic	0.933
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.29	Mean	-3.333
SD	0.743	SD	2.15
95% DL/2 (t) UCL	0.696	95% H-Stat (DL/2) UCL	15.12
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.655
		SD in Log Scale	1.417
		Mean in Original Scale	0.065
		SD in Original Scale	0.12
		95% t UCL	0.13
		95% Percentile Bootstrap UCL	0.135
		95% BCA Bootstrap UCL	0.17
		95% H-UCL	0.397
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.58	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.131		
nu star	10.45		
A-D Test Statistic	0.719	Nonparametric Statistics	
5% A-D Critical Value	0.751	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.751	Mean	0.0694
5% K-S Critical Value	0.289	SD	0.119
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0398
		95% KM (t) UCL	0.141
Assuming Gamma Distribution		95% KM (z) UCL	0.135
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.141
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.37
Maximum	0.42	95% KM (BCA) UCL	0.156
Mean	0.0663	95% KM (Percentile Bootstrap) UCL	0.14
Median	0.04	95% KM (Chebyshev) UCL	0.243
SD	0.119	97.5% KM (Chebyshev) UCL	0.318
k star	0.362	99% KM (Chebyshev) UCL	0.465
Theta star	0.183		
Nu star	7.967	Potential UCLs to Use	
AppChi2	2.716	95% KM (Chebyshev) UCL	0.243
95% Gamma Approximate UCL (Use when n >= 40)	0.195		
95% Adjusted Gamma UCL (Use when n < 40)	0.236		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Nickel

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	5.6	Minimum of Log Data	1.723
Maximum	51	Maximum of Log Data	3.932
Mean	21.83	Mean of log Data	2.866
Geometric Mean	17.56	SD of log Data	0.693
Median	20.1		
SD	15.54		
Std. Error of Mean	4.686		
Coefficient of Variation	0.712		
Skewness	1.219		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.818	Shapiro Wilk Test Statistic	0.937
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	30.32	95% H-UCL	38.22
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	42.29
95% Adjusted-CLT UCL (Chen-1995)	31.38	97.5% Chebyshev (MVUE) UCL	51.17
95% Modified-t UCL (Johnson-1978)	30.61	99% Chebyshev (MVUE) UCL	68.62
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.844	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	11.83		
MLE of Mean	21.83		
MLE of Standard Deviation	16.07		
nu star	40.58		
Approximate Chi Square Value (.05)	26.98	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	29.54
Adjusted Chi Square Value	25.18	95% Jackknife UCL	30.32
		95% Standard Bootstrap UCL	29.07
Anderson-Darling Test Statistic	0.476	95% Bootstrap-t UCL	36.54
Anderson-Darling 5% Critical Value	0.736	95% Hall's Bootstrap UCL	68.56
Kolmogorov-Smirnov Test Statistic	0.207	95% Percentile Bootstrap UCL	28.93
Kolmogorov-Smirnov 5% Critical Value	0.258	95% BCA Bootstrap UCL	30.98
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	42.25
		97.5% Chebyshev(Mean, Sd) UCL	51.09
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	68.46
95% Approximate Gamma UCL (Use when n >= 40)	32.83		
95% Adjusted Gamma UCL (Use when n < 40)	35.17		
Potential UCL to Use		Use 95% Approximate Gamma UCL	32.83

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.18	Minimum Detected	-1.715
Maximum Detected	2	Maximum Detected	0.693
Mean of Detected	1.122	Mean of Detected	-0.106
SD of Detected	0.604	SD of Detected	0.816
Minimum Non-Detect	0.0029	Minimum Non-Detect	-5.843
Maximum Non-Detect	0.0029	Maximum Non-Detect	-5.843

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.956	Shapiro Wilk Test Statistic	0.826
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.02	Mean	-0.69
SD	0.665	SD	2.088
95% DL/2 (t) UCL	1.384	95% H-Stat (DL/2) UCL	151.9

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.992	Mean in Log Scale	-0.271
SD	0.688	SD in Log Scale	0.947
95% MLE (t) UCL	1.368	Mean in Original Scale	1.033
95% MLE (Tiku) UCL	1.374	SD in Original Scale	0.644
		95% t UCL	1.385
		95% Percentile Bootstrap UCL	1.334
		95% BCA Bootstrap UCL	1.34
		95% H UCL	2.848

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.759	Data appear Normal at 5% Significance Level
Theta Star	0.638	
nu star	35.17	

		Nonparametric Statistics	
A-D Test Statistic	0.573		
5% A-D Critical Value	0.734	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.734	Mean	1.036
5% K-S Critical Value	0.269	SD	0.61
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.194
		95% KM (t) UCL	1.388
Assuming Gamma Distribution		95% KM (z) UCL	1.355
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.385
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.398
Maximum	2	95% KM (BCA) UCL	1.373
Mean	1.02	95% KM (Percentile Bootstrap) UCL	1.365
Median	1.1	95% KM (Chebyshev) UCL	1.881
SD	0.666	97.5% KM (Chebyshev) UCL	2.247
k star	0.401	99% KM (Chebyshev) UCL	2.965
Theta star	2.545		
Nu star	8.819	Potential UCLs to Use	
AppChi2	3.218	95% KM (t) UCL	1.388
95% Gamma Approximate UCL (Use when n >= 40)	2.795	95% KM (Percentile Bootstrap) UCL	1.365
95% Adjusted Gamma UCL (Use when n < 40)	3.343		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.36	Minimum Detected	-1.022
Maximum Detected	6.6	Maximum Detected	1.887
Mean of Detected	3.546	Mean of Detected	1.002
SD of Detected	2.12	SD of Detected	0.903
Minimum Non-Detect	0.0018	Minimum Non-Detect	-6.32
Maximum Non-Detect	0.0018	Maximum Non-Detect	-6.32

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.96	Shapiro Wilk Test Statistic	0.872
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.224	Mean	0.273
SD	2.277	SD	2.564
95% DL/2 (t) UCL	4.468	95% H-Stat (DL/2) UCL	6626

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.124	Mean in Log Scale	0.816
SD	2.354	SD in Log Scale	1.056
95% MLE (t) UCL	4.41	Mean in Original Scale	3.256
95% MLE (Tiku) UCL	4.421	SD in Original Scale	2.23
		95% t UCL	4.474
		95% Percentile Bootstrap UCL	4.341
		95% BCA Bootstrap UCL	4.332
		95% H UCL	11.13

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.498	Data appear Normal at 5% Significance Level
Theta Star	2.367	
nu star	29.97	

		Nonparametric Statistics	
A-D Test Statistic	0.322		
5% A-D Critical Value	0.735	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.735	Mean	3.256
5% K-S Critical Value	0.27	SD	2.125
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.675
		95% KM (t) UCL	4.48
Assuming Gamma Distribution		95% KM (z) UCL	4.367
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.464
Minimum	1.00E-06	95% KM (bootstrap t) UCL	4.49
Maximum	6.6	95% KM (BCA) UCL	4.455
Mean	3.224	95% KM (Percentile Bootstrap) UCL	4.373
Median	3.5	95% KM (Chebyshev) UCL	6.2
SD	2.277	97.5% KM (Chebyshev) UCL	7.474
k star	0.373	99% KM (Chebyshev) UCL	9.976
Theta star	8.647		
Nu star	8.202	Potential UCLs to Use	
AppChi2	2.852	95% KM (t) UCL	4.48
95% Gamma Approximate UCL (Use when n >= 40)	9.269	95% KM (Percentile Bootstrap) UCL	4.373
95% Adjusted Gamma UCL (Use when n < 40)	11.19		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Silver

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	2
		Percent Non-Detects	18.18%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.5	Minimum Detected	0.405
Maximum Detected	35	Maximum Detected	3.555
Mean of Detected	10.56	Mean of Detected	1.998
SD of Detected	9.905	SD of Detected	0.943
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.001	Maximum Non-Detect	-6.908

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.723	Shapiro Wilk Test Statistic	0.904
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	8.636	Mean	0.253
SD	9.834	SD	3.974
95% DL/2 (t) UCL	14.01	95% H-Stat (DL/2) UCL	7.77E+08

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	7.451	Mean in Log Scale	1.605
SD	10.95	SD in Log Scale	1.22
95% MLE (t) UCL	13.44	Mean in Original Scale	8.796
95% MLE (Tiku) UCL	13.45	SD in Original Scale	9.686
		95% t UCL	14.09
		95% Percentile Bootstrap UCL	14.02
		95% BCA Bootstrap UCL	15.6
		95% H UCL	39.45

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.101	Data appear Gamma Distributed at 5% Significance Level
Theta Star	9.588	
nu star	19.82	

		Nonparametric Statistics	
A-D Test Statistic	0.569		
5% A-D Critical Value	0.734	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.734	Mean	8.909
5% K-S Critical Value	0.284	SD	9.14
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.923
		95% KM (t) UCL	14.21
Assuming Gamma Distribution		95% KM (z) UCL	13.72
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	14.08
Minimum	1.00E-06	95% KM (bootstrap t) UCL	17.87
Maximum	35	95% KM (BCA) UCL	14.55
Mean	8.636	95% KM (Percentile Bootstrap) UCL	14.25
Median	9.7	95% KM (Chebyshev) UCL	21.65
SD	9.834	97.5% KM (Chebyshev) UCL	27.16
k star	0.232	99% KM (Chebyshev) UCL	37.99
Theta star	37.15		
Nu star	5.114	Potential UCLs to Use	
AppChi2	1.205	95% KM (BCA) UCL	14.55
95% Gamma Approximate UCL (Use when n >= 40)	36.64		
95% Adjusted Gamma UCL (Use when n < 40)	47.63		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	42.8	Minimum of Log Data	3.757
Maximum	670	Maximum of Log Data	6.507
Mean	259.6	Mean of log Data	5.217
Geometric Mean	184.4	SD of log Data	0.942
Median	282		
SD	200.6		
Std. Error of Mean	60.48		
Coefficient of Variation	0.773		
Skewness	0.841		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.901	Shapiro Wilk Test Statistic	0.918
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	369.2	95% H-UCL	679.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	629.1
95% Adjusted-CLT UCL (Chen-1995)	375.5	97.5% Chebyshev (MVUE) UCL	783.4
95% Modified-t UCL (Johnson-1978)	371.8	99% Chebyshev (MVUE) UCL	1086

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.231	Data appear Normal at 5% Significance Level	
Theta Star	210.9		
MLE of Mean	259.6		
MLE of Standard Deviation	234		
nu star	27.08		
Approximate Chi Square Value (.05)	16.21	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	359.1
Adjusted Chi Square Value	14.86	95% Jackknife UCL	369.2
		95% Standard Bootstrap UCL	355.7
Anderson-Darling Test Statistic	0.356	95% Bootstrap-t UCL	393.8
Anderson-Darling 5% Critical Value	0.741	95% Hall's Bootstrap UCL	408.7
Kolmogorov-Smirnov Test Statistic	0.19	95% Percentile Bootstrap UCL	355.3
Kolmogorov-Smirnov 5% Critical Value	0.259	95% BCA Bootstrap UCL	371.5
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	523.2
		97.5% Chebyshev(Mean, Sd) UCL	637.3
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	861.3
95% Approximate Gamma UCL (Use when n >= 40)	433.6		
95% Adjusted Gamma UCL (Use when n < 40)	473.2		

Potential UCL to Use	Use 95% Student's-t UCL	369.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	0.27	Minimum of Log Data	-1.309
Maximum	4.7	Maximum of Log Data	1.548
Mean	2.631	Mean of log Data	0.664
Geometric Mean	1.943	SD of log Data	0.98
Median	2.3		
SD	1.589		
Std. Error of Mean	0.479		
Coefficient of Variation	0.604		
Skewness	-0.167		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.92	Shapiro Wilk Test Statistic	0.815
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	3.499	95% H-UCL	7.862
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7.003
95% Adjusted-CLT UCL (Chen-1995)	3.393	97.5% Chebyshev (MVUE) UCL	8.751
95% Modified-t UCL (Johnson-1978)	3.495	99% Chebyshev (MVUE) UCL	12.18
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.369	Data appear Normal at 5% Significance Level	
Theta Star	1.922		
MLE of Mean	2.631		
MLE of Standard Deviation	2.249		
nu star	30.11		
Approximate Chi Square Value (.05)	18.58	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	3.419
Adjusted Chi Square Value	17.12	95% Jackknife UCL	3.499
		95% Standard Bootstrap UCL	3.389
Anderson-Darling Test Statistic	0.609	95% Bootstrap-t UCL	3.491
Anderson-Darling 5% Critical Value	0.74	95% Hall's Bootstrap UCL	3.329
Kolmogorov-Smirnov Test Statistic	0.189	95% Percentile Bootstrap UCL	3.367
Kolmogorov-Smirnov 5% Critical Value	0.259	95% BCA Bootstrap UCL	3.345
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	4.719
		97.5% Chebyshev(Mean, Sd) UCL	5.622
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	7.397
95% Approximate Gamma UCL (Use when n >= 40)	4.264		
95% Adjusted Gamma UCL (Use when n < 40)	4.628		
Potential UCL to Use		Use 95% Student's-t UCL	3.499

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	11	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	5.1	Minimum of Log Data	1.629
Maximum	51	Maximum of Log Data	3.932
Mean	24.75	Mean of log Data	3.016
Geometric Mean	20.42	SD of log Data	0.701
Median	27.2		
SD	14.33		
Std. Error of Mean	4.321		
Coefficient of Variation	0.579		
Skewness	0.326		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.941	Shapiro Wilk Test Statistic	0.928
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	32.58	95% H-UCL	45.09
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	49.7
95% Adjusted-CLT UCL (Chen-1995)	32.31	97.5% Chebyshev (MVUE) UCL	60.2
95% Modified-t UCL (Johnson-1978)	32.65	99% Chebyshev (MVUE) UCL	80.84
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.065	Data appear Normal at 5% Significance Level	
Theta Star	11.98		
MLE of Mean	24.75		
MLE of Standard Deviation	17.22		
nu star	45.43		
Approximate Chi Square Value (.05)	30.97	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	31.85
Adjusted Chi Square Value	29.03	95% Jackknife UCL	32.58
		95% Standard Bootstrap UCL	31.68
Anderson-Darling Test Statistic	0.378	95% Bootstrap-t UCL	33.15
Anderson-Darling 5% Critical Value	0.735	95% Hall's Bootstrap UCL	32.44
Kolmogorov-Smirnov Test Statistic	0.187	95% Percentile Bootstrap UCL	31.48
Kolmogorov-Smirnov 5% Critical Value	0.257	95% BCA Bootstrap UCL	31.48
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	43.58
		97.5% Chebyshev(Mean, Sd) UCL	51.73
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	67.74
95% Approximate Gamma UCL (Use when n >= 40)	36.3		
95% Adjusted Gamma UCL (Use when n < 40)	38.72		
Potential UCL to Use		Use 95% Student's-t UCL	32.58

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total DDx

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	2
		Percent Non-Detects	18.18%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0046	Minimum Detected	-5.382
Maximum Detected	0.11	Maximum Detected	-2.207
Mean of Detected	0.0546	Mean of Detected	-3.312
SD of Detected	0.039	SD of Detected	1.13
Minimum Non-Detect	0.04	Minimum Non-Detect	-3.219
Maximum Non-Detect	0.048	Maximum Non-Detect	-3.037

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	5
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	54.55%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.925	Shapiro Wilk Test Statistic	0.868
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0487	Mean	-3.404
SD	0.0373	SD	1.032
95% DL/2 (t) UCL	0.0691	95% H-Stat (DL/2) UCL	0.154

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0464	Mean in Log Scale	-3.482
SD	0.0414	SD in Log Scale	1.079
95% MLE (t) UCL	0.069	Mean in Original Scale	0.0473
95% MLE (Tiku) UCL	0.0757	SD in Original Scale	0.0385
		95% t UCL	0.0683
		95% Percentile Bootstrap UCL	0.0671
		95% BCA Bootstrap UCL	0.0675
		95% H UCL	0.161

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.993	Data appear Normal at 5% Significance Level
Theta Star	0.055	
nu star	17.88	

		Nonparametric Statistics	
A-D Test Statistic	0.438		
5% A-D Critical Value	0.737	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.737	Mean	0.0478
5% K-S Critical Value	0.285	SD	0.0366
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0118
		95% KM (t) UCL	0.0692
Assuming Gamma Distribution		95% KM (z) UCL	0.0672
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0691
Minimum	0.0046	95% KM (bootstrap t) UCL	0.0699
Maximum	0.11	95% KM (BCA) UCL	0.0694
Mean	0.0479	95% KM (Percentile Bootstrap) UCL	0.0668
Median	0.0277	95% KM (Chebyshev) UCL	0.0993
SD	0.038	97.5% KM (Chebyshev) UCL	0.122
k star	1.06	99% KM (Chebyshev) UCL	0.165
Theta star	0.0452		
Nu star	23.33	Potential UCLs to Use	
AppChi2	13.34	95% KM (t) UCL	0.0692
95% Gamma Approximate UCL (Use when n >= 40)	0.0837	95% KM (Percentile Bootstrap) UCL	0.0668
95% Adjusted Gamma UCL (Use when n < 40)	0.0921		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total LMW PAHs

General Statistics (Units in mg/kg)			
Number of Valid Observations	11	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	0.0056	Minimum of Log Data	-5.185
Maximum	2.661	Maximum of Log Data	0.979
Mean	1.338	Mean of log Data	-0.325
Geometric Mean	0.722	SD of log Data	1.79
Median	1.4		
SD	0.891		
Std. Error of Mean	0.269		
Coefficient of Variation	0.666		
Skewness	-0.0592		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.952	Shapiro Wilk Test Statistic	0.702
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.825	95% H-UCL	50.62
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9.472
95% Adjusted-CLT UCL (Chen-1995)	1.775	97.5% Chebyshev (MVUE) UCL	12.4
95% Modified-t UCL (Johnson-1978)	1.824	99% Chebyshev (MVUE) UCL	18.17
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.746	Data appear Normal at 5% Significance Level	
Theta Star	1.793		
MLE of Mean	1.338		
MLE of Standard Deviation	1.549		
nu star	16.42		
Approximate Chi Square Value (.05)	8.26	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	1.78
Adjusted Chi Square Value	7.335	95% Jackknife UCL	1.825
		95% Standard Bootstrap UCL	1.757
Anderson-Darling Test Statistic	0.812	95% Bootstrap-t UCL	1.82
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	1.765
Kolmogorov-Smirnov Test Statistic	0.284	95% Percentile Bootstrap UCL	1.766
Kolmogorov-Smirnov 5% Critical Value	0.263	95% BCA Bootstrap UCL	1.765
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.509
		97.5% Chebyshev(Mean, Sd) UCL	3.016
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4.012
95% Approximate Gamma UCL (Use when n >= 40)	2.66		
95% Adjusted Gamma UCL (Use when n < 40)	2.995		
Potential UCL to Use		Use 95% Student's-t UCL	1.825

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Total HMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.338	Minimum Detected	0.849
Maximum Detected	38.79	Maximum Detected	3.658
Mean of Detected	19.69	Mean of Detected	2.671
SD of Detected	13.49	SD of Detected	0.942
Minimum Non-Detect	0.0029	Minimum Non-Detect	-5.843
Maximum Non-Detect	0.0029	Maximum Non-Detect	-5.843

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.902	Shapiro Wilk Test Statistic	0.89
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	17.9	Mean	1.834
SD	14.11	SD	2.917
95% DL/2 (t) UCL	25.61	95% H-Stat (DL/2) UCL	366641

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	17.25	Mean in Log Scale	2.472
SD	14.55	SD in Log Scale	1.112
95% MLE (t) UCL	25.2	Mean in Original Scale	18.04
95% MLE (Tiku) UCL	25.18	SD in Original Scale	13.91
		95% t UCL	25.64
		95% Percentile Bootstrap UCL	24.95
		95% BCA Bootstrap UCL	24.64
		95% H UCL	68.19

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.305	Data appear Normal at 5% Significance Level
Theta Star	15.08	
nu star	26.11	

		Nonparametric Statistics	
A-D Test Statistic	0.353		
5% A-D Critical Value	0.737	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.737	Mean	18.11
5% K-S Critical Value	0.27	SD	13.18
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	4.189
		95% KM (t) UCL	25.7
Assuming Gamma Distribution		95% KM (z) UCL	25
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	25.62
Minimum	1.00E-06	95% KM (bootstrap t) UCL	26.39
Maximum	38.79	95% KM (BCA) UCL	25.41
Mean	17.9	95% KM (Percentile Bootstrap) UCL	25.01
Median	13.55	95% KM (Chebyshev) UCL	36.37
SD	14.11	97.5% KM (Chebyshev) UCL	44.27
k star	0.342	99% KM (Chebyshev) UCL	59.79
Theta star	52.37		
Nu star	7.518	Potential UCLs to Use	
AppChi2	2.459	95% KM (t) UCL	25.7
95% Gamma Approximate UCL (Use when n >= 40)	54.71	95% KM (Percentile Bootstrap) UCL	25.01
95% Adjusted Gamma UCL (Use when n < 40)	66.81		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Methyl ethyl ketone (2-Butanone)

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	4
		Percent Non-Detects	36.36%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0068	Minimum Detected	-4.991
Maximum Detected	0.092	Maximum Detected	-2.386
Mean of Detected	0.0335	Mean of Detected	-3.761
SD of Detected	0.0302	SD of Detected	0.956
Minimum Non-Detect	0.0022	Minimum Non-Detect	-6.119
Maximum Non-Detect	0.25	Maximum Non-Detect	-1.386

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.864	Shapiro Wilk Test Statistic	0.958
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.042	Mean	-4.002
SD	0.0442	SD	1.632
95% DL/2 (t) UCL	0.0662	95% H-Stat (DL/2) UCL	0.643

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.287
		SD in Log Scale	1.195
		Mean in Original Scale	0.0242
		SD in Original Scale	0.0269
		95% t UCL	0.039
		95% Percentile Bootstrap UCL	0.0386
		95% BCA Bootstrap UCL	0.0431
		95% H-UCL	0.101

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.961	Data appear Normal at 5% Significance Level	
Theta Star	0.0349		
nu star	13.45		

A-D Test Statistic	0.213	Nonparametric Statistics	
5% A-D Critical Value	0.721	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.721	Mean	0.0276
5% K-S Critical Value	0.317	SD	0.027
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00974
		95% KM (t) UCL	0.0452
Assuming Gamma Distribution		95% KM (z) UCL	0.0436
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.045
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0628
Maximum	0.092	95% KM (BCA) UCL	0.0466
Mean	0.0247	95% KM (Percentile Bootstrap) UCL	0.0444
Median	0.0184	95% KM (Chebyshev) UCL	0.07
SD	0.027	97.5% KM (Chebyshev) UCL	0.0884
k star	0.314	99% KM (Chebyshev) UCL	0.124
Theta star	0.0785		
Nu star	6.913	Potential UCLs to Use	
AppChi2	2.123	95% KM (t) UCL	0.0452
95% Gamma Approximate UCL (Use when n >= 40)	0.0803	95% KM (Percentile Bootstrap) UCL	0.0444
95% Adjusted Gamma UCL (Use when n < 40)	0.0993		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

2-Methylnaphthalene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	7
		Percent Non-Detects	43.75%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.008	Minimum Detected	-4.828
Maximum Detected	0.12	Maximum Detected	-2.12
Mean of Detected	0.0456	Mean of Detected	-3.362
SD of Detected	0.0347	SD of Detected	0.825
Minimum Non-Detect	0.0012	Minimum Non-Detect	-6.725
Maximum Non-Detect	4.1	Maximum Non-Detect	1.411

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.888	Shapiro Wilk Test Statistic	0.979
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.463	Mean	-2.335
SD	0.658	SD	2.253
95% DL/2 (t) UCL	0.751	95% H-Stat (DL/2) UCL	21.9

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.556
		SD in Log Scale	0.78
		Mean in Original Scale	0.0368
		SD in Original Scale	0.028
		95% t UCL	0.049
		95% Percentile Bootstrap UCL	0.0489
		95% BCA Bootstrap UCL	0.0519
		95% H-UCL	0.0626

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.396	Data appear Normal at 5% Significance Level
Theta Star	0.0326	
nu star	25.13	

A-D Test Statistic	0.172	Nonparametric Statistics	
5% A-D Critical Value	0.73	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.73	Mean	0.0418
5% K-S Critical Value	0.283	SD	0.0331
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0111
		95% KM (t) UCL	0.0612
Assuming Gamma Distribution		95% KM (z) UCL	0.06
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0613
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0728
Maximum	0.12	95% KM (BCA) UCL	0.0621
Mean	0.0409	95% KM (Percentile Bootstrap) UCL	0.0611
Median	0.0407	95% KM (Chebyshev) UCL	0.0901
SD	0.0277	97.5% KM (Chebyshev) UCL	0.111
k star	0.679	99% KM (Chebyshev) UCL	0.152
Theta star	0.0602		
Nu star	21.74	Potential UCLs to Use	
AppChi2	12.14	95% KM (t) UCL	0.0612
95% Gamma Approximate UCL (Use when n >= 40)	0.0732	95% KM (Percentile Bootstrap) UCL	0.0611
95% Adjusted Gamma UCL (Use when n < 40)	0.0784		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

3&4-Methylphenol

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	15
		Percent Non-Detects	93.75%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 3&4-Methylphenol was not processed!

Acenaphthene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	7
		Percent Non-Detects	43.75%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.028	Minimum Detected	-3.576
Maximum Detected	0.31	Maximum Detected	-1.171
Mean of Detected	0.142	Mean of Detected	-2.239
SD of Detected	0.104	SD of Detected	0.852
Minimum Non-Detect	0.0016	Minimum Non-Detect	-6.438
Maximum Non-Detect	4.1	Maximum Non-Detect	1.411

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.892	Shapiro Wilk Test Statistic	0.93
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.475	Mean	-1.829
SD	0.632	SD	1.933
95% DL/2 (t) UCL	0.752	95% H-Stat (DL/2) UCL	9.087

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.489
		SD in Log Scale	0.801
		Mean in Original Scale	0.11
		SD in Original Scale	0.0866
		95% t UCL	0.148
		95% Percentile Bootstrap UCL	0.146
		95% BCA Bootstrap UCL	0.152
		95% H-UCL	0.189

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.325	Data appear Normal at 5% Significance Level	
Theta Star	0.107		
nu star	23.86		

A-D Test Statistic	0.377	Nonparametric Statistics	
5% A-D Critical Value	0.731	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.731	Mean	0.124
5% K-S Critical Value	0.283	SD	0.0973
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0312
		95% KM (t) UCL	0.179
Assuming Gamma Distribution		95% KM (z) UCL	0.175
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.178
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.195
Maximum	0.31	95% KM (BCA) UCL	0.181
Mean	0.12	95% KM (Percentile Bootstrap) UCL	0.18
Median	0.12	95% KM (Chebyshev) UCL	0.26
SD	0.086	97.5% KM (Chebyshev) UCL	0.319
k star	0.612	99% KM (Chebyshev) UCL	0.435
Theta star	0.197		
Nu star	19.58	Potential UCLs to Use	
AppChi2	10.54	95% KM (t) UCL	0.179
95% Gamma Approximate UCL (Use when n >= 40)	0.224	95% KM (Percentile Bootstrap) UCL	0.18
95% Adjusted Gamma UCL (Use when n < 40)	0.241		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	7
		Percent Non-Detects	43.75%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0023	Minimum Detected	-6.075
Maximum Detected	0.6	Maximum Detected	-0.511
Mean of Detected	0.105	Mean of Detected	-3.741
SD of Detected	0.202	SD of Detected	1.761
Minimum Non-Detect	0.0016	Minimum Non-Detect	-6.438
Maximum Non-Detect	4.1	Maximum Non-Detect	1.411

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.583	Shapiro Wilk Test Statistic	0.908
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.45	Mean	-2.861
SD	0.659	SD	2.619
95% DL/2 (t) UCL	0.739	95% H-Stat (DL/2) UCL	81.36

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.358
		SD in Log Scale	1.735
		Mean in Original Scale	0.0633
		SD in Original Scale	0.155
		95% t UCL	0.131
		95% Percentile Bootstrap UCL	0.136
		95% BCA Bootstrap UCL	0.172
		95% H-UCL	0.342

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.365	Data appear Lognormal at 5% Significance Level	
Theta Star	0.288		
nu star	6.566		

A-D Test Statistic	0.967	Nonparametric Statistics	
5% A-D Critical Value	0.782	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.782	Mean	0.0865
5% K-S Critical Value	0.296	SD	0.176
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0564
		95% KM (t) UCL	0.185
Assuming Gamma Distribution		95% KM (z) UCL	0.179
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.185
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.853
Maximum	0.6	95% KM (BCA) UCL	0.192
Mean	0.0606	95% KM (Percentile Bootstrap) UCL	0.182
Median	0.00532	95% KM (Chebyshev) UCL	0.332
SD	0.156	97.5% KM (Chebyshev) UCL	0.439
k star	0.254	99% KM (Chebyshev) UCL	0.648
Theta star	0.239		
Nu star	8.125	Potential UCLs to Use	
AppChi2	2.808	99% KM (Chebyshev) UCL	0.648
95% Gamma Approximate UCL (Use when n >= 40)	0.175		
95% Adjusted Gamma UCL (Use when n < 40)	0.2		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acetone

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	8
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.086	Minimum Detected	-2.453
Maximum Detected	7.7	Maximum Detected	2.041
Mean of Detected	2.07	Mean of Detected	-0.178
SD of Detected	2.711	SD of Detected	1.583
Minimum Non-Detect	0.0035	Minimum Non-Detect	-5.655
Maximum Non-Detect	0.022	Maximum Non-Detect	-3.817

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	8
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	50.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.766	Shapiro Wilk Test Statistic	0.96
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.037	Mean	-2.832
SD	2.137	SD	2.975
95% DL/2 (t) UCL	1.974	95% H-Stat (DL/2) UCL	656.8

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.402
		SD in Log Scale	2.539
		Mean in Original Scale	1.04
		SD in Original Scale	2.136
		95% t UCL	1.976
		95% Percentile Bootstrap UCL	2.011
		95% BCA Bootstrap UCL	2.32
		95% H-UCL	84.24

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.503	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4.113		
nu star	8.051		
A-D Test Statistic	0.272	Nonparametric Statistics	
5% A-D Critical Value	0.751	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.751	Mean	1.078
5% K-S Critical Value	0.306	SD	2.049
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.548
		95% KM (t) UCL	2.038
Assuming Gamma Distribution		95% KM (z) UCL	1.979
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.989
Minimum	1.00E-06	95% KM (bootstrap t) UCL	4.268
Maximum	7.7	95% KM (BCA) UCL	2.194
Mean	1.035	95% KM (Percentile Bootstrap) UCL	2.04
Median	0.043	95% KM (Chebyshev) UCL	3.465
SD	2.138	97.5% KM (Chebyshev) UCL	4.498
k star	0.134	99% KM (Chebyshev) UCL	6.527
Theta star	7.723		
Nu star	4.287	Potential UCLs to Use	
AppChi2	0.838	95% KM (t) UCL	2.038
95% Gamma Approximate UCL (Use when n >= 40)	5.291		
95% Adjusted Gamma UCL (Use when n < 40)	6.49		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aldrin

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	14
		Percent Non-Detects	93.33%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Aldrin was not processed!

alpha-BHC

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	9
		Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	8.80E-04	Minimum Detected	-7.036
Maximum Detected	0.012	Maximum Detected	-4.423
Mean of Detected	0.006	Mean of Detected	-5.379
SD of Detected	0.00389	SD of Detected	0.915
Minimum Non-Detect	4.90E-04	Minimum Non-Detect	-7.621
Maximum Non-Detect	0.021	Maximum Non-Detect	-3.863

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.989	Shapiro Wilk Test Statistic	0.904
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00483	Mean	-5.807
SD	0.00371	SD	1.212
95% DL/2 (t) UCL	0.00652	95% H-Stat (DL/2) UCL	0.0171

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.084
		SD in Log Scale	0.876
		Mean in Original Scale	0.00332
		SD in Original Scale	0.00327
		95% t UCL	0.00481
		95% Percentile Bootstrap UCL	0.00466
		95% BCA Bootstrap UCL	0.00512
		95% H-UCL	0.00608

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.138	Data appear Normal at 5% Significance Level
Theta Star	0.00527	
nu star	13.65	

A-D Test Statistic	0.222	Nonparametric Statistics	
5% A-D Critical Value	0.704	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.704	Mean	0.00375
5% K-S Critical Value	0.336	SD	0.00345
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00113
		95% KM (t) UCL	0.00574
Assuming Gamma Distribution		95% KM (z) UCL	0.00561
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00576
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.00564
Maximum	0.012	95% KM (BCA) UCL	0.00727
Mean	0.00301	95% KM (Percentile Bootstrap) UCL	0.00662
Median	0.00184	95% KM (Chebyshev) UCL	0.00868
SD	0.00352	97.5% KM (Chebyshev) UCL	0.0108
k star	0.338	99% KM (Chebyshev) UCL	0.015
Theta star	0.00892		
Nu star	10.13	Potential UCLs to Use	
AppChi2	4.023	95% KM (t) UCL	0.00574
95% Gamma Approximate UCL (Use when n >= 40)	0.00759	95% KM (Percentile Bootstrap) UCL	0.00662
95% Adjusted Gamma UCL (Use when n < 40)	0.00857		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

beta-BHC

General Statistics (Units in mg/kg)

Number of Valid Data	13	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	9
		Percent Non-Detects	69.23%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.013	Minimum Detected	-4.343
Maximum Detected	0.048	Maximum Detected	-3.037
Mean of Detected	0.035	Mean of Detected	-3.47
SD of Detected	0.0164	SD of Detected	0.611
Minimum Non-Detect	7.90E-04	Minimum Non-Detect	-7.143
Maximum Non-Detect	0.021	Maximum Non-Detect	-3.863

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	76.92%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.876	Shapiro Wilk Test Statistic	0.826
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0136	Mean	-5.176
SD	0.0172	SD	1.53
95% DL/2 (t) UCL	0.0221	95% H-Stat (DL/2) UCL	0.0994

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.816
		SD in Log Scale	0.985
		Mean in Original Scale	0.0139
		SD in Original Scale	0.0168
		95% t UCL	0.0222
		95% Percentile Bootstrap UCL	0.0219
		95% BCA Bootstrap UCL	0.0239
		95% H-UCL	0.0293

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.272	Data appear Normal at 5% Significance Level
Theta Star	0.0275	
nu star	10.18	

A-D Test Statistic	0.462	Nonparametric Statistics	
5% A-D Critical Value	0.659	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.659	Mean	0.0198
5% K-S Critical Value	0.396	SD	0.0128
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00412
		95% KM (t) UCL	0.0271
Assuming Gamma Distribution		95% KM (z) UCL	0.0265
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0319
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0236
Maximum	0.048	95% KM (BCA) UCL	0.0473
Mean	0.0108	95% KM (Percentile Bootstrap) UCL	0.0472
Median	1.00E-06	95% KM (Chebyshev) UCL	0.0377
SD	0.0187	97.5% KM (Chebyshev) UCL	0.0455
k star	0.15	99% KM (Chebyshev) UCL	0.0607
Theta star	0.0717		
Nu star	3.908	Potential UCLs to Use	
AppChi2	0.686	95% KM (t) UCL	0.0271
95% Gamma Approximate UCL (Use when n >= 40)	0.0614	95% KM (Percentile Bootstrap) UCL	0.0472
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	14
Number of Distinct Detected Data	14	Number of Non-Detect Data	2
		Percent Non-Detects	12.50%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0056	Minimum Detected	-5.185
Maximum Detected	3.9	Maximum Detected	1.361
Mean of Detected	0.659	Mean of Detected	-1.184
SD of Detected	0.989	SD of Detected	1.496
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.75%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.583	Shapiro Wilk Test Statistic	0.898
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.661	Mean	-1.085
SD	0.921	SD	1.419
95% DL/2 (t) UCL	1.065	95% H-Stat (DL/2) UCL	3.21
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.214
		SD in Log Scale	1.395
		Mean in Original Scale	0.607
		SD in Original Scale	0.932
		95% t UCL	1.015
		95% Percentile Bootstrap UCL	1.031
		95% BCA Bootstrap UCL	1.227
		95% H-UCL	2.636
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.658	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.003		
nu star	18.42		
A-D Test Statistic	0.487	Nonparametric Statistics	
5% A-D Critical Value	0.769	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.769	Mean	0.623
5% K-S Critical Value	0.237	SD	0.902
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.236
		95% KM (t) UCL	1.036
Assuming Gamma Distribution		95% KM (z) UCL	1.011
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.035
Minimum	0.0056	95% KM (bootstrap t) UCL	1.917
Maximum	3.9	95% KM (BCA) UCL	1.046
Mean	0.628	95% KM (Percentile Bootstrap) UCL	1.054
Median	0.364	95% KM (Chebyshev) UCL	1.65
SD	0.925	97.5% KM (Chebyshev) UCL	2.094
k star	0.741	99% KM (Chebyshev) UCL	2.967
Theta star	0.848		
Nu star	23.71	Potential UCLs to Use	
AppChi2	13.63	95% KM (Chebyshev) UCL	1.65
95% Gamma Approximate UCL (Use when n >= 40)	1.093		
95% Adjusted Gamma UCL (Use when n < 40)	1.167		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	14	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0068	Minimum Detected	-4.991
Maximum Detected	8.3	Maximum Detected	2.116
Mean of Detected	2.522	Mean of Detected	0.337
SD of Detected	2.246	SD of Detected	1.656
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.814	Shapiro Wilk Test Statistic	0.716
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.405	Mean	0.289
SD	2.219	SD	1.611
95% DL/2 (t) UCL	3.378	95% H-Stat (DL/2) UCL	23.2

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.09	Mean in Log Scale	0.232
SD	2.576	SD in Log Scale	1.654
95% MLE (t) UCL	3.218	Mean in Original Scale	2.381
95% MLE (Tiku) UCL	3.283	SD in Original Scale	2.242
		95% t UCL	3.364
		95% Percentile Bootstrap UCL	3.399
		95% BCA Bootstrap UCL	3.51
		95% H UCL	25.3

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.831	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.037	
nu star	24.92	

		Nonparametric Statistics	
A-D Test Statistic	0.658		
5% A-D Critical Value	0.764	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.764	Mean	2.395
5% K-S Critical Value	0.228	SD	2.159
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.559
		95% KM (t) UCL	3.375
Assuming Gamma Distribution		95% KM (z) UCL	3.315
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.373
Minimum	0.0068	95% KM (bootstrap t) UCL	4.172
Maximum	8.3	95% KM (BCA) UCL	3.397
Mean	2.368	95% KM (Percentile Bootstrap) UCL	3.349
Median	2.1	95% KM (Chebyshev) UCL	4.832
SD	2.255	97.5% KM (Chebyshev) UCL	5.886
k star	0.703	99% KM (Chebyshev) UCL	7.957
Theta star	3.368		
Nu star	22.5	Potential UCLs to Use	
AppChi2	12.71	95% KM (Chebyshev) UCL	4.832
95% Gamma Approximate UCL (Use when n >= 40)	4.191		
95% Adjusted Gamma UCL (Use when n < 40)	4.485		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	12	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0063	Minimum Detected	-5.067
Maximum Detected	6.4	Maximum Detected	1.856
Mean of Detected	2.416	Mean of Detected	0.348
SD of Detected	1.814	SD of Detected	1.649
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.878	Shapiro Wilk Test Statistic	0.674
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.306	Mean	0.3
SD	1.808	SD	1.605
95% DL/2 (t) UCL	3.098	95% H-Stat (DL/2) UCL	22.99
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.207	Mean in Log Scale	0.231
SD	1.922	SD in Log Scale	1.661
95% MLE (t) UCL	3.049	Mean in Original Scale	2.279
95% MLE (Tiku) UCL	3.071	SD in Original Scale	1.837
		95% t UCL	3.084
		95% Percentile Bootstrap UCL	3.001
		95% BCA Bootstrap UCL	3.12
		95% H UCL	25.91
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.902	Data do not follow a Discernable Distribution (0.05)	
Theta Star	2.678		
nu star	27.07		
A-D Test Statistic	0.779	Nonparametric Statistics	
5% A-D Critical Value	0.762	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.762	Mean	2.289
5% K-S Critical Value	0.228	SD	1.768
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.458
		95% KM (t) UCL	3.092
Assuming Gamma Distribution		95% KM (z) UCL	3.043
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.091
Minimum	0.0063	95% KM (bootstrap t) UCL	3.376
Maximum	6.4	95% KM (BCA) UCL	3.194
Mean	2.271	95% KM (Percentile Bootstrap) UCL	3.05
Median	2.1	95% KM (Chebyshev) UCL	4.286
SD	1.846	97.5% KM (Chebyshev) UCL	5.15
k star	0.781	99% KM (Chebyshev) UCL	6.847
Theta star	2.906		
Nu star	25.01	Potential UCLs to Use	
AppChi2	14.62	99% KM (Chebyshev) UCL	6.847
95% Gamma Approximate UCL (Use when n >= 40)	3.886		
95% Adjusted Gamma UCL (Use when n < 40)	4.141		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	14	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	3.1	Maximum Detected	1.131
Mean of Detected	1.514	Mean of Detected	-0.036
SD of Detected	0.97	SD of Detected	1.421
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.952	Shapiro Wilk Test Statistic	0.72
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.46	Mean	-0.0607
SD	0.962	SD	1.376
95% DL/2 (t) UCL	1.882	95% H-Stat (DL/2) UCL	7.912
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.309	Mean in Log Scale	-0.0954
SD	0.501	SD in Log Scale	1.393
95% MLE (t) UCL	2.528	Mean in Original Scale	1.443
95% MLE (Tiku) UCL	2.616	SD in Original Scale	0.98
		95% t UCL	1.872
		95% Percentile Bootstrap UCL	1.828
		95% BCA Bootstrap UCL	1.86
		95% H UCL	8.021
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.044	Data appear Normal at 5% Significance Level	
Theta Star	1.45		
nu star	31.32		
A-D Test Statistic	0.698	Nonparametric Statistics	
5% A-D Critical Value	0.758	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.758	Mean	1.459
5% K-S Critical Value	0.227	SD	0.937
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.244
		95% KM (t) UCL	1.886
Assuming Gamma Distribution		95% KM (z) UCL	1.86
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.886
Minimum	0.011	95% KM (bootstrap t) UCL	1.898
Maximum	3.1	95% KM (BCA) UCL	1.799
Mean	1.459	95% KM (Percentile Bootstrap) UCL	1.863
Median	1.35	95% KM (Chebyshev) UCL	2.521
SD	0.963	97.5% KM (Chebyshev) UCL	2.981
k star	1.079	99% KM (Chebyshev) UCL	3.884
Theta star	1.352		
Nu star	34.54	Potential UCLs to Use	
AppChi2	22.1	95% KM (t) UCL	1.886
95% Gamma Approximate UCL (Use when n >= 40)	2.281	95% KM (Percentile Bootstrap) UCL	1.863
95% Adjusted Gamma UCL (Use when n < 40)	2.404		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	3
		Percent Non-Detects	18.75%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0061	Minimum Detected	-5.099
Maximum Detected	5.2	Maximum Detected	1.649
Mean of Detected	1.515	Mean of Detected	-0.235
SD of Detected	1.386	SD of Detected	1.697
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	4.1	Maximum Non-Detect	1.411
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.75%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.861	Shapiro Wilk Test Statistic	0.788
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.506	Mean	-0.14
SD	1.268	SD	1.548
95% DL/2 (t) UCL	2.062	95% H-Stat (DL/2) UCL	12.3
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.328
		SD in Log Scale	1.539
		Mean in Original Scale	1.327
		SD in Original Scale	1.306
		95% t UCL	1.899
		95% Percentile Bootstrap UCL	1.886
		95% BCA Bootstrap UCL	2.059
		95% H-UCL	9.888
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.743	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.04		
nu star	19.31		
A-D Test Statistic	0.357	Nonparametric Statistics	
5% A-D Critical Value	0.763	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.763	Mean	1.416
5% K-S Critical Value	0.244	SD	1.262
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.34
		95% KM (t) UCL	2.012
Assuming Gamma Distribution		95% KM (z) UCL	1.975
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.011
Minimum	0.0061	95% KM (bootstrap t) UCL	2.265
Maximum	5.2	95% KM (BCA) UCL	2.031
Mean	1.405	95% KM (Percentile Bootstrap) UCL	1.988
Median	1.163	95% KM (Chebyshev) UCL	2.898
SD	1.27	97.5% KM (Chebyshev) UCL	3.539
k star	0.876	99% KM (Chebyshev) UCL	4.799
Theta star	1.605		
Nu star	28.02	Potential UCLs to Use	
AppChi2	16.94	95% KM (Chebyshev) UCL	2.898
95% Gamma Approximate UCL (Use when n >= 40)	2.324		
95% Adjusted Gamma UCL (Use when n < 40)	2.466		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bis(2-ethylhexyl)phthalate

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	4
		Percent Non-Detects	25.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.22	Minimum Detected	-1.514
Maximum Detected	38	Maximum Detected	3.638
Mean of Detected	10.04	Mean of Detected	1.641
SD of Detected	10.68	SD of Detected	1.432
Minimum Non-Detect	0.2	Minimum Non-Detect	-1.609
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	37.50%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.821	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	7.631	Mean	0.905
SD	10.11	SD	1.86
95% DL/2 (t) UCL	12.06	95% H-Stat (DL/2) UCL	104.9
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.276	Mean in Log Scale	0.919
SD	13.59	SD in Log Scale	1.798
95% MLE (t) UCL	10.23	Mean in Original Scale	7.612
95% MLE (Tiku) UCL	10.85	SD in Original Scale	10.13
		95% t UCL	12.05
		95% Percentile Bootstrap UCL	11.93
		95% BCA Bootstrap UCL	13.02
		95% H UCL	84.18
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.716	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	14.04		
nu star	17.17		
A-D Test Statistic	0.162	Nonparametric Statistics	
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	7.615
5% K-S Critical Value	0.254	SD	9.805
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.561
		95% KM (t) UCL	12.1
Assuming Gamma Distribution		95% KM (z) UCL	11.83
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	11.95
Minimum	1.00E-06	95% KM (bootstrap t) UCL	14.49
Maximum	38	95% KM (BCA) UCL	12.76
Mean	7.533	95% KM (Percentile Bootstrap) UCL	12.21
Median	2.85	95% KM (Chebyshev) UCL	18.78
SD	10.19	97.5% KM (Chebyshev) UCL	23.61
k star	0.185	99% KM (Chebyshev) UCL	33.09
Theta star	40.65		
Nu star	5.93	Potential UCLs to Use	
AppChi2	1.604	95% KM (Chebyshev) UCL	18.78
95% Gamma Approximate UCL (Use when n >= 40)	27.85		
95% Adjusted Gamma UCL (Use when n < 40)	32.77		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	15	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.67	Minimum Detected	-0.4
Maximum Detected	16	Maximum Detected	2.773
Mean of Detected	6.777	Mean of Detected	1.411
SD of Detected	5.708	SD of Detected	1.165
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.002	Maximum Non-Detect	-6.215

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.872	Shapiro Wilk Test Statistic	0.893
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	6.354	Mean	0.891
SD	5.769	SD	2.365
95% DL/2 (t) UCL	8.882	95% H-Stat (DL/2) UCL	939.4

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	6.164	Mean in Log Scale	1.237
SD	5.879	SD in Log Scale	1.324
95% MLE (t) UCL	8.741	Mean in Original Scale	6.37
95% MLE (Tiku) UCL	8.667	SD in Original Scale	5.751
		95% t UCL	8.89
		95% Percentile Bootstrap UCL	8.64
		95% BCA Bootstrap UCL	8.872
		95% H UCL	25.02

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.951	Data appear Gamma Distributed at 5% Significance Level
Theta Star	7.127	
nu star	28.53	

A-D Test Statistic	0.538	Nonparametric Statistics	
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	6.396
5% K-S Critical Value	0.227	SD	5.541
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.434
		95% KM (t) UCL	8.909
Assuming Gamma Distribution		95% KM (z) UCL	8.754
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	8.903
Minimum	1.00E-06	95% KM (bootstrap t) UCL	9.234
Maximum	16	95% KM (BCA) UCL	8.756
Mean	6.354	95% KM (Percentile Bootstrap) UCL	8.768
Median	4.3	95% KM (Chebyshev) UCL	12.65
SD	5.769	97.5% KM (Chebyshev) UCL	15.35
k star	0.418	99% KM (Chebyshev) UCL	20.66
Theta star	15.21		
Nu star	13.36	Potential UCLs to Use	
AppChi2	6.139	95% KM (Chebyshev) UCL	12.65
95% Gamma Approximate UCL (Use when n >= 40)	13.83		
95% Adjusted Gamma UCL (Use when n < 40)	15.19		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total Chlordane

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	6
		Percent Non-Detects	0.4

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0023	Minimum Detected	-6.075
Maximum Detected	0.22	Maximum Detected	-1.514
Mean of Detected	0.0764	Mean of Detected	-3.28
SD of Detected	0.0811	SD of Detected	1.482
Minimum Non-Detect	0.063	Minimum Non-Detect	-2.765
Maximum Non-Detect	0.21	Maximum Non-Detect	-1.561

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	0.9333

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.82	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0693	Mean	-3.145
SD	0.0645	SD	1.171
95% DL/2 (t) UCL	0.0986	95% H-Stat (DL/2) UCL	0.22

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.575
		SD in Log Scale	1.187
		Mean in Original Scale	0.0532
		SD in Original Scale	0.0681
		95% t UCL	0.0841
		95% Percentile Bootstrap UCL	0.0835
		95% BCA Bootstrap UCL	0.0943
		95% H-UCL	0.149

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.63	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.121	
nu star	11.33	

		Nonparametric Statistics	
A-D Test Statistic	0.205		
5% A-D Critical Value	0.749	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.749	Mean	0.0582
5% K-S Critical Value	0.288	SD	0.0663
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0192
		95% KM (t) UCL	0.092
Assuming Gamma Distribution		95% KM (z) UCL	0.0898
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0917
Minimum	0.0023	95% KM (bootstrap t) UCL	0.121
Maximum	0.22	95% KM (BCA) UCL	0.0908
Mean	0.0565	95% KM (Percentile Bootstrap) UCL	0.0911
Median	0.033	95% KM (Chebyshev) UCL	0.142
SD	0.0666	97.5% KM (Chebyshev) UCL	0.178
k star	0.846	99% KM (Chebyshev) UCL	0.249
Theta star	0.0668		
Nu star	25.39	Potential UCLs to Use	
AppChi2	14.91	95% KM (BCA) UCL	0.0908
95% Gamma Approximate UCL (Use when n >= 40)	0.0962		
95% Adjusted Gamma UCL (Use when n < 40)	0.103		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

AppChi2	N/A	95% KM (t) UCL	0.228
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	15

Raw Statistics		Log-transformed Statistics	
Minimum	6.4	Minimum of Log Data	1.856
Maximum	75.6	Maximum of Log Data	4.325
Mean	28.86	Mean of log Data	3.112
Geometric Mean	22.47	SD of log Data	0.745
Median	19.05		
SD	20.81		
Std. Error of Mean	5.201		
Coefficient of Variation	0.721		
Skewness	0.973		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.887	Shapiro Wilk Test Statistic	0.964
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	37.98	95% H-UCL	46.52
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	54.13
95% Adjusted-CLT UCL (Chen-1995)	38.77	97.5% Chebyshev (MVUE) UCL	64.98
95% Modified-t UCL (Johnson-1978)	38.19	99% Chebyshev (MVUE) UCL	86.3

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.788	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	16.14		
MLE of Mean	28.86		
MLE of Standard Deviation	21.59		
nu star	57.22		
Approximate Chi Square Value (.05)	40.83	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	37.42
Adjusted Chi Square Value	39.25	95% Jackknife UCL	37.98
		95% Standard Bootstrap UCL	37.06
Anderson-Darling Test Statistic	0.347	95% Bootstrap-t UCL	40.2
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	39.25
Kolmogorov-Smirnov Test Statistic	0.192	95% Percentile Bootstrap UCL	37.28
Kolmogorov-Smirnov 5% Critical Value	0.218	95% BCA Bootstrap UCL	38.52
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	51.53
		97.5% Chebyshev(Mean, Sd) UCL	61.35
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	80.62
95% Approximate Gamma UCL (Use when n >= 40)	40.45		
95% Adjusted Gamma UCL (Use when n < 40)	42.07		

Potential UCL to Use	Use 95% Approximate Gamma UCL	40.45

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	15	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	7.3	Maximum Detected	1.988
Mean of Detected	2.726	Mean of Detected	0.493
SD of Detected	2.055	SD of Detected	1.548
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.907	Shapiro Wilk Test Statistic	0.714
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.596	Mean	0.436
SD	2.052	SD	1.513
95% DL/2 (t) UCL	3.496	95% H-Stat (DL/2) UCL	19.56

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.437	Mean in Log Scale	0.38
SD	2.237	SD in Log Scale	1.562
95% MLE (t) UCL	3.417	Mean in Original Scale	2.572
95% MLE (Tiku) UCL	3.445	SD in Original Scale	2.078
		95% t UCL	3.483
		95% Percentile Bootstrap UCL	3.44
		95% BCA Bootstrap UCL	3.537
		95% H UCL	21.64

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.939	Data appear Normal at 5% Significance Level
Theta Star	2.903	
nu star	28.18	

A-D Test Statistic	0.535	Nonparametric Statistics	
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	2.585
5% K-S Critical Value	0.227	SD	2
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.518
		95% KM (t) UCL	3.493
Assuming Gamma Distribution		95% KM (z) UCL	3.437
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.492
Minimum	0.011	95% KM (bootstrap t) UCL	3.883
Maximum	7.3	95% KM (BCA) UCL	3.419
Mean	2.557	95% KM (Percentile Bootstrap) UCL	3.449
Median	2.35	95% KM (Chebyshev) UCL	4.843
SD	2.097	97.5% KM (Chebyshev) UCL	5.821
k star	0.724	99% KM (Chebyshev) UCL	7.74
Theta star	3.535		
Nu star	23.15	Potential UCLs to Use	
AppChi2	13.21	95% KM (t) UCL	3.493
95% Gamma Approximate UCL (Use when n >= 40)	4.483	95% KM (Percentile Bootstrap) UCL	3.449
95% Adjusted Gamma UCL (Use when n < 40)	4.792		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	16
Raw Statistics		Log-transformed Statistics	
Minimum	3.2	Minimum of Log Data	1.163
Maximum	170	Maximum of Log Data	5.136
Mean	55.66	Mean of log Data	3.517
Geometric Mean	33.69	SD of log Data	1.15
Median	34.4		
SD	50.89		
Std. Error of Mean	12.72		
Coefficient of Variation	0.914		
Skewness	0.976		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.873	Shapiro Wilk Test Statistic	0.958
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	77.97	95% H-UCL	156.3
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	147.2
95% Adjusted-CLT UCL (Chen-1995)	79.91	97.5% Chebyshev (MVUE) UCL	184.4
95% Modified-t UCL (Johnson-1978)	78.48	99% Chebyshev (MVUE) UCL	257.5
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.962	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	57.83		
MLE of Mean	55.66		
MLE of Standard Deviation	56.74		
nu star	30.8		
Approximate Chi Square Value (.05)	19.12	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	76.59
Adjusted Chi Square Value	18.08	95% Jackknife UCL	77.97
		95% Standard Bootstrap UCL	76.03
Anderson-Darling Test Statistic	0.266	95% Bootstrap-t UCL	82.16
Anderson-Darling 5% Critical Value	0.761	95% Hall's Bootstrap UCL	78.28
Kolmogorov-Smirnov Test Statistic	0.123	95% Percentile Bootstrap UCL	76.81
Kolmogorov-Smirnov 5% Critical Value	0.221	95% BCA Bootstrap UCL	78.7
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	111.1
		97.5% Chebyshev(Mean, Sd) UCL	135.1
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	182.3
95% Approximate Gamma UCL (Use when n >= 40)	89.65		
95% Adjusted Gamma UCL (Use when n < 40)	94.83		
Potential UCL to Use		Use 95% Approximate Gamma UCL	89.65

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cyanide

General Statistics (Units in mg/kg)

Number of Valid Data	10	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	2
		Percent Non-Detects	20.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.1	Minimum Detected	-2.303
Maximum Detected	0.84	Maximum Detected	-0.174
Mean of Detected	0.41	Mean of Detected	-1.062
SD of Detected	0.228	SD of Detected	0.681
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.934	Shapiro Wilk Test Statistic	0.898
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.328	Mean	-2.093
SD	0.264	SD	2.254
95% DL/2 (t) UCL	0.482	95% H-Stat (DL/2) UCL	143.4

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.297	Mean in Log Scale	-1.375
SD	0.302	SD in Log Scale	0.896
95% MLE (t) UCL	0.472	Mean in Original Scale	0.343
95% MLE (Tiku) UCL	0.479	SD in Original Scale	0.246
		95% t UCL	0.485
		95% Percentile Bootstrap UCL	0.468
		95% BCA Bootstrap UCL	0.487
		95% H UCL	0.897

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.01	Data appear Normal at 5% Significance Level
Theta Star	0.204	
nu star	32.16	

		Nonparametric Statistics	
A-D Test Statistic	0.411		
5% A-D Critical Value	0.721	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.721	Mean	0.348
5% K-S Critical Value	0.296	SD	0.227
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0768
		95% KM (t) UCL	0.489
Assuming Gamma Distribution		95% KM (z) UCL	0.474
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.484
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.498
Maximum	0.84	95% KM (BCA) UCL	0.517
Mean	0.328	95% KM (Percentile Bootstrap) UCL	0.497
Median	0.38	95% KM (Chebyshev) UCL	0.683
SD	0.265	97.5% KM (Chebyshev) UCL	0.828
k star	0.262	99% KM (Chebyshev) UCL	1.112
Theta star	1.251		
Nu star	5.243	Potential UCLs to Use	
AppChi2	1.266	95% KM (t) UCL	0.489
95% Gamma Approximate UCL (Use when n >= 40)	1.358	95% KM (Percentile Bootstrap) UCL	0.497
95% Adjusted Gamma UCL (Use when n < 40)	1.789		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	6
		Percent Non-Detects	37.50%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0041	Minimum Detected	-5.497
Maximum Detected	0.86	Maximum Detected	-0.151
Mean of Detected	0.391	Mean of Detected	-1.472
SD of Detected	0.272	SD of Detected	1.567
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	4.1	Maximum Non-Detect	1.411
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.97	Shapiro Wilk Test Statistic	0.749
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.682	Mean	-0.901
SD	0.556	SD	1.461
95% DL/2 (t) UCL	0.926	95% H-Stat (DL/2) UCL	4.375
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.472
		SD in Log Scale	1.214
		Mean in Original Scale	0.33
		SD in Original Scale	0.226
		95% t UCL	0.429
		95% Percentile Bootstrap UCL	0.423
		95% BCA Bootstrap UCL	0.435
		95% H-UCL	1.244
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.818	Data appear Normal at 5% Significance Level	
Theta Star	0.478		
nu star	16.35		
A-D Test Statistic	0.517	Nonparametric Statistics	
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	0.391
5% K-S Critical Value	0.273	SD	0.258
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.086
		95% KM (t) UCL	0.542
Assuming Gamma Distribution		95% KM (z) UCL	0.533
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.545
Minimum	0.0041	95% KM (bootstrap t) UCL	0.564
Maximum	0.86	95% KM (BCA) UCL	0.511
Mean	0.385	95% KM (Percentile Bootstrap) UCL	0.534
Median	0.374	95% KM (Chebyshev) UCL	0.766
SD	0.211	97.5% KM (Chebyshev) UCL	0.928
k star	1.378	99% KM (Chebyshev) UCL	1.247
Theta star	0.279		
Nu star	44.1	Potential UCLs to Use	
AppChi2	29.87	95% KM (t) UCL	0.542
95% Gamma Approximate UCL (Use when n >= 40)	0.568	95% KM (Percentile Bootstrap) UCL	0.534
95% Adjusted Gamma UCL (Use when n < 40)	0.594		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics (Units in mg/kg)

Number of Valid Data	10	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	8
		Percent Non-Detects	80.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.19	Minimum Detected	-1.661
Maximum Detected	0.3	Maximum Detected	-1.204
Mean of Detected	0.245	Mean of Detected	-1.432
SD of Detected	0.0778	SD of Detected	0.323
Minimum Non-Detect	9.60E-04	Minimum Non-Detect	-6.949
Maximum Non-Detect	0.023	Maximum Non-Detect	-3.772

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	80.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0525	Mean	-5.115
SD	0.105	SD	2.255
95% DL/2 (t) UCL	0.113	95% H-Stat (DL/2) UCL	7.02

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.201
5% K-S Critical Value	N/A	SD	0.033
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0148
		95% KM (t) UCL	0.228
Assuming Gamma Distribution		95% KM (z) UCL	0.225
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.278
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	0.3
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	0.265
SD	N/A	97.5% KM (Chebyshev) UCL	0.293
k star	N/A	99% KM (Chebyshev) UCL	0.348
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.228
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

alpha-Endosulfan

General Statistics (Units in mg/kg)

Number of Valid Data	14	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	12
		Percent Non-Detects	85.71%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.026	Minimum Detected	-3.65
Maximum Detected	0.04	Maximum Detected	-3.219
Mean of Detected	0.033	Mean of Detected	-3.434
SD of Detected	0.0099	SD of Detected	0.305
Minimum Non-Detect	0.00044	Minimum Non-Detect	-7.729
Maximum Non-Detect	0.021	Maximum Non-Detect	-3.863

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	85.71%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00742	Mean	-6.077
SD	0.0116	SD	1.715
95% DL/2 (t) UCL	0.0129	95% H-Stat (DL/2) UCL	0.0705

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.027
5% K-S Critical Value	N/A	SD	0.00361
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00136
		95% KM (t) UCL	0.0294
Assuming Gamma Distribution		95% KM (z) UCL	0.0292
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0365
Minimum	N/A	95% KM (bootstrap t) UCL	0.027
Maximum	N/A	95% KM (BCA) UCL	0.04
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.04
Median	N/A	95% KM (Chebyshev) UCL	0.0329
SD	N/A	97.5% KM (Chebyshev) UCL	0.0355
k star	N/A	99% KM (Chebyshev) UCL	0.0406
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.0294
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.04
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

beta-Endosulfan

General Statistics (Units in mg/kg)

Number of Valid Data	12	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	11
		Percent Non-Detects	91.67%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable beta-Endosulfan was not processed!

Endrin

General Statistics (Units in mg/kg)

Number of Valid Data	14	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	9
		Percent Non-Detects	64.29%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	0.058	Maximum Detected	-2.847
Mean of Detected	0.0324	Mean of Detected	-3.558
SD of Detected	0.0169	SD of Detected	0.603
Minimum Non-Detect	9.90E-04	Minimum Non-Detect	-6.918
Maximum Non-Detect	0.042	Maximum Non-Detect	-3.17

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	92.86%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.947	Shapiro Wilk Test Statistic	0.922
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0169	Mean	-4.731
SD	0.0163	SD	1.436
95% DL/2 (t) UCL	0.0246	95% H-Stat (DL/2) UCL	0.102

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.392
		SD in Log Scale	0.742
		Mean in Original Scale	0.0167
		SD in Original Scale	0.0154
		95% t UCL	0.024
		95% Percentile Bootstrap UCL	0.0238
		95% BCA Bootstrap UCL	0.0262
		95% H-UCL	0.0267

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.751	Data appear Normal at 5% Significance Level
Theta Star	0.0185	
nu star	17.51	

		Nonparametric Statistics	
A-D Test Statistic	0.308		
5% A-D Critical Value	0.681	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.681	Mean	0.0193
5% K-S Critical Value	0.358	SD	0.0138
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00423
		95% KM (t) UCL	0.0268
Assuming Gamma Distribution		95% KM (z) UCL	0.0262
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0297
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0257
Maximum	0.058	95% KM (BCA) UCL	0.0364
Mean	0.0116	95% KM (Percentile Bootstrap) UCL	0.0349
Median	1.00E-06	95% KM (Chebyshev) UCL	0.0377
SD	0.0186	97.5% KM (Chebyshev) UCL	0.0457
k star	0.155	99% KM (Chebyshev) UCL	0.0613
Theta star	0.0746		
Nu star	4.343	Potential UCLs to Use	
AppChi2	0.862	95% KM (t) UCL	0.0268
95% Gamma Approximate UCL (Use when n >= 40)	0.0583	95% KM (Percentile Bootstrap) UCL	0.0349
95% Adjusted Gamma UCL (Use when n < 40)	0.0739		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin aldehyde

General Statistics (Units in mg/kg)

Number of Valid Data	13	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	10
		Percent Non-Detects	76.92%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0088	Minimum Detected	-4.733
Maximum Detected	0.018	Maximum Detected	-4.017
Mean of Detected	0.0126	Mean of Detected	-4.42
SD of Detected	0.0048	SD of Detected	0.366
Minimum Non-Detect	0.0014	Minimum Non-Detect	-6.571
Maximum Non-Detect	0.042	Maximum Non-Detect	-3.17

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.917	Shapiro Wilk Test Statistic	0.955
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00877	Mean	-5.216
SD	0.00686	SD	1.201
95% DL/2 (t) UCL	0.0122	95% H-Stat (DL/2) UCL	0.034

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.03
		SD in Log Scale	0.401
		Mean in Original Scale	0.00714
		SD in Original Scale	0.00375
		95% t UCL	0.00899
		95% Percentile Bootstrap UCL	0.00892
		95% BCA Bootstrap UCL	0.00951
		95% H-UCL	0.00894

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.0101
5% K-S Critical Value	N/A	SD	0.00276
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00109
		95% KM (t) UCL	0.012
Assuming Gamma Distribution		95% KM (z) UCL	0.0118
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0119
Minimum	N/A	95% KM (bootstrap t) UCL	0.0125
Maximum	N/A	95% KM (BCA) UCL	0.018
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.018
Median	N/A	95% KM (Chebyshev) UCL	0.0148
SD	N/A	97.5% KM (Chebyshev) UCL	0.0169
k star	N/A	99% KM (Chebyshev) UCL	0.0209
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.012
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	0.018
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin ketone

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	2
Number of Distinct Detected Data	1	Number of Non-Detect Data	14
		Percent Non-Detects	87.50%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Endrin ketone was not processed!

Fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	14	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.013	Minimum Detected	-4.343
Maximum Detected	12	Maximum Detected	2.485
Mean of Detected	4.193	Mean of Detected	0.898
SD of Detected	3.168	SD of Detected	1.616
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.92	Shapiro Wilk Test Statistic	0.704
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.971	Mean	0.815
SD	3.186	SD	1.596
95% DL/2 (t) UCL	5.368	95% H-Stat (DL/2) UCL	37.41
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.572	Mean in Log Scale	0.781
SD	3.666	SD in Log Scale	1.63
95% MLE (t) UCL	5.179	Mean in Original Scale	3.954
95% MLE (Tiku) UCL	5.244	SD in Original Scale	3.206
		95% t UCL	5.359
		95% Percentile Bootstrap UCL	5.231
		95% BCA Bootstrap UCL	5.483
		95% H UCL	40.49
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.901	Data appear Normal at 5% Significance Level	
Theta Star	4.655		
nu star	27.02		
A-D Test Statistic	0.601	Nonparametric Statistics	
5% A-D Critical Value	0.762	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.762	Mean	3.972
5% K-S Critical Value	0.228	SD	3.086
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.799
		95% KM (t) UCL	5.374
Assuming Gamma Distribution		95% KM (z) UCL	5.287
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.372
Minimum	0.013	95% KM (bootstrap t) UCL	5.869
Maximum	12	95% KM (BCA) UCL	5.383
Mean	3.934	95% KM (Percentile Bootstrap) UCL	5.304
Median	3.4	95% KM (Chebyshev) UCL	7.457
SD	3.231	97.5% KM (Chebyshev) UCL	8.965
k star	0.718	99% KM (Chebyshev) UCL	11.93
Theta star	5.482		
Nu star	22.96	Potential UCLs to Use	
AppChi2	13.06	95% KM (t) UCL	5.374
95% Gamma Approximate UCL (Use when n >= 40)	6.916	95% KM (Percentile Bootstrap) UCL	5.304
95% Adjusted Gamma UCL (Use when n < 40)	7.394		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluorene

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	7
		Percent Non-Detects	43.75%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.041	Minimum Detected	-3.194
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.303	Mean of Detected	-1.804
SD of Detected	0.427	SD of Detected	1.113
Minimum Non-Detect	0.0013	Minimum Non-Detect	-6.645
Maximum Non-Detect	4.1	Maximum Non-Detect	1.411

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.624	Shapiro Wilk Test Statistic	0.935
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.566	Mean	-1.598
SD	0.658	SD	2.001
95% DL/2 (t) UCL	0.854	95% H-Stat (DL/2) UCL	15.09

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.148
		SD in Log Scale	1.03
		Mean in Original Scale	0.209
		SD in Original Scale	0.331
		95% t UCL	0.355
		95% Percentile Bootstrap UCL	0.361
		95% BCA Bootstrap UCL	0.456
		95% H-UCL	0.412

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.708	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.428		
nu star	12.75		

A-D Test Statistic	0.571	Nonparametric Statistics	
5% A-D Critical Value	0.745	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.745	Mean	0.241
5% K-S Critical Value	0.287	SD	0.352
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.104
		95% KM (t) UCL	0.424
Assuming Gamma Distribution		95% KM (z) UCL	0.413
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.422
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.723
Maximum	1.4	95% KM (BCA) UCL	0.408
Mean	0.221	95% KM (Percentile Bootstrap) UCL	0.427
Median	0.134	95% KM (Chebyshev) UCL	0.696
SD	0.33	97.5% KM (Chebyshev) UCL	0.893
k star	0.342	99% KM (Chebyshev) UCL	1.28
Theta star	0.646		
Nu star	10.93	Potential UCLs to Use	
AppChi2	4.534	95% KM (BCA) UCL	0.408
95% Gamma Approximate UCL (Use when n >= 40)	0.533		
95% Adjusted Gamma UCL (Use when n < 40)	0.593		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

gamma-BHC (Lindane)

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	5
Number of Distinct Detected Data	4	Number of Non-Detect Data	11
		Percent Non-Detects	68.75%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0019	Minimum Detected	-6.266
Maximum Detected	0.0092	Maximum Detected	-4.689
Mean of Detected	0.0059	Mean of Detected	-5.277
SD of Detected	0.00314	SD of Detected	0.644
Minimum Non-Detect	4.40E-04	Minimum Non-Detect	-7.729
Maximum Non-Detect	0.021	Maximum Non-Detect	-3.863

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.881	Shapiro Wilk Test Statistic	0.875
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00415	Mean	-6.117
SD	0.00355	SD	1.4
95% DL/2 (t) UCL	0.00571	95% H-Stat (DL/2) UCL	0.0198
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.145
		SD in Log Scale	0.732
		Mean in Original Scale	0.00288
		SD in Original Scale	0.00268
		95% t UCL	0.00405
		95% Percentile Bootstrap UCL	0.00397
		95% BCA Bootstrap UCL	0.00429
		95% H-UCL	0.00434
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.583	Data appear Normal at 5% Significance Level	
Theta Star	0.00373		
nu star	15.83		
A-D Test Statistic	0.409	Nonparametric Statistics	
5% A-D Critical Value	0.682	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.682	Mean	0.0036
5% K-S Critical Value	0.359	SD	0.0026
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	8.33E-04
		95% KM (t) UCL	0.00506
Assuming Gamma Distribution		95% KM (z) UCL	0.00497
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00536
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.00481
Maximum	0.0092	95% KM (BCA) UCL	0.00902
Mean	0.00184	95% KM (Percentile Bootstrap) UCL	0.00638
Median	1.00E-06	95% KM (Chebyshev) UCL	0.00723
SD	0.00326	97.5% KM (Chebyshev) UCL	0.0088
k star	0.169	99% KM (Chebyshev) UCL	0.0119
Theta star	0.0109		
Nu star	5.424	Potential UCLs to Use	
AppChi2	1.353	95% KM (t) UCL	0.00506
95% Gamma Approximate UCL (Use when n >= 40)	0.00739	95% KM (Percentile Bootstrap) UCL	0.00638
95% Adjusted Gamma UCL (Use when n < 40)	0.0088		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	15
		Percent Non-Detects	93.75%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Heptachlor was not processed!

Heptachlor epoxide

General Statistics (Units in mg/kg)

Number of Valid Data	9	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	8
		Percent Non-Detects	88.89%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Heptachlor epoxide was not processed!

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	13	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0094	Minimum Detected	-4.667
Maximum Detected	3.4	Maximum Detected	1.224
Mean of Detected	1.843	Mean of Detected	0.181
SD of Detected	1.028	SD of Detected	1.482
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.956	Shapiro Wilk Test Statistic	0.637
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.768	Mean	0.143
SD	1.037	SD	1.44
95% DL/2 (t) UCL	2.223	95% H-Stat (DL/2) UCL	11.68
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.854	Mean in Log Scale	0.0777
SD	0.911	SD in Log Scale	1.49
95% MLE (t) UCL	2.253	Mean in Original Scale	1.742
95% MLE (Tiku) UCL	2.269	SD in Original Scale	1.072
		95% t UCL	2.212
		95% Percentile Bootstrap UCL	2.171
		95% BCA Bootstrap UCL	2.152
		95% H UCL	12.75
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.087	Data appear Normal at 5% Significance Level	
Theta Star	1.695		
nu star	32.62		
A-D Test Statistic	1.187	Nonparametric Statistics	
5% A-D Critical Value	0.757	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.757	Mean	1.747
5% K-S Critical Value	0.226	SD	1.032
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.268
		95% KM (t) UCL	2.216
Assuming Gamma Distribution		95% KM (z) UCL	2.187
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.217
Minimum	0.0094	95% KM (bootstrap t) UCL	2.216
Maximum	3.4	95% KM (BCA) UCL	2.213
Mean	1.751	95% KM (Percentile Bootstrap) UCL	2.194
Median	1.6	95% KM (Chebyshev) UCL	2.914
SD	1.059	97.5% KM (Chebyshev) UCL	3.419
k star	1.054	99% KM (Chebyshev) UCL	4.411
Theta star	1.661		
Nu star	33.73	Potential UCLs to Use	
AppChi2	21.45	95% KM (t) UCL	2.216
95% Gamma Approximate UCL (Use when n >= 40)	2.753	95% KM (Percentile Bootstrap) UCL	2.194
95% Adjusted Gamma UCL (Use when n < 40)	2.904		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	16
Raw Statistics		Log-transformed Statistics	
Minimum	5.5	Minimum of Log Data	1.705
Maximum	350	Maximum of Log Data	5.858
Mean	117.3	Mean of log Data	4.335
Geometric Mean	76.33	SD of log Data	1.107
Median	92.6		
SD	97.63		
Std. Error of Mean	24.41		
Coefficient of Variation	0.833		
Skewness	1.075		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.895	Shapiro Wilk Test Statistic	0.933
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	160	95% H-UCL	320.3
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	312.1
95% Adjusted-CLT UCL (Chen-1995)	164.4	97.5% Chebyshev (MVUE) UCL	389.4
95% Modified-t UCL (Johnson-1978)	161.1	99% Chebyshev (MVUE) UCL	541.5
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.103	Data appear Normal at 5% Significance Level	
Theta Star	106.3		
MLE of Mean	117.3		
MLE of Standard Deviation	111.6		
nu star	35.29		
Approximate Chi Square Value (.05)	22.7	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	157.4
Adjusted Chi Square Value	21.56	95% Jackknife UCL	160
		95% Standard Bootstrap UCL	155.4
Anderson-Darling Test Statistic	0.202	95% Bootstrap-t UCL	170
Anderson-Darling 5% Critical Value	0.758	95% Hall's Bootstrap UCL	167.5
Kolmogorov-Smirnov Test Statistic	0.136	95% Percentile Bootstrap UCL	158.4
Kolmogorov-Smirnov 5% Critical Value	0.22	95% BCA Bootstrap UCL	162.9
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	223.6
		97.5% Chebyshev(Mean, Sd) UCL	269.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	360.1
95% Approximate Gamma UCL (Use when n >= 40)	182.3		
95% Adjusted Gamma UCL (Use when n < 40)	192		
Potential UCL to Use		Use 95% Student's-t UCL	160

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	11
Number of Distinct Detected Data	10	Number of Non-Detect Data	5
		Percent Non-Detects	31.25%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.012	Minimum Detected	-4.423
Maximum Detected	2.1	Maximum Detected	0.742
Mean of Detected	0.481	Mean of Detected	-1.242
SD of Detected	0.562	SD of Detected	1.242
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.024	Maximum Non-Detect	-3.73
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	37.50%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.626	Shapiro Wilk Test Statistic	0.817
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.332	Mean	-3.031
SD	0.513	SD	3.012
95% DL/2 (t) UCL	0.556	95% H-Stat (DL/2) UCL	677.7
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.147	Mean in Log Scale	-2.062
SD	0.695	SD in Log Scale	1.641
95% MLE (t) UCL	0.452	Mean in Original Scale	0.338
95% MLE (Tiku) UCL	0.483	SD in Original Scale	0.508
		95% t UCL	0.561
		95% Percentile Bootstrap UCL	0.567
		95% BCA Bootstrap UCL	0.675
		95% H UCL	2.441
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.873	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.551		
nu star	19.2		
A-D Test Statistic	0.724	Nonparametric Statistics	
5% A-D Critical Value	0.749	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.749	Mean	0.335
5% K-S Critical Value	0.262	SD	0.494
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.13
		95% KM (t) UCL	0.562
Assuming Gamma Distribution		95% KM (z) UCL	0.548
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.538
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.819
Maximum	2.1	95% KM (BCA) UCL	0.65
Mean	0.331	95% KM (Percentile Bootstrap) UCL	0.588
Median	0.24	95% KM (Chebyshev) UCL	0.9
SD	0.513	97.5% KM (Chebyshev) UCL	1.144
k star	0.191	99% KM (Chebyshev) UCL	1.624
Theta star	1.734		
Nu star	6.104	Potential UCLs to Use	
AppChi2	1.693	95% KM (BCA) UCL	0.65
95% Gamma Approximate UCL (Use when n >= 40)	1.192		
95% Adjusted Gamma UCL (Use when n < 40)	1.399		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Methoxychlor

General Statistics (Units in mg/kg)

Number of Valid Data	14	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	12
		Percent Non-Detects	85.71%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.015	Minimum Detected	-4.2
Maximum Detected	0.028	Maximum Detected	-3.576
Mean of Detected	0.0215	Mean of Detected	-3.888
SD of Detected	0.00919	SD of Detected	0.441
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.21	Maximum Non-Detect	-1.561

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0297	Mean	-4.26
SD	0.0326	SD	1.401
95% DL/2 (t) UCL	0.0451	95% H-Stat (DL/2) UCL	0.147

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.0166
5% K-S Critical Value	N/A	SD	0.0043
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00215
		95% KM (t) UCL	0.0204
Assuming Gamma Distribution		95% KM (z) UCL	0.0202
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0252
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	0.028
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.028
Median	N/A	95% KM (Chebyshev) UCL	0.026
SD	N/A	97.5% KM (Chebyshev) UCL	0.03
k star	N/A	99% KM (Chebyshev) UCL	0.038
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.0204
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.028
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Nickel

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	16

Raw Statistics		Log-transformed Statistics	
Minimum	5.1	Minimum of Log Data	1.629
Maximum	42	Maximum of Log Data	3.738
Mean	19.44	Mean of log Data	2.773
Geometric Mean	16	SD of log Data	0.661
Median	16.1		
SD	12.17		
Std. Error of Mean	3.044		
Coefficient of Variation	0.626		
Skewness	0.726		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.9	Shapiro Wilk Test Statistic	0.961
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	24.78	95% H-UCL	29.14
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	34.44
95% Adjusted-CLT UCL (Chen-1995)	25.04	97.5% Chebyshev (MVUE) UCL	40.86
95% Modified-t UCL (Johnson-1978)	24.87	99% Chebyshev (MVUE) UCL	53.48

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.252	Data appear Normal at 5% Significance Level	
Theta Star	8.632		
MLE of Mean	19.44		
MLE of Standard Deviation	12.96		
nu star	72.08		
Approximate Chi Square Value (.05)	53.53	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	24.45
Adjusted Chi Square Value	51.71	95% Jackknife UCL	24.78
		95% Standard Bootstrap UCL	24.4
Anderson-Darling Test Statistic	0.283	95% Bootstrap-t UCL	25.26
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL	24.64
Kolmogorov-Smirnov Test Statistic	0.12	95% Percentile Bootstrap UCL	24.27
Kolmogorov-Smirnov 5% Critical Value	0.217	95% BCA Bootstrap UCL	24.98
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	32.71
		97.5% Chebyshev(Mean, Sd) UCL	38.45
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	49.73
95% Approximate Gamma UCL (Use when n >= 40)	26.18		
95% Adjusted Gamma UCL (Use when n < 40)	27.1		

Potential UCL to Use	Use 95% Student's-t UCL	24.78

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	2
		Percent Non-Detects	12.50%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.014	Minimum Detected	-4.269
Maximum Detected	14	Maximum Detected	2.639
Mean of Detected	2.782	Mean of Detected	0.397
SD of Detected	3.404	SD of Detected	1.54
Minimum Non-Detect	0.1	Minimum Non-Detect	-2.303
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	37.50%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.607	Shapiro Wilk Test Statistic	0.765
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.478	Mean	0.134
SD	3.278	SD	1.672
95% DL/2 (t) UCL	3.914	95% H-Stat (DL/2) UCL	24.43
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.559	Mean in Log Scale	0.13
SD	4.158	SD in Log Scale	1.618
95% MLE (t) UCL	3.382	Mean in Original Scale	2.458
95% MLE (Tiku) UCL	3.564	SD in Original Scale	3.291
		95% t UCL	3.9
		95% Percentile Bootstrap UCL	3.92
		95% BCA Bootstrap UCL	4.555
		95% H UCL	20.26
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.779	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.572		
nu star	21.81		
A-D Test Statistic	0.702	Nonparametric Statistics	
5% A-D Critical Value	0.763	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.763	Mean	2.466
5% K-S Critical Value	0.236	SD	3.183
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.826
		95% KM (t) UCL	3.914
Assuming Gamma Distribution		95% KM (z) UCL	3.825
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.879
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.811
Maximum	14	95% KM (BCA) UCL	4.178
Mean	2.434	95% KM (Percentile Bootstrap) UCL	3.977
Median	1.9	95% KM (Chebyshev) UCL	6.068
SD	3.309	97.5% KM (Chebyshev) UCL	7.626
k star	0.288	99% KM (Chebyshev) UCL	10.69
Theta star	8.446		
Nu star	9.222	Potential UCLs to Use	
AppChi2	3.461	95% KM (Chebyshev) UCL	6.068
95% Gamma Approximate UCL (Use when n >= 40)	6.485		
95% Adjusted Gamma UCL (Use when n < 40)	7.31		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	16

Raw Statistics		Log-transformed Statistics	
Minimum	0.032	Minimum of Log Data	-3.442
Maximum	17	Maximum of Log Data	2.833
Mean	5.111	Mean of log Data	0.938
Geometric Mean	2.555	SD of log Data	1.639
Median	4.05		
SD	4.986		
Std. Error of Mean	1.247		
Coefficient of Variation	0.976		
Skewness	1.571		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.812	Shapiro Wilk Test Statistic	0.837
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	7.296	95% H-UCL	48.71
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	25.55
95% Adjusted-CLT UCL (Chen-1995)	7.684	97.5% Chebyshev (MVUE) UCL	33.01
95% Modified-t UCL (Johnson-1978)	7.378	99% Chebyshev (MVUE) UCL	47.66

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.732	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	6.983		
MLE of Mean	5.111		
MLE of Standard Deviation	5.974		
nu star	23.42		
Approximate Chi Square Value (.05)	13.41	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	7.161
Adjusted Chi Square Value	12.55	95% Jackknife UCL	7.296
		95% Standard Bootstrap UCL	7.102
Anderson-Darling Test Statistic	0.418	95% Bootstrap-t UCL	8.767
Anderson-Darling 5% Critical Value	0.77	95% Hall's Bootstrap UCL	20.05
Kolmogorov-Smirnov Test Statistic	0.161	95% Percentile Bootstrap UCL	7.132
Kolmogorov-Smirnov 5% Critical Value	0.222	95% BCA Bootstrap UCL	7.869
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	10.54
		97.5% Chebyshev(Mean, Sd) UCL	12.9
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	17.51
95% Approximate Gamma UCL (Use when n >= 40)	8.927		
95% Adjusted Gamma UCL (Use when n < 40)	9.536		

Potential UCL to Use		Use 95% Approximate Gamma UCL	8.927

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Silver

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	12
Number of Distinct Detected Data	11	Number of Non-Detect Data	4
		Percent Non-Detects	25.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.13	Minimum Detected	-2.04
Maximum Detected	11	Maximum Detected	2.398
Mean of Detected	4.045	Mean of Detected	0.732
SD of Detected	4.198	SD of Detected	1.37
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.089	Maximum Non-Detect	-2.419
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	25.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.792	Shapiro Wilk Test Statistic	0.939
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.037	Mean	-1.071
SD	4.022	SD	3.575
95% DL/2 (t) UCL	4.799	95% H-Stat (DL/2) UCL	222505
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.269	Mean in Log Scale	-0.0657
SD	4.815	SD in Log Scale	1.863
95% MLE (t) UCL	4.379	Mean in Original Scale	3.057
95% MLE (Tiku) UCL	4.429	SD in Original Scale	4.006
		95% t UCL	4.813
		95% Percentile Bootstrap UCL	4.702
		95% BCA Bootstrap UCL	5.067
		95% H UCL	40.32
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.716	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	5.647		
nu star	17.19		
A-D Test Statistic	0.349	Nonparametric Statistics	
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	3.066
5% K-S Critical Value	0.254	SD	3.872
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.011
		95% KM (t) UCL	4.839
Assuming Gamma Distribution		95% KM (z) UCL	4.729
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.76
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.291
Maximum	11	95% KM (BCA) UCL	5.026
Mean	3.034	95% KM (Percentile Bootstrap) UCL	4.881
Median	1.35	95% KM (Chebyshev) UCL	7.473
SD	4.025	97.5% KM (Chebyshev) UCL	9.38
k star	0.192	99% KM (Chebyshev) UCL	13.13
Theta star	15.77		
Nu star	6.155	Potential UCLs to Use	
AppChi2	1.72	95% KM (Chebyshev) UCL	7.473
95% Gamma Approximate UCL (Use when n >= 40)	10.86		
95% Adjusted Gamma UCL (Use when n < 40)	12.73		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	15

Raw Statistics		Log-transformed Statistics	
Minimum	14.3	Minimum of Log Data	2.66
Maximum	590	Maximum of Log Data	6.38
Mean	192.9	Mean of log Data	4.913
Geometric Mean	136.1	SD of log Data	0.937
Median	138.5		
SD	159.2		
Std. Error of Mean	39.79		
Coefficient of Variation	0.825		
Skewness	1.3		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.866	Shapiro Wilk Test Statistic	0.96
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	262.7	95% H-UCL	397
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	430.1
95% Adjusted-CLT UCL (Chen-1995)	272.2	97.5% Chebyshev (MVUE) UCL	528.2
95% Modified-t UCL (Johnson-1978)	264.8	99% Chebyshev (MVUE) UCL	720.8

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.325	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	145.6		
MLE of Mean	192.9		
MLE of Standard Deviation	167.6		
nu star	42.38		
Approximate Chi Square Value (.05)	28.46	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	258.4
Adjusted Chi Square Value	27.16	95% Jackknife UCL	262.7
		95% Standard Bootstrap UCL	256.6
Anderson-Darling Test Statistic	0.245	95% Bootstrap-t UCL	290.3
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	294.5
Kolmogorov-Smirnov Test Statistic	0.126	95% Percentile Bootstrap UCL	255.4
Kolmogorov-Smirnov 5% Critical Value	0.219	95% BCA Bootstrap UCL	270.9
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	366.4
		97.5% Chebyshev(Mean, Sd) UCL	441.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	588.8
95% Approximate Gamma UCL (Use when n >= 40)	287.3		
95% Adjusted Gamma UCL (Use when n < 40)	301		

Potential UCL to Use	Use 95% Approximate Gamma UCL	287.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total LMW PAHs

General Statistics (Units in mg/kg)			
Number of Valid Data	16	Number of Detected Data	15
Number of Distinct Detected Data	15	Number of Non-Detect Data	1
		Percent Non-Detects	6.25%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0209	Minimum Detected	-3.868
Maximum Detected	20.32	Maximum Detected	3.012
Mean of Detected	3.583	Mean of Detected	0.529
SD of Detected	4.913	SD of Detected	1.586
Minimum Non-Detect	1.3	Minimum Non-Detect	0.262
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.6	Shapiro Wilk Test Statistic	0.864
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.4	Mean	0.469
SD	4.803	SD	1.551
95% DL/2 (t) UCL	5.505	95% H-Stat (DL/2) UCL	22.8
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.828	Mean in Log Scale	0.433
SD	6.27	SD in Log Scale	1.579
95% MLE (t) UCL	4.576	Mean in Original Scale	3.382
95% MLE (Tiku) UCL	4.851	SD in Original Scale	4.814
		95% t UCL	5.492
		95% Percentile Bootstrap UCL	5.586
		95% BCA Bootstrap UCL	6.592
		95% H UCL	24.14
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.681	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	5.265		
nu star	20.42		
A-D Test Statistic	0.463	Nonparametric Statistics	
5% A-D Critical Value	0.773	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.773	Mean	3.402
5% K-S Critical Value	0.23	SD	4.651
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.204
		95% KM (t) UCL	5.512
Assuming Gamma Distribution		95% KM (z) UCL	5.382
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.508
Minimum	1.00E-06	95% KM (bootstrap t) UCL	8.885
Maximum	20.32	95% KM (BCA) UCL	5.721
Mean	3.359	95% KM (Percentile Bootstrap) UCL	5.624
Median	2.23	95% KM (Chebyshev) UCL	8.65
SD	4.83	97.5% KM (Chebyshev) UCL	10.92
k star	0.378	99% KM (Chebyshev) UCL	15.38
Theta star	8.878		
Nu star	12.11	Potential UCLs to Use	
AppChi2	5.298	95% KM (Chebyshev) UCL	8.65
95% Gamma Approximate UCL (Use when n >= 40)	7.677		
95% Adjusted Gamma UCL (Use when n < 40)	8.484		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total HMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Observations	16	Number of Distinct Observations	16
Raw Statistics		Log-transformed Statistics	
Minimum	0.115	Minimum of Log Data	-2.165
Maximum	66.2	Maximum of Log Data	4.193
Mean	24.3	Mean of log Data	2.462
Geometric Mean	11.73	SD of log Data	1.889
Median	22.57		
SD	19.4		
Std. Error of Mean	4.849		
Coefficient of Variation	0.798		
Skewness	0.934		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.915	Shapiro Wilk Test Statistic	0.724
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	32.8	95% H-UCL	558.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	186.2
95% Adjusted-CLT UCL (Chen-1995)	33.49	97.5% Chebyshev (MVUE) UCL	243.2
95% Modified-t UCL (Johnson-1978)	32.99	99% Chebyshev (MVUE) UCL	355
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.702	Data appear Normal at 5% Significance Level	
Theta Star	34.59		
MLE of Mean	24.3		
MLE of Standard Deviation	28.99		
nu star	22.48		
Approximate Chi Square Value (.05)	12.7	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	32.28
Adjusted Chi Square Value	11.87	95% Jackknife UCL	32.8
		95% Standard Bootstrap UCL	32.12
Anderson-Darling Test Statistic	0.859	95% Bootstrap-t UCL	35.27
Anderson-Darling 5% Critical Value	0.772	95% Hall's Bootstrap UCL	36.67
Kolmogorov-Smirnov Test Statistic	0.201	95% Percentile Bootstrap UCL	32.35
Kolmogorov-Smirnov 5% Critical Value	0.223	95% BCA Bootstrap UCL	33.5
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	45.44
		97.5% Chebyshev(Mean, Sd) UCL	54.58
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	72.55
95% Approximate Gamma UCL (Use when n >= 40)	43.02		
95% Adjusted Gamma UCL (Use when n < 40)	46.03		
Potential UCL to Use		Use 95% Student's-t UCL	32.8

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	33
Number of Distinct Detected Data	31	Number of Non-Detect Data	9
		Percent Non-Detects	21.43%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.02	Minimum Detected	-3.912
Maximum Detected	25	Maximum Detected	3.219
Mean of Detected	3.496	Mean of Detected	0.0644
SD of Detected	6.034	SD of Detected	1.715
Minimum Non-Detect	0.013	Minimum Non-Detect	-4.343
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	25
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	40.48%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.585	Shapiro Wilk Test Statistic	0.982
5% Shapiro Wilk Critical Value	0.931	5% Shapiro Wilk Critical Value	0.931
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.767	Mean	-0.58
SD	5.515	SD	2.045
95% DL/2 (t) UCL	4.199	95% H-Stat (DL/2) UCL	14.86
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.402	Mean in Log Scale	-0.639
SD	7.69	SD in Log Scale	2.062
95% MLE (t) UCL	2.399	Mean in Original Scale	2.757
95% MLE (Tiku) UCL	2.657	SD in Original Scale	5.52
		95% t UCL	4.191
		95% Percentile Bootstrap UCL	4.299
		95% BCA Bootstrap UCL	4.711
		95% H UCL	14.75
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.502	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	6.962		
nu star	33.14		
A-D Test Statistic	0.73	Nonparametric Statistics	
5% A-D Critical Value	0.808	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.808	Mean	2.758
5% K-S Critical Value	0.162	SD	5.453
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.855
		95% KM (t) UCL	4.196
Assuming Gamma Distribution		95% KM (z) UCL	4.164
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.187
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.349
Maximum	25	95% KM (BCA) UCL	4.24
Mean	2.747	95% KM (Percentile Bootstrap) UCL	4.239
Median	0.57	95% KM (Chebyshev) UCL	6.483
SD	5.525	97.5% KM (Chebyshev) UCL	8.095
k star	0.192	99% KM (Chebyshev) UCL	11.26
Theta star	14.33		
Nu star	16.1	Potential UCLs to Use	
AppChi2	8.033	95% KM (Chebyshev) UCL	6.483
95% Gamma Approximate UCL (Use when n >= 40)	5.506		
95% Adjusted Gamma UCL (Use when n < 40)	5.649		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

di-n-Butyl phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	16	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	9
		Percent Non-Detects	56.25%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.18	Minimum Detected	-1.715
Maximum Detected	2.4	Maximum Detected	0.875
Mean of Detected	1.526	Mean of Detected	0.169
SD of Detected	0.837	SD of Detected	0.933
Minimum Non-Detect	0.041	Minimum Non-Detect	-3.194
Maximum Non-Detect	0.17	Maximum Non-Detect	-1.772

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	7
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	56.25%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.919	Shapiro Wilk Test Statistic	0.793
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.692	Mean	-1.769
SD	0.926	SD	1.898
95% DL/2 (t) UCL	1.097	95% H-Stat (DL/2) UCL	8.407

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.136
		SD in Log Scale	1.327
		Mean in Original Scale	0.733
		SD in Original Scale	0.895
		95% t UCL	1.125
		95% Percentile Bootstrap UCL	1.098
		95% BCA Bootstrap UCL	1.16
		95% H-UCL	2.348

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.307	Data appear Normal at 5% Significance Level
Theta Star	1.167	
nu star	18.3	

		Nonparametric Statistics	
A-D Test Statistic	0.551		
5% A-D Critical Value	0.715	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.715	Mean	0.769
5% K-S Critical Value	0.315	SD	0.842
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.227
		95% KM (t) UCL	1.167
Assuming Gamma Distribution		95% KM (z) UCL	1.143
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.168
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.168
Maximum	2.4	95% KM (BCA) UCL	1.888
Mean	0.668	95% KM (Percentile Bootstrap) UCL	1.625
Median	1.00E-06	95% KM (Chebyshev) UCL	1.76
SD	0.944	97.5% KM (Chebyshev) UCL	2.188
k star	0.131	99% KM (Chebyshev) UCL	3.031
Theta star	5.094		
Nu star	4.193	Potential UCLs to Use	
AppChi2	0.8	95% KM (t) UCL	1.167
95% Gamma Approximate UCL (Use when n >= 40)	3.501	95% KM (Percentile Bootstrap) UCL	1.625
95% Adjusted Gamma UCL (Use when n < 40)	4.307		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total DDx

General Statistics (Units in mg/kg)

Number of Valid Data	14	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	7
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0082	Minimum Detected	-4.804
Maximum Detected	0.256	Maximum Detected	-1.363
Mean of Detected	0.0904	Mean of Detected	-2.79
SD of Detected	0.0806	SD of Detected	1.066
Minimum Non-Detect	0.003	Minimum Non-Detect	-5.809
Maximum Non-Detect	0.042	Maximum Non-Detect	-3.17

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	6
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	57.14%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.844	Shapiro Wilk Test Statistic	0.931
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0504	Mean	-3.802
SD	0.0689	SD	1.406
95% DL/2 (t) UCL	0.083	95% H-Stat (DL/2) UCL	0.236

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0156	Mean in Log Scale	-4.025
SD	0.103	SD in Log Scale	1.492
95% MLE (t) UCL	0.0645	Mean in Original Scale	0.0479
95% MLE (Tiku) UCL	0.0823	SD in Original Scale	0.0703
		95% t UCL	0.0812
		95% Percentile Bootstrap UCL	0.0786
		95% BCA Bootstrap UCL	0.0949
		95% H UCL	0.249

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.917	Data appear Normal at 5% Significance Level
Theta Star	0.0986	
nu star	12.84	

		Nonparametric Statistics	
A-D Test Statistic	0.237		
5% A-D Critical Value	0.722	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.722	Mean	0.0493
5% K-S Critical Value	0.317	SD	0.0669
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0193
		95% KM (t) UCL	0.0835
Assuming Gamma Distribution		95% KM (z) UCL	0.0811
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0806
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.104
Maximum	0.256	95% KM (BCA) UCL	0.107
Mean	0.0452	95% KM (Percentile Bootstrap) UCL	0.0946
Median	0.0041	95% KM (Chebyshev) UCL	0.133
SD	0.0721	97.5% KM (Chebyshev) UCL	0.17
k star	0.164	99% KM (Chebyshev) UCL	0.241
Theta star	0.276		
Nu star	4.588	Potential UCLs to Use	
AppChi2	0.967	95% KM (t) UCL	0.0835
95% Gamma Approximate UCL (Use when n >= 40)	0.215	95% KM (Percentile Bootstrap) UCL	0.0946
95% Adjusted Gamma UCL (Use when n < 40)	0.27		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

2-Methylnaphthalene

General Statistics (Units in mg/kg)			
Number of Valid Data	15	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	4
		Percent Non-Detects	26.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0047	Minimum Detected	-5.36
Maximum Detected	0.081	Maximum Detected	-2.513
Mean of Detected	0.0281	Mean of Detected	-4.034
SD of Detected	0.0289	SD of Detected	0.997
Minimum Non-Detect	0.0056	Minimum Non-Detect	-5.185
Maximum Non-Detect	3	Maximum Non-Detect	1.099
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.757	Shapiro Wilk Test Statistic	0.915
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.192	Mean	-3.591
SD	0.449	SD	1.828
95% DL/2 (t) UCL	0.396	95% H-Stat (DL/2) UCL	1.158
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.206
		SD in Log Scale	0.955
		Mean in Original Scale	0.0235
		SD in Original Scale	0.0258
		95% t UCL	0.0353
		95% Percentile Bootstrap UCL	0.0353
		95% BCA Bootstrap UCL	0.0376
		95% H-UCL	0.0465
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.947	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0297		
nu star	20.83		
A-D Test Statistic	0.668	Nonparametric Statistics	
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	0.025
5% K-S Critical Value	0.261	SD	0.0265
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00771
		95% KM (t) UCL	0.0386
Assuming Gamma Distribution		95% KM (z) UCL	0.0377
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0385
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0484
Maximum	0.081	95% KM (BCA) UCL	0.0389
Mean	0.0246	95% KM (Percentile Bootstrap) UCL	0.0382
Median	0.014	95% KM (Chebyshev) UCL	0.0586
SD	0.0257	97.5% KM (Chebyshev) UCL	0.0732
k star	0.552	99% KM (Chebyshev) UCL	0.102
Theta star	0.0445		
Nu star	16.55	Potential UCLs to Use	
AppChi2	8.351	95% KM (Chebyshev) UCL	0.0586
95% Gamma Approximate UCL (Use when n >= 40)	0.0487		
95% Adjusted Gamma UCL (Use when n < 40)	0.0532		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthene

General Statistics (Units in mg/kg)			
Number of Valid Data	15	Number of Detected Data	13
Number of Distinct Detected Data	12	Number of Non-Detect Data	2
		Percent Non-Detects	13.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0027	Minimum Detected	-5.915
Maximum Detected	0.19	Maximum Detected	-1.661
Mean of Detected	0.0832	Mean of Detected	-2.952
SD of Detected	0.0621	SD of Detected	1.238
Minimum Non-Detect	2.1	Minimum Non-Detect	0.742
Maximum Non-Detect	3	Maximum Non-Detect	1.099
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.933	Shapiro Wilk Test Statistic	0.879
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.242	Mean	-2.528
SD	0.432	SD	1.603
95% DL/2 (t) UCL	0.438	95% H-Stat (DL/2) UCL	1.471
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.952
		SD in Log Scale	1.146
		Mean in Original Scale	0.0791
		SD in Original Scale	0.0585
		95% t UCL	0.106
		95% Percentile Bootstrap UCL	0.104
		95% BCA Bootstrap UCL	0.105
		95% H-UCL	0.251
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.985	Data appear Normal at 5% Significance Level	
Theta Star	0.0845		
nu star	25.62		
A-D Test Statistic	0.385	Nonparametric Statistics	
5% A-D Critical Value	0.754	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.754	Mean	0.0832
5% K-S Critical Value	0.242	SD	0.0596
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0172
		95% KM (t) UCL	0.114
Assuming Gamma Distribution		95% KM (z) UCL	0.112
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.114
Minimum	0.0027	95% KM (bootstrap t) UCL	0.116
Maximum	0.19	95% KM (BCA) UCL	0.109
Mean	0.0831	95% KM (Percentile Bootstrap) UCL	0.112
Median	0.0824	95% KM (Chebyshev) UCL	0.158
SD	0.0575	97.5% KM (Chebyshev) UCL	0.191
k star	1.151	99% KM (Chebyshev) UCL	0.254
Theta star	0.0722		
Nu star	34.52	Potential UCLs to Use	
AppChi2	22.08	95% KM (t) UCL	0.114
95% Gamma Approximate UCL (Use when n >= 40)	0.13	95% KM (Percentile Bootstrap) UCL	0.112
95% Adjusted Gamma UCL (Use when n < 40)	0.138		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	6
		Percent Non-Detects	40.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0014	Minimum Detected	-6.571
Maximum Detected	0.026	Maximum Detected	-3.65
Mean of Detected	0.0077	Mean of Detected	-5.335
SD of Detected	0.00888	SD of Detected	0.96
Minimum Non-Detect	0.0037	Minimum Non-Detect	-5.599
Maximum Non-Detect	3	Maximum Non-Detect	1.099

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.683	Shapiro Wilk Test Statistic	0.872
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.175	Mean	-4.708
SD	0.454	SD	2.147
95% DL/2 (t) UCL	0.382	95% H-Stat (DL/2) UCL	1.462

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.467
		SD in Log Scale	0.751
		Mean in Original Scale	0.00602
		SD in Original Scale	0.00705
		95% t UCL	0.00923
		95% Percentile Bootstrap UCL	0.00916
		95% BCA Bootstrap UCL	0.0102
		95% H-UCL	0.00902

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.878	Data appear Lognormal at 5% Significance Level
Theta Star	0.00877	
nu star	15.81	

		Nonparametric Statistics	
A-D Test Statistic	0.938		
5% A-D Critical Value	0.74	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.74	Mean	0.00629
5% K-S Critical Value	0.286	SD	0.0073
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00216
		95% KM (t) UCL	0.0101
Assuming Gamma Distribution		95% KM (z) UCL	0.00984
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0101
Minimum	0.0014	95% KM (bootstrap t) UCL	0.0232
Maximum	0.026	95% KM (BCA) UCL	0.0103
Mean	0.00651	95% KM (Percentile Bootstrap) UCL	0.00995
Median	0.00454	95% KM (Chebyshev) UCL	0.0157
SD	0.00694	97.5% KM (Chebyshev) UCL	0.0198
k star	1.373	99% KM (Chebyshev) UCL	0.0278
Theta star	0.00474		
Nu star	41.19	Potential UCLs to Use	
AppChi2	27.49	95% KM (t) UCL	0.0101
95% Gamma Approximate UCL (Use when n >= 40)	0.00976	95% KM (% Bootstrap) UCL	0.00995
95% Adjusted Gamma UCL (Use when n < 40)	0.0103		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acetone

General Statistics (Units in mg/kg)

Number of Valid Data	14	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	12
		Percent Non-Detects	85.71%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.69	Minimum Detected	-0.371
Maximum Detected	1.1	Maximum Detected	0.0953
Mean of Detected	0.895	Mean of Detected	-0.138
SD of Detected	0.29	SD of Detected	0.33
Minimum Non-Detect	0.0032	Minimum Non-Detect	-5.745
Maximum Non-Detect	0.0052	Maximum Non-Detect	-5.259

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	85.71%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.13	Mean	-5.386
SD	0.334	SD	2.23
95% DL/2 (t) UCL	0.288	95% H-Stat (DL/2) UCL	1.326

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.719
5% K-S Critical Value	N/A	SD	0.106
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0399
		95% KM (t) UCL	0.79
Assuming Gamma Distribution		95% KM (z) UCL	0.785
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.996
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	0.893
SD	N/A	97.5% KM (Chebyshev) UCL	0.969
k star	N/A	99% KM (Chebyshev) UCL	1.116
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.79
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aldrin

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	14
		Percent Non-Detects	93.33%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Aldrin was not processed!

alpha-BHC

General Statistics (Units in mg/kg)			
Number of Valid Data	15	Number of Detected Data	11
Number of Distinct Detected Data	10	Number of Non-Detect Data	4
		Percent Non-Detects	26.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0015	Minimum Detected	-6.502
Maximum Detected	0.017	Maximum Detected	-4.075
Mean of Detected	0.00558	Mean of Detected	-5.541
SD of Detected	0.00562	SD of Detected	0.817
Minimum Non-Detect	4.40E-04	Minimum Non-Detect	-7.729
Maximum Non-Detect	0.015	Maximum Non-Detect	-4.2
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	86.67%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.682	Shapiro Wilk Test Statistic	0.853
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00496	Mean	-5.865
SD	0.00515	SD	1.259
95% DL/2 (t) UCL	0.0073	95% H-Stat (DL/2) UCL	0.0182
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.844
		SD in Log Scale	0.936
		Mean in Original Scale	0.0045
		SD in Original Scale	0.00512
		95% t UCL	0.00683
		95% Percentile Bootstrap UCL	0.00684
		95% BCA Bootstrap UCL	0.00735
		95% H-UCL	0.00869
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.199	Data appear Lognormal at 5% Significance Level	
Theta Star	0.00466		
nu star	26.38		
A-D Test Statistic	1.102	Nonparametric Statistics	
5% A-D Critical Value	0.742	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.742	Mean	0.00467
5% K-S Critical Value	0.26	SD	0.00488
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00133
		95% KM (t) UCL	0.00702
Assuming Gamma Distribution		95% KM (z) UCL	0.00686
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00696
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0107
Maximum	0.017	95% KM (BCA) UCL	0.00679
Mean	0.00445	95% KM (Percentile Bootstrap) UCL	0.00701
Median	0.0027	95% KM (Chebyshev) UCL	0.0105
SD	0.00518	97.5% KM (Chebyshev) UCL	0.013
k star	0.442	99% KM (Chebyshev) UCL	0.0179
Theta star	0.0101		
Nu star	13.26	Potential UCLs to Use	
AppChi2	6.067	95% KM (BCA) UCL	0.00679
95% Gamma Approximate UCL (Use when n >= 40)	0.00973		
95% Adjusted Gamma UCL (Use when n < 40)	0.0108		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Anthracene

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	14

Raw Statistics		Log-transformed Statistics	
Minimum	0.0064	Minimum of Log Data	-5.051
Maximum	0.49	Maximum of Log Data	-0.713
Mean	0.241	Mean of log Data	-1.743
Geometric Mean	0.175	SD of log Data	1.09
Median	0.26		
SD	0.143		
Std. Error of Mean	0.0369		
Coefficient of Variation	0.592		
Skewness	0.0672		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.973	Shapiro Wilk Test Statistic	0.778
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.306	95% H-UCL	0.736
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.705
95% Adjusted-CLT UCL (Chen-1995)	0.303	97.5% Chebyshev (MVUE) UCL	0.88
95% Modified-t UCL (Johnson-1978)	0.307	99% Chebyshev (MVUE) UCL	1.225

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.405	Data appear Normal at 5% Significance Level	
Theta Star	0.172		
MLE of Mean	0.241		
MLE of Standard Deviation	0.204		
nu star	42.16		
Approximate Chi Square Value (.05)	28.28	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	0.302
Adjusted Chi Square Value	26.88	95% Jackknife UCL	0.306
		95% Standard Bootstrap UCL	0.299
Anderson-Darling Test Statistic	0.526	95% Bootstrap-t UCL	0.309
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	0.303
Kolmogorov-Smirnov Test Statistic	0.178	95% Percentile Bootstrap UCL	0.302
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	0.302
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.402
		97.5% Chebyshev(Mean, Sd) UCL	0.472
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.608
95% Approximate Gamma UCL (Use when n >= 40)	0.36		
95% Adjusted Gamma UCL (Use when n < 40)	0.379		

Potential UCL to Use	Use 95% Student's-t UCL	0.306

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	0.051	Minimum of Log Data	-2.976
Maximum	2.9	Maximum of Log Data	1.065
Mean	1.313	Mean of log Data	-0.0251
Geometric Mean	0.975	SD of log Data	0.992
Median	1		
SD	0.838		
Std. Error of Mean	0.216		
Coefficient of Variation	0.638		
Skewness	0.542		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.937	Shapiro Wilk Test Statistic	0.821
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.695	95% H-UCL	3.292
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.384
95% Adjusted-CLT UCL (Chen-1995)	1.702	97.5% Chebyshev (MVUE) UCL	4.188
95% Modified-t UCL (Johnson-1978)	1.7	99% Chebyshev (MVUE) UCL	5.768
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.507	Data appear Normal at 5% Significance Level	
Theta Star	0.871		
MLE of Mean	1.313		
MLE of Standard Deviation	1.07		
nu star	45.22		
Approximate Chi Square Value (.05)	30.79	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	1.67
Adjusted Chi Square Value	29.33	95% Jackknife UCL	1.695
		95% Standard Bootstrap UCL	1.651
Anderson-Darling Test Statistic	0.38	95% Bootstrap-t UCL	1.737
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	1.701
Kolmogorov-Smirnov Test Statistic	0.129	95% Percentile Bootstrap UCL	1.672
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	1.68
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.257
		97.5% Chebyshev(Mean, Sd) UCL	2.665
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.468
95% Approximate Gamma UCL (Use when n >= 40)	1.929		
95% Adjusted Gamma UCL (Use when n < 40)	2.025		
Potential UCL to Use		Use 95% Student's-t UCL	1.695

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	0.059	Minimum of Log Data	-2.83
Maximum	2.6	Maximum of Log Data	0.956
Mean	1.196	Mean of log Data	-0.109
Geometric Mean	0.897	SD of log Data	0.943
Median	0.91		
SD	0.788		
Std. Error of Mean	0.203		
Coefficient of Variation	0.659		
Skewness	0.671		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.897	Shapiro Wilk Test Statistic	0.839
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.554	95% H-UCL	2.729
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2.891
95% Adjusted-CLT UCL (Chen-1995)	1.568	97.5% Chebyshev (MVUE) UCL	3.561
95% Modified-t UCL (Johnson-1978)	1.56	99% Chebyshev (MVUE) UCL	4.876
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.554	Data appear Normal at 5% Significance Level	
Theta Star	0.769		
MLE of Mean	1.196		
MLE of Standard Deviation	0.959		
nu star	46.63		
Approximate Chi Square Value (.05)	31.96	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	1.531
Adjusted Chi Square Value	30.47	95% Jackknife UCL	1.554
		95% Standard Bootstrap UCL	1.512
Anderson-Darling Test Statistic	0.467	95% Bootstrap-t UCL	1.616
Anderson-Darling 5% Critical Value	0.748	95% Hall's Bootstrap UCL	1.535
Kolmogorov-Smirnov Test Statistic	0.163	95% Percentile Bootstrap UCL	1.519
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	1.555
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.083
		97.5% Chebyshev(Mean, Sd) UCL	2.467
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.221
95% Approximate Gamma UCL (Use when n >= 40)	1.745		
95% Adjusted Gamma UCL (Use when n < 40)	1.83		
Potential UCL to Use		Use 95% Student's-t UCL	1.554

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	1
		Percent Non-Detects	6.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.13	Minimum Detected	-2.04
Maximum Detected	1.9	Maximum Detected	0.642
Mean of Detected	0.856	Mean of Detected	-0.373
SD of Detected	0.559	SD of Detected	0.724
Minimum Non-Detect	0.063	Minimum Non-Detect	-2.765
Maximum Non-Detect	0.063	Maximum Non-Detect	-2.765

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.859	Shapiro Wilk Test Statistic	0.914
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.801	Mean	-0.578
SD	0.579	SD	1.059
95% DL/2 (t) UCL	1.065	95% H-Stat (DL/2) UCL	2.195

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.785	Mean in Log Scale	-0.486
SD	0.589	SD in Log Scale	0.824
95% MLE (t) UCL	1.053	Mean in Original Scale	0.808
95% MLE (Tiku) UCL	1.049	SD in Original Scale	0.571
		95% t UCL	1.067
		95% Percentile Bootstrap UCL	1.054
		95% BCA Bootstrap UCL	1.081
		95% H UCL	1.492

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.974	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.434	
nu star	55.27	

A-D Test Statistic	0.608	Nonparametric Statistics	
5% A-D Critical Value	0.744	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.744	Mean	0.808
5% K-S Critical Value	0.231	SD	0.551
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.148
		95% KM (t) UCL	1.068
Assuming Gamma Distribution		95% KM (z) UCL	1.051
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.062
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.124
Maximum	1.9	95% KM (BCA) UCL	1.065
Mean	0.799	95% KM (Percentile Bootstrap) UCL	1.059
Median	0.57	95% KM (Chebyshev) UCL	1.452
SD	0.582	97.5% KM (Chebyshev) UCL	1.73
k star	0.518	99% KM (Chebyshev) UCL	2.277
Theta star	1.542		
Nu star	15.55	Potential UCLs to Use	
AppChi2	7.648	95% KM (Chebyshev) UCL	1.452
95% Gamma Approximate UCL (Use when n >= 40)	1.626		
95% Adjusted Gamma UCL (Use when n < 40)	1.783		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	14

Raw Statistics		Log-transformed Statistics	
Minimum	0.037	Minimum of Log Data	-3.297
Maximum	1.5	Maximum of Log Data	0.405
Mean	0.76	Mean of log Data	-0.571
Geometric Mean	0.565	SD of log Data	0.975
Median	0.65		
SD	0.473		
Std. Error of Mean	0.122		
Coefficient of Variation	0.621		
Skewness	0.231		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.939	Shapiro Wilk Test Statistic	0.847
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.975	95% H-UCL	1.838
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.91
95% Adjusted-CLT UCL (Chen-1995)	0.969	97.5% Chebyshev (MVUE) UCL	2.361
95% Modified-t UCL (Johnson-1978)	0.977	99% Chebyshev (MVUE) UCL	3.245

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.509	Data appear Normal at 5% Significance Level	
Theta Star	0.504		
MLE of Mean	0.76		
MLE of Standard Deviation	0.619		
nu star	45.28		
Approximate Chi Square Value (.05)	30.85	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	0.961
Adjusted Chi Square Value	29.38	95% Jackknife UCL	0.975
		95% Standard Bootstrap UCL	0.948
Anderson-Darling Test Statistic	0.366	95% Bootstrap-t UCL	0.974
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	0.958
Kolmogorov-Smirnov Test Statistic	0.131	95% Percentile Bootstrap UCL	0.956
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	0.949
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.292
		97.5% Chebyshev(Mean, Sd) UCL	1.522
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.974
95% Approximate Gamma UCL (Use when n >= 40)	1.116		
95% Adjusted Gamma UCL (Use when n < 40)	1.172		

Potential UCL to Use	Use 95% Student's-t UCL	0.975

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

beta-BHC

General Statistics (Units in mg/kg)

Number of Valid Data	9	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	4
		Percent Non-Detects	44.44%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0061	Minimum Detected	-5.099
Maximum Detected	0.019	Maximum Detected	-3.963
Mean of Detected	0.0135	Mean of Detected	-4.386
SD of Detected	0.00547	SD of Detected	0.48
Minimum Non-Detect	7.10E-04	Minimum Non-Detect	-7.25
Maximum Non-Detect	0.015	Maximum Non-Detect	-4.2

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	66.67%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.902	Shapiro Wilk Test Statistic	0.871
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00898	Mean	-5.333
SD	0.00698	SD	1.547
95% DL/2 (t) UCL	0.0133	95% H-Stat (DL/2) UCL	0.194

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0174	Mean in Log Scale	-4.814
SD	0.00125	SD in Log Scale	0.626
95% MLE (t) UCL	0.0182	Mean in Original Scale	0.00967
95% MLE (Tiku) UCL	0.0188	SD in Original Scale	0.00602
		95% t UCL	0.0134
		95% Percentile Bootstrap UCL	0.013
		95% BCA Bootstrap UCL	0.0132
		95% H UCL	0.0171

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.631	Data appear Normal at 5% Significance Level
Theta Star	0.00514	
nu star	26.31	

		Nonparametric Statistics	
A-D Test Statistic	0.43		
5% A-D Critical Value	0.68	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.68	Mean	0.0104
5% K-S Critical Value	0.358	SD	0.00509
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00192
		95% KM (t) UCL	0.014
Assuming Gamma Distribution		95% KM (z) UCL	0.0136
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0139
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0131
Maximum	0.019	95% KM (BCA) UCL	0.0172
Mean	0.00802	95% KM (Percentile Bootstrap) UCL	0.0167
Median	0.0061	95% KM (Chebyshev) UCL	0.0188
SD	0.00762	97.5% KM (Chebyshev) UCL	0.0224
k star	0.297	99% KM (Chebyshev) UCL	0.0296
Theta star	0.0271		
Nu star	5.338	Potential UCLs to Use	
AppChi2	1.311	95% KM (t) UCL	0.014
95% Gamma Approximate UCL (Use when n >= 40)	0.0327	95% KM (Percentile Bootstrap) UCL	0.0167
95% Adjusted Gamma UCL (Use when n < 40)	0.0456		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bis(2-ethylhexyl)phthalate

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	14

Raw Statistics		Log-transformed Statistics	
Minimum	0.096	Minimum of Log Data	-2.343
Maximum	26	Maximum of Log Data	3.258
Mean	4.935	Mean of log Data	0.589
Geometric Mean	1.802	SD of log Data	1.561
Median	2		
SD	7.569		
Std. Error of Mean	1.954		
Coefficient of Variation	1.534		
Skewness	2.127		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.654	Shapiro Wilk Test Statistic	0.976
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	8.377	95% H-UCL	28.86
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	15.79
95% Adjusted-CLT UCL (Chen-1995)	9.297	97.5% Chebyshev (MVUE) UCL	20.35
95% Modified-t UCL (Johnson-1978)	8.556	99% Chebyshev (MVUE) UCL	29.32

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.534	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	9.245		
MLE of Mean	4.935		
MLE of Standard Deviation	6.755		
nu star	16.01		
Approximate Chi Square Value (.05)	7.972	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	8.15
Adjusted Chi Square Value	7.282	95% Jackknife UCL	8.377
		95% Standard Bootstrap UCL	8.094
Anderson-Darling Test Statistic	0.552	95% Bootstrap-t UCL	12.79
Anderson-Darling 5% Critical Value	0.785	95% Hall's Bootstrap UCL	9.847
Kolmogorov-Smirnov Test Statistic	0.212	95% Percentile Bootstrap UCL	8.133
Kolmogorov-Smirnov 5% Critical Value	0.232	95% BCA Bootstrap UCL	9.296
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13.45
		97.5% Chebyshev(Mean, Sd) UCL	17.14
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	24.38
95% Approximate Gamma UCL (Use when n >= 40)	9.913		
95% Adjusted Gamma UCL (Use when n < 40)	10.85		

Potential UCL to Use	Use 95% Approximate Gamma UCL	9.913

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Butylbenzylphthalate

General Statistics (Units in mg/kg)			
Number of Valid Data	15	Number of Detected Data	12
Number of Distinct Detected Data	11	Number of Non-Detect Data	3
		Percent Non-Detects	20.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.093	Minimum Detected	-2.375
Maximum Detected	3.2	Maximum Detected	1.163
Mean of Detected	0.714	Mean of Detected	-1.08
SD of Detected	0.959	SD of Detected	1.249
Minimum Non-Detect	0.032	Minimum Non-Detect	-3.442
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	20.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.712	Shapiro Wilk Test Statistic	0.886
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.574	Mean	-1.681
SD	0.898	SD	1.666
95% DL/2 (t) UCL	0.982	95% H-Stat (DL/2) UCL	4.272
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.442	Mean in Log Scale	-1.664
SD	1.013	SD in Log Scale	1.639
95% MLE (t) UCL	0.903	Mean in Original Scale	0.575
95% MLE (Tiku) UCL	0.897	SD in Original Scale	0.897
		95% t UCL	0.983
		95% Percentile Bootstrap UCL	0.971
		95% BCA Bootstrap UCL	1.114
		95% H UCL	3.958
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.655	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	1.089		
nu star	15.72		
A-D Test Statistic	0.765	Nonparametric Statistics	
5% A-D Critical Value	0.764	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.764	Mean	0.589
5% K-S Critical Value	0.254	SD	0.858
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.231
		95% KM (t) UCL	0.997
Assuming Gamma Distribution		95% KM (z) UCL	0.97
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.992
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.51
Maximum	3.2	95% KM (BCA) UCL	0.998
Mean	0.571	95% KM (Percentile Bootstrap) UCL	1.001
Median	0.13	95% KM (Chebyshev) UCL	1.598
SD	0.9	97.5% KM (Chebyshev) UCL	2.034
k star	0.232	99% KM (Chebyshev) UCL	2.891
Theta star	2.464		
Nu star	6.952	Potential UCLs to Use	
AppChi2	2.144	95% KM (Chebyshev) UCL	1.598
95% Gamma Approximate UCL (Use when n >= 40)	1.851		
95% Adjusted Gamma UCL (Use when n < 40)	2.167		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	13
Number of Distinct Detected Data	12	Number of Non-Detect Data	2
		Percent Non-Detects	13.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.78	Minimum Detected	-0.248
Maximum Detected	12	Maximum Detected	2.485
Mean of Detected	3.072	Mean of Detected	0.714
SD of Detected	3.373	SD of Detected	0.87
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.002	Maximum Non-Detect	-6.215

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.7	Shapiro Wilk Test Statistic	0.882
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.662	Mean	-0.302
SD	3.304	SD	2.8
95% DL/2 (t) UCL	4.165	95% H-Stat (DL/2) UCL	3757

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.379	Mean in Log Scale	0.443
SD	3.554	SD in Log Scale	1.081
95% MLE (t) UCL	3.995	Mean in Original Scale	2.698
95% MLE (Tiku) UCL	3.951	SD in Original Scale	3.274
		95% t UCL	4.187
		95% Percentile Bootstrap UCL	4.189
		95% BCA Bootstrap UCL	4.547
		95% H UCL	6.405

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.103	Data appear Lognormal at 5% Significance Level
Theta Star	2.784	
nu star	28.69	

		Nonparametric Statistics	
A-D Test Statistic	1.012		
5% A-D Critical Value	0.752	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.752	Mean	2.766
5% K-S Critical Value	0.241	SD	3.116
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.837
		95% KM (t) UCL	4.241
Assuming Gamma Distribution		95% KM (z) UCL	4.143
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.22
Minimum	1.00E-06	95% KM (bootstrap t) UCL	5.81
Maximum	12	95% KM (BCA) UCL	4.346
Mean	2.662	95% KM (Percentile Bootstrap) UCL	4.163
Median	1.3	95% KM (Chebyshev) UCL	6.416
SD	3.304	97.5% KM (Chebyshev) UCL	7.995
k star	0.293	99% KM (Chebyshev) UCL	11.1
Theta star	9.072		
Nu star	8.803	Potential UCLs to Use	
AppChi2	3.208	95% KM (Chebyshev) UCL	6.416
95% Gamma Approximate UCL (Use when n >= 40)	7.304		
95% Adjusted Gamma UCL (Use when n < 40)	8.351		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total Chlordane

General Statistics (Units in mg/kg)			
Number of Valid Data	14	Number of Detected Data	11
Number of Distinct Detected Data	10	Number of Non-Detect Data	3
		Percent Non-Detects	21.43%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0084	Minimum Detected	-4.78
Maximum Detected	0.116	Maximum Detected	-2.154
Mean of Detected	0.0347	Mean of Detected	-3.803
SD of Detected	0.0358	SD of Detected	0.954
Minimum Non-Detect	4.80E-04	Minimum Non-Detect	-7.642
Maximum Non-Detect	0.15	Maximum Non-Detect	-1.897
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.762	Shapiro Wilk Test Statistic	0.85
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0362	Mean	-3.982
SD	0.0349	SD	1.552
95% DL/2 (t) UCL	0.0527	95% H-Stat (DL/2) UCL	0.318
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.989
		SD in Log Scale	1.008
		Mean in Original Scale	0.0299
		SD in Original Scale	0.0329
		95% t UCL	0.0455
		95% Percentile Bootstrap UCL	0.0455
		95% BCA Bootstrap UCL	0.047
		95% H-UCL	0.0675
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.989	Data appear Lognormal at 5% Significance Level	
Theta Star	0.0351		
nu star	21.75		
A-D Test Statistic	0.932	Nonparametric Statistics	
5% A-D Critical Value	0.746	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.746	Mean	0.0319
5% K-S Critical Value	0.261	SD	0.0328
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00974
		95% KM (t) UCL	0.0491
Assuming Gamma Distribution		95% KM (z) UCL	0.0479
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0491
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0604
Maximum	0.116	95% KM (BCA) UCL	0.0495
Mean	0.031	95% KM (Percentile Bootstrap) UCL	0.0475
Median	0.0155	95% KM (Chebyshev) UCL	0.0743
SD	0.0328	97.5% KM (Chebyshev) UCL	0.0927
k star	0.523	99% KM (Chebyshev) UCL	0.129
Theta star	0.0593		
Nu star	14.64	Potential UCLs to Use	
AppChi2	7.009	95% KM (BCA) UCL	0.0495
95% Gamma Approximate UCL (Use when n >= 40)	0.0648		
95% Adjusted Gamma UCL (Use when n < 40)	0.0718		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics (Units in mg/kg)			
Number of Valid Observations	15	Number of Distinct Observations	12
Raw Statistics		Log-transformed Statistics	
Minimum	0.066	Minimum of Log Data	-2.718
Maximum	2.9	Maximum of Log Data	1.065
Mean	1.397	Mean of log Data	0.0572
Geometric Mean	1.059	SD of log Data	0.944
Median	1.2		
SD	0.874		
Std. Error of Mean	0.226		
Coefficient of Variation	0.625		
Skewness	0.577		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.921	Shapiro Wilk Test Statistic	0.825
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.794	95% H-UCL	3.229
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.419
95% Adjusted-CLT UCL (Chen-1995)	1.804	97.5% Chebyshev (MVUE) UCL	4.212
95% Modified-t UCL (Johnson-1978)	1.8	99% Chebyshev (MVUE) UCL	5.768
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.608	Data appear Normal at 5% Significance Level	
Theta Star	0.869		
MLE of Mean	1.397		
MLE of Standard Deviation	1.102		
nu star	48.23		
Approximate Chi Square Value (.05)	33.29	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	1.768
Adjusted Chi Square Value	31.77	95% Jackknife UCL	1.794
		95% Standard Bootstrap UCL	1.763
Anderson-Darling Test Statistic	0.414	95% Bootstrap-t UCL	1.86
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL	1.789
Kolmogorov-Smirnov Test Statistic	0.152	95% Percentile Bootstrap UCL	1.756
Kolmogorov-Smirnov 5% Critical Value	0.224	95% BCA Bootstrap UCL	1.785
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.38
		97.5% Chebyshev(Mean, Sd) UCL	2.806
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.642
95% Approximate Gamma UCL (Use when n >= 40)	2.024		
95% Adjusted Gamma UCL (Use when n < 40)	2.121		
Potential UCL to Use		Use 95% Student's-t UCL	1.794

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	6.6	Minimum of Log Data	1.887
Maximum	130	Maximum of Log Data	4.868
Mean	28.67	Mean of log Data	2.985
Geometric Mean	19.79	SD of log Data	0.806
Median	18.4		
SD	32.94		
Std. Error of Mean	8.506		
Coefficient of Variation	1.149		
Skewness	2.579		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.616	Shapiro Wilk Test Statistic	0.89
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	43.65	95% H-UCL	46.45
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	52.48
95% Adjusted-CLT UCL (Chen-1995)	48.72	97.5% Chebyshev (MVUE) UCL	63.65
95% Modified-t UCL (Johnson-1978)	44.6	99% Chebyshev (MVUE) UCL	85.6
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.239	Data appear Lognormal at 5% Significance Level	
Theta Star	23.14		
MLE of Mean	28.67		
MLE of Standard Deviation	25.76		
nu star	37.17		
Approximate Chi Square Value (.05)	24.21	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	42.66
Adjusted Chi Square Value	22.93	95% Jackknife UCL	43.65
		95% Standard Bootstrap UCL	42.19
Anderson-Darling Test Statistic	1.256	95% Bootstrap-t UCL	83.02
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	111.6
Kolmogorov-Smirnov Test Statistic	0.324	95% Percentile Bootstrap UCL	43.01
Kolmogorov-Smirnov 5% Critical Value	0.226	95% BCA Bootstrap UCL	49.93
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	65.75
		97.5% Chebyshev(Mean, Sd) UCL	81.79
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	113.3
95% Approximate Gamma UCL (Use when n >= 40)	44.02		
95% Adjusted Gamma UCL (Use when n < 40)	46.48		
Potential UCL to Use		Use 95% H-UCL	46.45

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cyanide

General Statistics (Units in mg/kg)

Number of Valid Data	13	Number of Detected Data	8
Number of Distinct Detected Data	7	Number of Non-Detect Data	5
		Percent Non-Detects	38.46%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.12	Minimum Detected	-2.12
Maximum Detected	0.79	Maximum Detected	-0.236
Mean of Detected	0.29	Mean of Detected	-1.492
SD of Detected	0.252	SD of Detected	0.705
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.7	Shapiro Wilk Test Statistic	0.792
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.179	Mean	-3.308
SD	0.241	SD	2.451
95% DL/2 (t) UCL	0.298	95% H-Stat (DL/2) UCL	43.69

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0875	Mean in Log Scale	-2.192
SD	0.337	SD in Log Scale	1.106
95% MLE (t) UCL	0.254	Mean in Original Scale	0.194
95% MLE (Tiku) UCL	0.273	SD in Original Scale	0.23
		95% t UCL	0.308
		95% Percentile Bootstrap UCL	0.305
		95% BCA Bootstrap UCL	0.342
		95% H UCL	0.543

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.407	Data do not follow a Discernable Distribution (0.05)
Theta Star	0.206	
nu star	22.52	

		Nonparametric Statistics	
A-D Test Statistic	1.026		
5% A-D Critical Value	0.724	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.724	Mean	0.225
5% K-S Critical Value	0.297	SD	0.202
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.06
		95% KM (t) UCL	0.332
Assuming Gamma Distribution		95% KM (z) UCL	0.323
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.324
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.896
Maximum	0.79	95% KM (BCA) UCL	0.348
Mean	0.178	95% KM (Percentile Bootstrap) UCL	0.331
Median	0.14	95% KM (Chebyshev) UCL	0.486
SD	0.242	97.5% KM (Chebyshev) UCL	0.599
k star	0.18	99% KM (Chebyshev) UCL	0.821
Theta star	0.99		
Nu star	4.687	Potential UCLs to Use	
AppChi2	1.01	95% KM (BCA) UCL	0.348
95% Gamma Approximate UCL (Use when n >= 40)	0.828		
95% Adjusted Gamma UCL (Use when n < 40)	1.055		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	15	Number of Detected Data	13
Number of Distinct Detected Data	10	Number of Non-Detect Data	2
		Percent Non-Detects	13.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.014	Minimum Detected	-4.269
Maximum Detected	0.46	Maximum Detected	-0.777
Mean of Detected	0.163	Mean of Detected	-2.086
SD of Detected	0.122	SD of Detected	0.854
Minimum Non-Detect	2.1	Minimum Non-Detect	0.742
Maximum Non-Detect	3	Maximum Non-Detect	1.099
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.825	Shapiro Wilk Test Statistic	0.879
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.311	Mean	-1.778
SD	0.416	SD	1.137
95% DL/2 (t) UCL	0.501	95% H-Stat (DL/2) UCL	0.794
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.086
		SD in Log Scale	0.791
		Mean in Original Scale	0.158
		SD in Original Scale	0.114
		95% t UCL	0.21
		95% Percentile Bootstrap UCL	0.208
		95% BCA Bootstrap UCL	0.217
		95% H-UCL	0.284
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.573	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.104		
nu star	40.91		
A-D Test Statistic	0.615	Nonparametric Statistics	
5% A-D Critical Value	0.743	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.743	Mean	0.163
5% K-S Critical Value	0.239	SD	0.117
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0338
		95% KM (t) UCL	0.223
Assuming Gamma Distribution		95% KM (z) UCL	0.219
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.223
Minimum	0.014	95% KM (bootstrap t) UCL	0.259
Maximum	0.46	95% KM (BCA) UCL	0.222
Mean	0.164	95% KM (Percentile Bootstrap) UCL	0.225
Median	0.13	95% KM (Chebyshev) UCL	0.31
SD	0.113	97.5% KM (Chebyshev) UCL	0.374
k star	1.853	99% KM (Chebyshev) UCL	0.499
Theta star	0.0887		
Nu star	55.59	Potential UCLs to Use	
AppChi2	39.46	95% KM (BCA) UCL	0.222
95% Gamma Approximate UCL (Use when n >= 40)	0.232		
95% Adjusted Gamma UCL (Use when n < 40)	0.242		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Di-n-butylphthalate

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	12
		Percent Non-Detects	80.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.19	Minimum Detected	-1.661
Maximum Detected	3.9	Maximum Detected	1.361
Mean of Detected	1.897	Mean of Detected	0.0567
SD of Detected	1.873	SD of Detected	1.553
Minimum Non-Detect	0.039	Minimum Non-Detect	-3.244
Maximum Non-Detect	0.24	Maximum Non-Detect	-1.427

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	86.67%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.981	Shapiro Wilk Test Statistic	0.947
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.408	Mean	-2.797
SD	1.047	SD	1.661
95% DL/2 (t) UCL	0.884	95% H-Stat (DL/2) UCL	1.375

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.15
		SD in Log Scale	2.885
		Mean in Original Scale	0.381
		SD in Original Scale	1.056
		95% t UCL	0.862
		95% Percentile Bootstrap UCL	0.888
		95% BCA Bootstrap UCL	1.148
		95% H-UCL	49.36

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.531
5% K-S Critical Value	N/A	SD	0.966
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.306
		95% KM (t) UCL	1.07
Assuming Gamma Distribution		95% KM (z) UCL	1.034
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.483
Minimum	N/A	95% KM (bootstrap t) UCL	0.877
Maximum	N/A	95% KM (BCA) UCL	3.9
Mean	N/A	95% KM (Percentile Bootstrap) UCL	3.9
Median	N/A	95% KM (Chebyshev) UCL	1.863
SD	N/A	97.5% KM (Chebyshev) UCL	2.44
k star	N/A	99% KM (Chebyshev) UCL	3.572
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	1.07
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	3.9
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics (Units in mg/kg)

Number of Valid Data	4	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	3
		Percent Non-Detects	75.00%

Warning: This data set only has 4 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Dieldrin was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

alpha-Endosulfan

General Statistics (Units in mg/kg)

Number of Valid Data	10	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	9
		Percent Non-Detects	90.00%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable alpha-Endosulfan was not processed!

beta-Endosulfan

General Statistics (Units in mg/kg)

Number of Valid Data	4	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	2
		Percent Non-Detects	50.00%

Warning: This data set only has 4 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable beta-Endosulfan was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Endosulfan sulfate

General Statistics (Units in mg/kg)

Number of Valid Data	14	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	13
		Percent Non-Detects	92.86%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Endosulfan sulfate was not processed!

Endrin

General Statistics (Units in mg/kg)

Number of Valid Data	11	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	4
		Percent Non-Detects	0.3636

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	0.11	Maximum Detected	-2.207
Mean of Detected	0.0371	Mean of Detected	-3.584
SD of Detected	0.0346	SD of Detected	0.782
Minimum Non-Detect	0.00088	Minimum Non-Detect	-7.036
Maximum Non-Detect	0.03	Maximum Non-Detect	-3.507

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	0.7273

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.756	Shapiro Wilk Test Statistic	0.933
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.026	Mean	-4.484
SD	0.0312	SD	1.742
95% DL/2 (t) UCL	0.0431	95% H-Stat (DL/2) UCL	0.637

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.087
		SD in Log Scale	0.958
		Mean in Original Scale	0.0264
		SD in Original Scale	0.0308
		95% t UCL	0.0432
		95% Percentile Bootstrap UCL	0.0429
		95% BCA Bootstrap UCL	0.0506
		95% H-UCL	0.0644

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.162	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.032		
nu star	16.26		

A-D Test Statistic	0.461	Nonparametric Statistics	
5% A-D Critical Value	0.717	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.717	Mean	0.0282
5% K-S Critical Value	0.316	SD	0.0283
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00922
		95% KM (t) UCL	0.0449
Assuming Gamma Distribution		95% KM (z) UCL	0.0434
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0437
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0761
Maximum	0.11	95% KM (BCA) UCL	0.0485
Mean	0.0238	95% KM (Percentile Bootstrap) UCL	0.0454
Median	0.017	95% KM (Chebyshev) UCL	0.0684
SD	0.0326	97.5% KM (Chebyshev) UCL	0.0858
k star	0.239	99% KM (Chebyshev) UCL	0.12
Theta star	0.0994		
Nu star	5.262	Potential UCLs to Use	
AppChi2	1.275	95% KM (Percentile Bootstrap) UCL	0.0454
95% Gamma Approximate UCL (Use when n >= 40)	0.0981		
95% Adjusted Gamma UCL (Use when n < 40)	0.127		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin aldehyde

General Statistics (Units in mg/kg)

Number of Valid Data	7	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	3
		Percent Non-Detects	0.4286

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0063	Minimum Detected	-5.067
Maximum Detected	0.027	Maximum Detected	-3.612
Mean of Detected	0.0143	Mean of Detected	-4.388
SD of Detected	0.00902	SD of Detected	0.612
Minimum Non-Detect	0.0013	Minimum Non-Detect	-6.645
Maximum Non-Detect	0.03	Maximum Non-Detect	-3.507

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	1

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.91	Shapiro Wilk Test Statistic	0.992
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0119	Mean	-4.814
SD	0.00824	SD	1.2
95% DL/2 (t) UCL	0.0179	95% H-Stat (DL/2) UCL	0.136

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.697
		SD in Log Scale	0.662
		Mean in Original Scale	0.011
		SD in Original Scale	0.00779
		95% t UCL	0.0167
		95% Percentile Bootstrap UCL	0.0157
		95% BCA Bootstrap UCL	0.0172
		95% H-UCL	0.0243

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.083	Data appear Normal at 5% Significance Level
Theta Star	0.0132	
nu star	8.668	

		Nonparametric Statistics	
A-D Test Statistic	0.239		
5% A-D Critical Value	0.659	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.659	Mean	0.0121
5% K-S Critical Value	0.396	SD	0.00726
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00349
		95% KM (t) UCL	0.0189
Assuming Gamma Distribution		95% KM (z) UCL	0.0179
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0187
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0234
Maximum	0.027	95% KM (BCA) UCL	0.0205
Mean	0.0106	95% KM (Percentile Bootstrap) UCL	0.0185
Median	0.00983	95% KM (Chebyshev) UCL	0.0273
SD	0.00844	97.5% KM (Chebyshev) UCL	0.0339
k star	0.374	99% KM (Chebyshev) UCL	0.0468
Theta star	0.0282		
Nu star	5.243	Potential UCLs to Use	
AppChi2	1.266	95% KM (t) UCL	0.0189
95% Gamma Approximate UCL (Use when n >= 40)	0.0437	95% KM (Percentile Bootstrap) UCL	0.0185
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin ketone

General Statistics (Units in mg/kg)			
Number of Valid Data	14	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	10
		Percent Non-Detects	71.43%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0075	Minimum Detected	-4.893
Maximum Detected	0.013	Maximum Detected	-4.343
Mean of Detected	0.0109	Mean of Detected	-4.542
SD of Detected	0.00239	SD of Detected	0.244
Minimum Non-Detect	8.70E-04	Minimum Non-Detect	-7.047
Maximum Non-Detect	0.03	Maximum Non-Detect	-3.507

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.907	Shapiro Wilk Test Statistic	0.866
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00516	Mean	-6.303
SD	0.00584	SD	1.633
95% DL/2 (t) UCL	0.00793	95% H-Stat (DL/2) UCL	0.0415
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.092
		SD in Log Scale	0.407
		Mean in Original Scale	0.00668
		SD in Original Scale	0.00307
		95% t UCL	0.00813
		95% Percentile Bootstrap UCL	0.00805
		95% BCA Bootstrap UCL	0.0082
		95% H-UCL	0.00836
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	6.217	Data appear Normal at 5% Significance Level	
Theta Star	0.00175		
nu star	49.73		
A-D Test Statistic	0.411	Nonparametric Statistics	
5% A-D Critical Value	0.657	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.657	Mean	0.00863
5% K-S Critical Value	0.394	SD	0.00199
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	6.64E-04
		95% KM (t) UCL	0.0098
Assuming Gamma Distribution		95% KM (z) UCL	0.00972
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0108
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.00923
Maximum	0.013	95% KM (BCA) UCL	0.013
Mean	0.00321	95% KM (Percentile Bootstrap) UCL	0.0122
Median	1.00E-06	95% KM (Chebyshev) UCL	0.0115
SD	0.00517	97.5% KM (Chebyshev) UCL	0.0128
k star	0.18	99% KM (Chebyshev) UCL	0.0152
Theta star	0.0178		
Nu star	5.041	Potential UCLs to Use	
AppChi2	1.171	95% KM (t) UCL	0.0098
95% Gamma Approximate UCL (Use when n >= 40)	0.0138	95% KM (Percentile Bootstrap) UCL	0.0122
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Observations	15	Number of Distinct Observations	14
Raw Statistics		Log-transformed Statistics	
Minimum	0.093	Minimum of Log Data	-2.375
Maximum	4.6	Maximum of Log Data	1.526
Mean	2.239	Mean of log Data	0.542
Geometric Mean	1.719	SD of log Data	0.956
Median	2		
SD	1.266		
Std. Error of Mean	0.327		
Coefficient of Variation	0.565		
Skewness	0.17		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.962	Shapiro Wilk Test Statistic	0.786
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.815	95% H-UCL	5.375
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	5.651
95% Adjusted-CLT UCL (Chen-1995)	2.792	97.5% Chebyshev (MVUE) UCL	6.969
95% Modified-t UCL (Johnson-1978)	2.817	99% Chebyshev (MVUE) UCL	9.558
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.678	Data appear Normal at 5% Significance Level	
Theta Star	1.334		
MLE of Mean	2.239		
MLE of Standard Deviation	1.728		
nu star	50.33		
Approximate Chi Square Value (.05)	35.04	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	2.776
Adjusted Chi Square Value	33.47	95% Jackknife UCL	2.815
		95% Standard Bootstrap UCL	2.761
Anderson-Darling Test Statistic	0.504	95% Bootstrap-t UCL	2.835
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL	2.755
Kolmogorov-Smirnov Test Statistic	0.18	95% Percentile Bootstrap UCL	2.765
Kolmogorov-Smirnov 5% Critical Value	0.224	95% BCA Bootstrap UCL	2.733
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.664
		97.5% Chebyshev(Mean, Sd) UCL	4.28
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5.491
95% Approximate Gamma UCL (Use when n >= 40)	3.216		
95% Adjusted Gamma UCL (Use when n < 40)	3.366		
Potential UCL to Use		Use 95% Student's-t UCL	2.815

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Fluorene

General Statistics (Units in mg/kg)			
Number of Valid Data	15	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	2
		Percent Non-Detects	13.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0043	Minimum Detected	-5.449
Maximum Detected	0.26	Maximum Detected	-1.347
Mean of Detected	0.106	Mean of Detected	-2.625
SD of Detected	0.0735	SD of Detected	1.116
Minimum Non-Detect	2.1	Minimum Non-Detect	0.742
Maximum Non-Detect	3	Maximum Non-Detect	1.099
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.957	Shapiro Wilk Test Statistic	0.87
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.262	Mean	-2.245
SD	0.426	SD	1.442
95% DL/2 (t) UCL	0.455	95% H-Stat (DL/2) UCL	1.157
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.625
		SD in Log Scale	1.033
		Mean in Original Scale	0.101
		SD in Original Scale	0.0691
		95% t UCL	0.133
		95% Percentile Bootstrap UCL	0.132
		95% BCA Bootstrap UCL	0.133
		95% H-UCL	0.267
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.177	Data appear Normal at 5% Significance Level	
Theta Star	0.0899		
nu star	30.59		
A-D Test Statistic	0.359	Nonparametric Statistics	
5% A-D Critical Value	0.751	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.751	Mean	0.106
5% K-S Critical Value	0.241	SD	0.0706
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0204
		95% KM (t) UCL	0.142
Assuming Gamma Distribution		95% KM (z) UCL	0.139
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.142
Minimum	0.0043	95% KM (bootstrap t) UCL	0.146
Maximum	0.26	95% KM (BCA) UCL	0.138
Mean	0.106	95% KM (Percentile Bootstrap) UCL	0.139
Median	0.108	95% KM (Chebyshev) UCL	0.195
SD	0.0681	97.5% KM (Chebyshev) UCL	0.233
k star	1.379	99% KM (Chebyshev) UCL	0.309
Theta star	0.0769		
Nu star	41.38	Potential UCLs to Use	
AppChi2	27.63	95% KM (t) UCL	0.142
95% Gamma Approximate UCL (Use when n >= 40)	0.159	95% KM (Percentile Bootstrap) UCL	0.139
95% Adjusted Gamma UCL (Use when n < 40)	0.167		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

gamma-BHC (Lindane)

General Statistics (Units in mg/kg)			
Number of Valid Data	15	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	5
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0012	Minimum Detected	-6.725
Maximum Detected	0.024	Maximum Detected	-3.73
Mean of Detected	0.00558	Mean of Detected	-5.618
SD of Detected	0.00684	SD of Detected	0.892
Minimum Non-Detect	4.30E-04	Minimum Non-Detect	-7.752
Maximum Non-Detect	0.015	Maximum Non-Detect	-4.2
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.33%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.64	Shapiro Wilk Test Statistic	0.926
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0046	Mean	-6.109
SD	0.00595	SD	1.408
95% DL/2 (t) UCL	0.0073	95% H-Stat (DL/2) UCL	0.0219
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.092
		SD in Log Scale	1.075
		Mean in Original Scale	0.00409
		SD in Original Scale	0.00592
		95% t UCL	0.00678
		95% Percentile Bootstrap UCL	0.00687
		95% BCA Bootstrap UCL	0.00819
		95% H-UCL	0.00918
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.981	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.00569		
nu star	19.63		
A-D Test Statistic	0.667	Nonparametric Statistics	
5% A-D Critical Value	0.743	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.743	Mean	0.00435
5% K-S Critical Value	0.272	SD	0.00565
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00155
		95% KM (t) UCL	0.00709
Assuming Gamma Distribution		95% KM (z) UCL	0.00691
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00697
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0113
Maximum	0.024	95% KM (BCA) UCL	0.0074
Mean	0.00396	95% KM (Percentile Bootstrap) UCL	0.00718
Median	0.002	95% KM (Chebyshev) UCL	0.0111
SD	0.006	97.5% KM (Chebyshev) UCL	0.0141
k star	0.338	99% KM (Chebyshev) UCL	0.0198
Theta star	0.0117		
Nu star	10.13	Potential UCLs to Use	
AppChi2	4.023	95% KM (BCA) UCL	0.0074
95% Gamma Approximate UCL (Use when n >= 40)	0.00996		
95% Adjusted Gamma UCL (Use when n < 40)	0.0112		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor epoxide

General Statistics (Units in mg/kg)

Number of Valid Data	4	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	3
		Percent Non-Detects	75.00%

Warning: This data set only has 4 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Heptachlor epoxide was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)			
Number of Valid Observations	15	Number of Distinct Observations	14
Raw Statistics		Log-transformed Statistics	
Minimum	0.069	Minimum of Log Data	-2.674
Maximum	2.2	Maximum of Log Data	0.788
Mean	0.933	Mean of log Data	-0.341
Geometric Mean	0.711	SD of log Data	0.869
Median	0.66		
SD	0.643		
Std. Error of Mean	0.166		
Coefficient of Variation	0.688		
Skewness	0.98		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.884	Shapiro Wilk Test Statistic	0.892
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.225	95% H-UCL	1.871
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2.06
95% Adjusted-CLT UCL (Chen-1995)	1.251	97.5% Chebyshev (MVUE) UCL	2.516
95% Modified-t UCL (Johnson-1978)	1.232	99% Chebyshev (MVUE) UCL	3.414
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.636	Data appear Normal at 5% Significance Level	
Theta Star	0.57		
MLE of Mean	0.933		
MLE of Standard Deviation	0.73		
nu star	49.09		
Approximate Chi Square Value (.05)	34.01	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	1.206
Adjusted Chi Square Value	32.47	95% Jackknife UCL	1.225
		95% Standard Bootstrap UCL	1.196
Anderson-Darling Test Statistic	0.367	95% Bootstrap-t UCL	1.292
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL	1.311
Kolmogorov-Smirnov Test Statistic	0.166	95% Percentile Bootstrap UCL	1.198
Kolmogorov-Smirnov 5% Critical Value	0.224	95% BCA Bootstrap UCL	1.266
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.656
		97.5% Chebyshev(Mean, Sd) UCL	1.969
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.584
95% Approximate Gamma UCL (Use when n >= 40)	1.347		
95% Adjusted Gamma UCL (Use when n < 40)	1.411		
Potential UCL to Use		Use 95% Student's-t UCL	1.225

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	16.2	Minimum of Log Data	2.785
Maximum	250	Maximum of Log Data	5.521
Mean	67.78	Mean of log Data	3.891
Geometric Mean	48.97	SD of log Data	0.795
Median	35.5		
SD	64.72		
Std. Error of Mean	16.71		
Coefficient of Variation	0.955		
Skewness	1.954		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.747	Shapiro Wilk Test Statistic	0.933
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	97.21	95% H-UCL	112.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	127.8
95% Adjusted-CLT UCL (Chen-1995)	104.3	97.5% Chebyshev (MVUE) UCL	154.8
95% Modified-t UCL (Johnson-1978)	98.62	99% Chebyshev (MVUE) UCL	207.8
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.393	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	48.66		
MLE of Mean	67.78		
MLE of Standard Deviation	57.43		
nu star	41.79		
Approximate Chi Square Value (.05)	27.97	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	95.27
Adjusted Chi Square Value	26.58	95% Jackknife UCL	97.21
		95% Standard Bootstrap UCL	94.31
Anderson-Darling Test Statistic	0.764	95% Bootstrap-t UCL	119.9
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	188.7
Kolmogorov-Smirnov Test Statistic	0.225	95% Percentile Bootstrap UCL	94.91
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	101.6
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	140.6
		97.5% Chebyshev(Mean, Sd) UCL	172.1
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	234
95% Approximate Gamma UCL (Use when n >= 40)	101.3		
95% Adjusted Gamma UCL (Use when n < 40)	106.5		
Potential UCL to Use		Use 95% Approximate Gamma UCL	101.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)			
Number of Valid Observations	15	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	71.6	Minimum of Log Data	4.271
Maximum	3060	Maximum of Log Data	8.026
Mean	490.2	Mean of log Data	5.612
Geometric Mean	273.6	SD of log Data	1
Median	201		
SD	753.9		
Std. Error of Mean	194.7		
Coefficient of Variation	1.538		
Skewness	3.218		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.55	Shapiro Wilk Test Statistic	0.934
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	833	95% H-UCL	939.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	960.8
95% Adjusted-CLT UCL (Chen-1995)	983.2	97.5% Chebyshev (MVUE) UCL	1190
95% Modified-t UCL (Johnson-1978)	860	99% Chebyshev (MVUE) UCL	1640
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.837	Data appear Lognormal at 5% Significance Level	
Theta Star	585.5		
MLE of Mean	490.2		
MLE of Standard Deviation	535.7		
nu star	25.12		
Approximate Chi Square Value (.05)	14.7	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	810.4
Adjusted Chi Square Value	13.73	95% Jackknife UCL	833
		95% Standard Bootstrap UCL	797.3
Anderson-Darling Test Statistic	0.968	95% Bootstrap-t UCL	1624
Anderson-Darling 5% Critical Value	0.763	95% Hall's Bootstrap UCL	2025
Kolmogorov-Smirnov Test Statistic	0.244	95% Percentile Bootstrap UCL	833.3
Kolmogorov-Smirnov 5% Critical Value	0.228	95% BCA Bootstrap UCL	1065
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1339
		97.5% Chebyshev(Mean, Sd) UCL	1706
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2427
95% Approximate Gamma UCL (Use when n >= 40)	837.5		
95% Adjusted Gamma UCL (Use when n < 40)	896.9		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	1339

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	6
Number of Distinct Detected Data	5	Number of Non-Detect Data	9
		Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.016	Minimum Detected	-4.135
Maximum Detected	0.35	Maximum Detected	-1.05
Mean of Detected	0.123	Mean of Detected	-2.779
SD of Detected	0.142	SD of Detected	1.324
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.001	Maximum Non-Detect	-6.908

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.788	Shapiro Wilk Test Statistic	0.887
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0493	Mean	-5.672
SD	0.105	SD	2.57
95% DL/2 (t) UCL	0.0971	95% H-Stat (DL/2) UCL	4.682

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-5.462
		SD in Log Scale	2.695
		Mean in Original Scale	0.05
		SD in Original Scale	0.105
		95% t UCL	0.0976
		95% Percentile Bootstrap UCL	0.0992
		95% BCA Bootstrap UCL	0.111
		95% H-UCL	11.62

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.544	Data appear Normal at 5% Significance Level
Theta Star	0.225	
nu star	6.523	

		Nonparametric Statistics	
A-D Test Statistic	0.464		
5% A-D Critical Value	0.718	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.718	Mean	0.0586
5% K-S Critical Value	0.342	SD	0.0972
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0275
		95% KM (t) UCL	0.107
Assuming Gamma Distribution		95% KM (z) UCL	0.104
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.104
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.313
Maximum	0.35	95% KM (BCA) UCL	0.127
Mean	0.049	95% KM (Percentile Bootstrap) UCL	0.111
Median	1.00E-06	95% KM (Chebyshev) UCL	0.178
SD	0.105	97.5% KM (Chebyshev) UCL	0.23
k star	0.143	99% KM (Chebyshev) UCL	0.332
Theta star	0.342		
Nu star	4.302	Potential UCLs to Use	
AppChi2	0.844	95% KM (t) UCL	0.107
95% Gamma Approximate UCL (Use when n >= 40)	0.25	95% KM (Percentile Bootstrap) UCL	0.111
95% Adjusted Gamma UCL (Use when n < 40)	0.311		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Methoxychlor

General Statistics (Units in mg/kg)

Number of Valid Data	12	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	9
		Percent Non-Detects	75.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.016	Minimum Detected	-4.135
Maximum Detected	0.032	Maximum Detected	-3.442
Mean of Detected	0.0263	Mean of Detected	-3.684
SD of Detected	0.00896	SD of Detected	0.391
Minimum Non-Detect	0.0038	Minimum Non-Detect	-5.573
Maximum Non-Detect	0.15	Maximum Non-Detect	-1.897

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.797	Shapiro Wilk Test Statistic	0.784
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0182	Mean	-5.02
SD	0.0242	SD	1.535
95% DL/2 (t) UCL	0.0307	95% H-Stat (DL/2) UCL	0.135

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.674
		SD in Log Scale	0.681
		Mean in Original Scale	0.0118
		SD in Original Scale	0.0097
		95% t UCL	0.0169
		95% Percentile Bootstrap UCL	0.0165
		95% BCA Bootstrap UCL	0.0172
		95% H-UCL	0.0192

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

A-D Test Statistic	N/A	Nonparametric Statistics	
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.0191
5% K-S Critical Value	N/A	SD	0.0062
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0024
		95% KM (t) UCL	0.0234
Assuming Gamma Distribution		95% KM (z) UCL	0.0231
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0286
Minimum	N/A	95% KM (bootstrap t) UCL	0.0214
Maximum	N/A	95% KM (BCA) UCL	0.032
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.032
Median	N/A	95% KM (Chebyshev) UCL	0.0296
SD	N/A	97.5% KM (Chebyshev) UCL	0.0341
k star	N/A	99% KM (Chebyshev) UCL	0.043
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.0234
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	0.032
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Nickel

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	6.7	Minimum of Log Data	1.902
Maximum	37	Maximum of Log Data	3.611
Mean	12.68	Mean of log Data	2.425
Geometric Mean	11.3	SD of log Data	0.454
Median	11		
SD	7.749		
Std. Error of Mean	2.001		
Coefficient of Variation	0.611		
Skewness	2.551		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.689	Shapiro Wilk Test Statistic	0.881
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	16.2	95% H-UCL	16.02
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	18.96
95% Adjusted-CLT UCL (Chen-1995)	17.38	97.5% Chebyshev (MVUE) UCL	21.78
95% Modified-t UCL (Johnson-1978)	16.42	99% Chebyshev (MVUE) UCL	27.32
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.646	Data appear Lognormal at 5% Significance Level	
Theta Star	3.477		
MLE of Mean	12.68		
MLE of Standard Deviation	6.64		
nu star	109.4		
Approximate Chi Square Value (.05)	86.25	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	15.97
Adjusted Chi Square Value	83.72	95% Jackknife UCL	16.2
		95% Standard Bootstrap UCL	15.93
Anderson-Darling Test Statistic	0.894	95% Bootstrap-t UCL	21.07
Anderson-Darling 5% Critical Value	0.739	95% Hall's Bootstrap UCL	32.37
Kolmogorov-Smirnov Test Statistic	0.234	95% Percentile Bootstrap UCL	16.31
Kolmogorov-Smirnov 5% Critical Value	0.222	95% BCA Bootstrap UCL	17.19
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	21.4
		97.5% Chebyshev(Mean, Sd) UCL	25.17
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	32.59
95% Approximate Gamma UCL (Use when n >= 40)	16.08		
95% Adjusted Gamma UCL (Use when n < 40)	16.57		
Potential UCL to Use		Use 95% Student's-t UCL	16.2
		or 95% Modified-t UCL	16.42
		or 95% H-UCL	16.02

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)			
Number of Valid Observations	15	Number of Distinct Observations	14
Raw Statistics		Log-transformed Statistics	
Minimum	0.036	Minimum of Log Data	-3.324
Maximum	3	Maximum of Log Data	1.099
Mean	1.258	Mean of log Data	-0.0782
Geometric Mean	0.925	SD of log Data	1.057
Median	1.2		
SD	0.767		
Std. Error of Mean	0.198		
Coefficient of Variation	0.61		
Skewness	0.587		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.974	Shapiro Wilk Test Statistic	0.784
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.606	95% H-UCL	3.601
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.539
95% Adjusted-CLT UCL (Chen-1995)	1.615	97.5% Chebyshev (MVUE) UCL	4.406
95% Modified-t UCL (Johnson-1978)	1.611	99% Chebyshev (MVUE) UCL	6.111
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.464	Data appear Normal at 5% Significance Level	
Theta Star	0.859		
MLE of Mean	1.258		
MLE of Standard Deviation	1.039		
nu star	43.93		
Approximate Chi Square Value (.05)	29.73	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	1.583
Adjusted Chi Square Value	28.29	95% Jackknife UCL	1.606
		95% Standard Bootstrap UCL	1.57
Anderson-Darling Test Statistic	0.464	95% Bootstrap-t UCL	1.637
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	1.695
Kolmogorov-Smirnov Test Statistic	0.158	95% Percentile Bootstrap UCL	1.583
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	1.59
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.121
		97.5% Chebyshev(Mean, Sd) UCL	2.494
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.227
95% Approximate Gamma UCL (Use when n >= 40)	1.859		
95% Adjusted Gamma UCL (Use when n < 40)	1.953		
Potential UCL to Use		Use 95% Student's-t UCL	1.606

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenol

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	14
		Percent Non-Detects	93.33%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Phenol was not processed!

Pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	14
Number of Distinct Detected Data	12	Number of Non-Detect Data	1
		Percent Non-Detects	6.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1	Minimum Detected	0
Maximum Detected	8.1	Maximum Detected	2.092
Mean of Detected	2.793	Mean of Detected	0.863
SD of Detected	1.861	SD of Detected	0.574
Minimum Non-Detect	0.2	Minimum Non-Detect	-1.609
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.79	Shapiro Wilk Test Statistic	0.949
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.613	Mean	0.652
SD	1.923	SD	0.987
95% DL/2 (t) UCL	3.488	95% H-Stat (DL/2) UCL	6.407

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.556	Mean in Log Scale	0.77
SD	1.957	SD in Log Scale	0.66
95% MLE (t) UCL	3.446	Mean in Original Scale	2.646
95% MLE (Tiku) UCL	3.434	SD in Original Scale	1.882
		95% t UCL	3.502
		95% Percentile Bootstrap UCL	3.519
		95% BCA Bootstrap UCL	3.653
		95% H UCL	3.997

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.567	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.088	
nu star	71.89	

A-D Test Statistic	0.519	Nonparametric Statistics	
5% A-D Critical Value	0.742	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.742	Mean	2.673
5% K-S Critical Value	0.23	SD	1.789
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.479
		95% KM (t) UCL	3.518
Assuming Gamma Distribution		95% KM (z) UCL	3.462
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.512
Minimum	1.00E-06	95% KM (bootstrap t) UCL	4.06
Maximum	8.1	95% KM (BCA) UCL	3.533
Mean	2.607	95% KM (Percentile Bootstrap) UCL	3.547
Median	2.1	95% KM (Chebyshev) UCL	4.763
SD	1.933	97.5% KM (Chebyshev) UCL	5.668
k star	0.507	99% KM (Chebyshev) UCL	7.444
Theta star	5.138		
Nu star	15.22	Potential UCLs to Use	
AppChi2	7.416	95% KM (BCA) UCL	3.533
95% Gamma Approximate UCL (Use when n >= 40)	5.35		
95% Adjusted Gamma UCL (Use when n < 40)	5.874		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Silver

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	8
		Percent Non-Detects	53.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.71	Minimum Detected	-0.342
Maximum Detected	5.2	Maximum Detected	1.649
Mean of Detected	2.07	Mean of Detected	0.419
SD of Detected	1.843	SD of Detected	0.82
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.001	Maximum Non-Detect	-6.908

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.763	Shapiro Wilk Test Statistic	0.852
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.966	Mean	-3.858
SD	1.612	SD	4.176
95% DL/2 (t) UCL	1.699	95% H-Stat (DL/2) UCL	2965204

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.927
		SD in Log Scale	1.534
		Mean in Original Scale	1.051
		SD in Original Scale	1.561
		95% t UCL	1.761
		95% Percentile Bootstrap UCL	1.752
		95% BCA Bootstrap UCL	1.97
		95% H-UCL	5.783

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.105	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.874	
nu star	15.46	

		Nonparametric Statistics	
A-D Test Statistic	0.649		
5% A-D Critical Value	0.718	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.718	Mean	1.345
5% K-S Critical Value	0.316	SD	1.349
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.376
		95% KM (t) UCL	2.007
Assuming Gamma Distribution		95% KM (z) UCL	1.963
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.976
Minimum	1.00E-06	95% KM (bootstrap t) UCL	4.309
Maximum	5.2	95% KM (BCA) UCL	2.137
Mean	0.966	95% KM (Percentile Bootstrap) UCL	2.061
Median	1.00E-06	95% KM (Chebyshev) UCL	2.984
SD	1.612	97.5% KM (Chebyshev) UCL	3.694
k star	0.134	99% KM (Chebyshev) UCL	5.088
Theta star	7.202		
Nu star	4.024	Potential UCLs to Use	
AppChi2	0.731	95% KM (t) UCL	2.007
95% Gamma Approximate UCL (Use when n >= 40)	5.316		
95% Adjusted Gamma UCL (Use when n < 40)	6.696		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc

General Statistics (Units in mg/kg)

Number of Valid Observations	15	Number of Distinct Observations	15

Raw Statistics		Log-transformed Statistics	
Minimum	31.7	Minimum of Log Data	3.456
Maximum	460	Maximum of Log Data	6.131
Mean	105.7	Mean of log Data	4.361
Geometric Mean	78.37	SD of log Data	0.699
Median	59.9		
SD	113.3		
Std. Error of Mean	29.25		
Coefficient of Variation	1.072		
Skewness	2.688		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.597	Shapiro Wilk Test Statistic	0.857
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	157.2	95% H-UCL	153.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	179.5
95% Adjusted-CLT UCL (Chen-1995)	175.5	97.5% Chebyshev (MVUE) UCL	214.7
95% Modified-t UCL (Johnson-1978)	160.6	99% Chebyshev (MVUE) UCL	283.9

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.501	Data do not follow a Discernable Distribution (0.05)	
Theta Star	70.43		
MLE of Mean	105.7		
MLE of Standard Deviation	86.28		
nu star	45.02		
Approximate Chi Square Value (.05)	30.63	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	153.8
Adjusted Chi Square Value	29.17	95% Jackknife UCL	157.2
		95% Standard Bootstrap UCL	151.4
Anderson-Darling Test Statistic	1.466	95% Bootstrap-t UCL	339.8
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	395.1
Kolmogorov-Smirnov Test Statistic	0.251	95% Percentile Bootstrap UCL	156.5
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	178.2
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	233.2
		97.5% Chebyshev(Mean, Sd) UCL	288.3
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	396.7
95% Approximate Gamma UCL (Use when n >= 40)	155.4		
95% Adjusted Gamma UCL (Use when n < 40)	163.1		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	233.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)			
Number of Valid Data	53	Number of Detected Data	47
Number of Distinct Detected Data	42	Number of Non-Detect Data	6
		Percent Non-Detects	11.32%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.097	Minimum Detected	-2.333
Maximum Detected	39	Maximum Detected	3.664
Mean of Detected	4.758	Mean of Detected	0.721
SD of Detected	7.163	SD of Detected	1.374
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	0.43	Maximum Non-Detect	-0.844
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	42
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	20.75%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.639	Shapiro Wilk Test Statistic	0.985
5% Shapiro Wilk Critical Value	0.946	5% Shapiro Wilk Critical Value	0.946
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.236	Mean	0.35
SD	6.898	SD	1.734
95% DL/2 (t) UCL	5.823	95% H-Stat (DL/2) UCL	13.95
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.152	Mean in Log Scale	0.408
SD	7.994	SD in Log Scale	1.574
95% MLE (t) UCL	4.991	Mean in Original Scale	4.236
95% MLE (Tiku) UCL	4.967	SD in Original Scale	6.897
		95% t UCL	5.823
		95% Percentile Bootstrap UCL	5.887
		95% BCA Bootstrap UCL	6.436
		95% H UCL	10.09
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.686	Data appear Lognormal at 5% Significance Level	
Theta Star	6.936		
nu star	64.49		
A-D Test Statistic	0.85	Nonparametric Statistics	
5% A-D Critical Value	0.794	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.794	Mean	4.236
5% K-S Critical Value	0.135	SD	6.832
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.949
		95% KM (t) UCL	5.825
Assuming Gamma Distribution		95% KM (z) UCL	5.796
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.821
Minimum	1.00E-06	95% KM (bootstrap t) UCL	6.739
Maximum	39	95% KM (BCA) UCL	6.042
Mean	4.22	95% KM (Percentile Bootstrap) UCL	5.814
Median	1.9	95% KM (Chebyshev) UCL	8.371
SD	6.907	97.5% KM (Chebyshev) UCL	10.16
k star	0.289	99% KM (Chebyshev) UCL	13.67
Theta star	14.61		
Nu star	30.61	Potential UCLs to Use	
AppChi2	18.97	95% KM (Chebyshev) UCL	8.371
95% Gamma Approximate UCL (Use when n >= 40)	6.808		
95% Adjusted Gamma UCL (Use when n < 40)	6.901		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total DDx

General Statistics (Units in mg/kg)			
Number of Valid Data	15	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	5
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.029	Minimum Detected	-3.54
Maximum Detected	0.18	Maximum Detected	-1.715
Mean of Detected	0.0571	Mean of Detected	-3.056
SD of Detected	0.0467	SD of Detected	0.589
Minimum Non-Detect	0.00092	Minimum Non-Detect	-6.991
Maximum Non-Detect	0.03	Maximum Non-Detect	-3.507
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	40.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.656	Shapiro Wilk Test Statistic	0.81
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0398	Mean	-4.161
SD	0.0453	SD	1.942
95% DL/2 (t) UCL	0.0605	95% H-Stat (DL/2) UCL	1.034
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0309	Mean in Log Scale	-3.516
SD	0.0545	SD in Log Scale	0.833
95% MLE (t) UCL	0.0557	Mean in Original Scale	0.0421
95% MLE (Tiku) UCL	0.0587	SD in Original Scale	0.0434
		95% t UCL	0.0619
		95% Percentile Bootstrap UCL	0.0612
		95% BCA Bootstrap UCL	0.0709
		95% H UCL	0.0732
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.987	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0288		
nu star	39.74		
A-D Test Statistic	1.005	Nonparametric Statistics	
5% A-D Critical Value	0.733	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.733	Mean	0.0478
5% K-S Critical Value	0.269	SD	0.0385
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0105
		95% KM (t) UCL	0.0662
Assuming Gamma Distribution		95% KM (z) UCL	0.065
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0656
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0996
Maximum	0.18	95% KM (BCA) UCL	0.0682
Mean	0.0381	95% KM (Percentile Bootstrap) UCL	0.0664
Median	0.031	95% KM (Chebyshev) UCL	0.0934
SD	0.0467	97.5% KM (Chebyshev) UCL	0.113
k star	0.217	99% KM (Chebyshev) UCL	0.152
Theta star	0.176		
Nu star	6.506	Potential UCLs to Use	
AppChi2	1.904	95% KM (BCA) UCL	0.0682
95% Gamma Approximate UCL (Use when n >= 40)	0.13		
95% Adjusted Gamma UCL (Use when n < 40)	0.154		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total LMW PAHs

General Statistics (Units in mg/kg)			
Number of Valid Observations	15	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	0.0556	Minimum of Log Data	-2.89
Maximum	4.013	Maximum of Log Data	1.39
Mean	1.702	Mean of log Data	0.232
Geometric Mean	1.262	SD of log Data	1.033
Median	1.633		
SD	1.014		
Std. Error of Mean	0.262		
Coefficient of Variation	0.596		
Skewness	0.449		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.963	Shapiro Wilk Test Statistic	0.787
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.163	95% H-UCL	4.656
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.655
95% Adjusted-CLT UCL (Chen-1995)	2.165	97.5% Chebyshev (MVUE) UCL	5.784
95% Modified-t UCL (Johnson-1978)	2.168	99% Chebyshev (MVUE) UCL	8.002
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.499	Data appear Normal at 5% Significance Level	
Theta Star	1.135		
MLE of Mean	1.702		
MLE of Standard Deviation	1.39		
nu star	44.98		
Approximate Chi Square Value (.05)	30.59	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	2.133
Adjusted Chi Square Value	29.14	95% Jackknife UCL	2.163
		95% Standard Bootstrap UCL	2.129
Anderson-Darling Test Statistic	0.573	95% Bootstrap-t UCL	2.185
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	2.243
Kolmogorov-Smirnov Test Statistic	0.179	95% Percentile Bootstrap UCL	2.122
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	2.155
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.843
		97.5% Chebyshev(Mean, Sd) UCL	3.337
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4.307
95% Approximate Gamma UCL (Use when n >= 40)	2.502		
95% Adjusted Gamma UCL (Use when n < 40)	2.628		
Potential UCL to Use		Use 95% Student's-t UCL	2.163

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total HMW PAHs

General Statistics (Units in mg/kg)			
Number of Valid Observations	15	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	0.488	Minimum of Log Data	-0.717
Maximum	26.86	Maximum of Log Data	3.291
Mean	13.04	Mean of log Data	2.287
Geometric Mean	9.842	SD of log Data	0.984
Median	10.21		
SD	7.841		
Std. Error of Mean	2.025		
Coefficient of Variation	0.601		
Skewness	0.415		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.925	Shapiro Wilk Test Statistic	0.782
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	16.6	95% H-UCL	32.64
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	33.73
95% Adjusted-CLT UCL (Chen-1995)	16.6	97.5% Chebyshev (MVUE) UCL	41.71
95% Modified-t UCL (Johnson-1978)	16.64	99% Chebyshev (MVUE) UCL	57.39
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.587	Data appear Normal at 5% Significance Level	
Theta Star	8.216		
MLE of Mean	13.04		
MLE of Standard Deviation	10.35		
nu star	47.61		
Approximate Chi Square Value (.05)	32.77	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	16.37
Adjusted Chi Square Value	31.26	95% Jackknife UCL	16.6
		95% Standard Bootstrap UCL	16.27
Anderson-Darling Test Statistic	0.557	95% Bootstrap-t UCL	17.2
Anderson-Darling 5% Critical Value	0.748	95% Hall's Bootstrap UCL	16.42
Kolmogorov-Smirnov Test Statistic	0.165	95% Percentile Bootstrap UCL	16.35
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	16.46
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	21.86
		97.5% Chebyshev(Mean, Sd) UCL	25.68
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	33.18
95% Approximate Gamma UCL (Use when n >= 40)	18.94		
95% Adjusted Gamma UCL (Use when n < 40)	19.86		
Potential UCL to Use		Use 95% Student's-t UCL	16.6

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

1,1-Dichloroethane

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	23
		Percent Non-Detects	95.83%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 1,1-Dichloroethane was not processed!

1,4-Dichlorobenzene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	20
		Percent Non-Detects	83.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.018	Minimum Detected	-4.017
Maximum Detected	0.053	Maximum Detected	-2.937
Mean of Detected	0.0413	Mean of Detected	-3.269
SD of Detected	0.0159	SD of Detected	0.505
Minimum Non-Detect	4.70E-04	Minimum Non-Detect	-7.663
Maximum Non-Detect	0.093	Maximum Non-Detect	-2.375

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.823	Shapiro Wilk Test Statistic	0.761
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0156	Mean	-6.154
SD	0.0198	SD	2.447
95% DL/2 (t) UCL	0.0226	95% H-Stat (DL/2) UCL	0.505

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.727
		SD in Log Scale	0.747
		Mean in Original Scale	0.0126
		SD in Original Scale	0.0144
		95% t UCL	0.0177
		95% Percentile Bootstrap UCL	0.0176
		95% BCA Bootstrap UCL	0.0187
		95% H-UCL	0.0166

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.761	Data appear Normal at 5% Significance Level
Theta Star	0.0234	
nu star	14.09	

		Nonparametric Statistics	
A-D Test Statistic	0.609	Kaplan-Meier (KM) Method	
5% A-D Critical Value	0.658		
K-S Test Statistic	0.658	Mean	0.0232
5% K-S Critical Value	0.396	SD	0.0117
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00317
		95% KM (t) UCL	0.0286
Assuming Gamma Distribution		95% KM (z) UCL	0.0284
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0387
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.026
Maximum	0.053	95% KM (BCA) UCL	0.053
Mean	0.00688	95% KM (Percentile Bootstrap) UCL	0.0504
Median	1.00E-06	95% KM (Chebyshev) UCL	0.037
SD	0.0167	97.5% KM (Chebyshev) UCL	0.043
k star	0.127	99% KM (Chebyshev) UCL	0.0547
Theta star	0.0543		
Nu star	6.077	Potential UCLs to Use	
AppChi2	1.679	95% KM (t) UCL	0.0286
95% Gamma Approximate UCL (Use when n >= 40)	0.0249	95% KM (Percentile Bootstrap) UCL	0.0504
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,2-Dichlorobenzene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	20
		Percent Non-Detects	83.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0046	Minimum Detected	-5.382
Maximum Detected	0.0077	Maximum Detected	-4.867
Mean of Detected	0.00595	Mean of Detected	-5.142
SD of Detected	0.0013	SD of Detected	0.214
Minimum Non-Detect	3.80E-04	Minimum Non-Detect	-7.875
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.963	Shapiro Wilk Test Statistic	0.987
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.334	Mean	-5.675
SD	0.604	SD	3.711
95% DL/2 (t) UCL	0.546	95% H-Stat (DL/2) UCL	815

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.923
		SD in Log Scale	0.419
		Mean in Original Scale	0.00295
		SD in Original Scale	0.00152
		95% t UCL	0.00348
		95% Percentile Bootstrap UCL	0.00346
		95% BCA Bootstrap UCL	0.00358
		95% H-UCL	0.00345

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	7.373	Data appear Normal at 5% Significance Level
Theta Star	8.07E-04	
nu star	58.99	

		Nonparametric Statistics	
A-D Test Statistic	0.232		
5% A-D Critical Value	0.657	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.657	Mean	0.0049
5% K-S Critical Value	0.394	SD	7.73E-04
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.10E-04
		95% KM (t) UCL	0.00526
Assuming Gamma Distribution		95% KM (z) UCL	0.00525
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00548
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.00526
Maximum	0.0077	95% KM (BCA) UCL	0.0077
Mean	0.00102	95% KM (Percentile Bootstrap) UCL	0.00626
Median	1.00E-06	95% KM (Chebyshev) UCL	0.00582
SD	0.00231	97.5% KM (Chebyshev) UCL	0.00621
k star	0.157	99% KM (Chebyshev) UCL	0.00699
Theta star	0.00648		
Nu star	7.54	Potential UCLs to Use	
AppChi2	2.471	95% KM (t) UCL	0.00526
95% Gamma Approximate UCL (Use when n >= 40)	0.00311	95% KM (Percentile Bootstrap) UCL	0.00626
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,3-Dichlorobenzene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	20
		Percent Non-Detects	83.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0091	Minimum Detected	-4.699
Maximum Detected	0.025	Maximum Detected	-3.689
Mean of Detected	0.0183	Mean of Detected	-4.07
SD of Detected	0.00695	SD of Detected	0.449
Minimum Non-Detect	3.90E-04	Minimum Non-Detect	-7.849
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.955	Shapiro Wilk Test Statistic	0.899
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.337	Mean	-5.48
SD	0.603	SD	3.749
95% DL/2 (t) UCL	0.547	95% H-Stat (DL/2) UCL	1271

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.538
		SD in Log Scale	0.762
		Mean in Original Scale	0.00564
		SD in Original Scale	0.00638
		95% t UCL	0.00787
		95% Percentile Bootstrap UCL	0.00797
		95% BCA Bootstrap UCL	0.0085
		95% H-UCL	0.00752

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.054	Data appear Normal at 5% Significance Level
Theta Star	0.0089	
nu star	16.43	

		Nonparametric Statistics	
A-D Test Statistic	0.329		
5% A-D Critical Value	0.658	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.658	Mean	0.0111
5% K-S Critical Value	0.395	SD	0.00475
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00129
		95% KM (t) UCL	0.0134
Assuming Gamma Distribution		95% KM (z) UCL	0.0133
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.016
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0125
Maximum	0.025	95% KM (BCA) UCL	N/A
Mean	0.00305	95% KM (Percentile Bootstrap) UCL	0.0225
Median	1.00E-06	95% KM (Chebyshev) UCL	0.0168
SD	0.0074	97.5% KM (Chebyshev) UCL	0.0192
k star	0.136	99% KM (Chebyshev) UCL	0.024
Theta star	0.0224		
Nu star	6.519	Potential UCLs to Use	
AppChi2	1.911	95% KM (t) UCL	0.0134
95% Gamma Approximate UCL (Use when n >= 40)	0.0104	95% KM (Percentile Bootstrap) UCL	0.0225
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

2-Methylnaphthalene

General Statistics (Units in mg/kg)			
Number of Valid Data	24	Number of Detected Data	16
Number of Distinct Detected Data	15	Number of Non-Detect Data	8
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.001	Minimum Detected	-6.908
Maximum Detected	0.11	Maximum Detected	-2.207
Mean of Detected	0.0283	Mean of Detected	-4.267
SD of Detected	0.0327	SD of Detected	1.32
Minimum Non-Detect	6.80E-04	Minimum Non-Detect	-7.293
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.781	Shapiro Wilk Test Statistic	0.961
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.352	Mean	-3.369
SD	0.594	SD	2.538
95% DL/2 (t) UCL	0.56	95% H-Stat (DL/2) UCL	12.23
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.571
		SD in Log Scale	1.34
		Mean in Original Scale	0.0218
		SD in Original Scale	0.0283
		95% t UCL	0.0317
		95% Percentile Bootstrap UCL	0.0316
		95% BCA Bootstrap UCL	0.0336
		95% H-UCL	0.0592
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.725	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.039		
nu star	23.21		
A-D Test Statistic	0.432	Nonparametric Statistics	
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	0.0253
5% K-S Critical Value	0.222	SD	0.031
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00756
		95% KM (t) UCL	0.0382
Assuming Gamma Distribution		95% KM (z) UCL	0.0377
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0381
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0447
Maximum	0.11	95% KM (BCA) UCL	0.0389
Mean	0.0238	95% KM (Percentile Bootstrap) UCL	0.0375
Median	0.019	95% KM (Chebyshev) UCL	0.0582
SD	0.0282	97.5% KM (Chebyshev) UCL	0.0725
k star	0.455	99% KM (Chebyshev) UCL	0.1
Theta star	0.0524		
Nu star	21.83	Potential UCLs to Use	
AppChi2	12.21	95% KM (BCA) UCL	0.0389
95% Gamma Approximate UCL (Use when n >= 40)	0.0426		
95% Adjusted Gamma UCL (Use when n < 40)	0.0444		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

2,6-Dinitrotoluene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	23
		Percent Non-Detects	95.83%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 2,6-Dinitrotoluene was not processed!

3&4-Methylphenol

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	21
		Percent Non-Detects	87.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.57	Minimum Detected	-0.562
Maximum Detected	37	Maximum Detected	3.611
Mean of Detected	13.39	Mean of Detected	1.335
SD of Detected	20.47	SD of Detected	2.112
Minimum Non-Detect	0.11	Minimum Non-Detect	-2.207
Maximum Non-Detect	2.9	Maximum Non-Detect	1.065

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	95.83%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.792	Shapiro Wilk Test Statistic	0.976
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.941	Mean	-1.677
SD	7.497	SD	1.723
95% DL/2 (t) UCL	4.563	95% H-Stat (DL/2) UCL	3.037

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.47
		SD in Log Scale	3.611
		Mean in Original Scale	1.676
		SD in Original Scale	7.543
		95% t UCL	4.315
		95% Percentile Bootstrap UCL	4.735
		95% BCA Bootstrap UCL	6.494
		95% H-UCL	192.5

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	2.181
5% K-S Critical Value	N/A	SD	7.273
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.818
		95% KM (t) UCL	5.297
Assuming Gamma Distribution		95% KM (z) UCL	5.172
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.495
Minimum	N/A	95% KM (bootstrap t) UCL	21.74
Maximum	N/A	95% KM (BCA) UCL	37
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	10.11
SD	N/A	97.5% KM (Chebyshev) UCL	13.54
k star	N/A	99% KM (Chebyshev) UCL	20.27
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	5.297
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthene

General Statistics (Units in mg/kg)			
Number of Valid Data	24	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	8
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0019	Minimum Detected	-6.266
Maximum Detected	0.28	Maximum Detected	-1.273
Mean of Detected	0.0521	Mean of Detected	-3.705
SD of Detected	0.0697	SD of Detected	1.39
Minimum Non-Detect	8.70E-04	Minimum Non-Detect	-7.047
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.683	Shapiro Wilk Test Statistic	0.96
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.368	Mean	-2.974
SD	0.587	SD	2.401
95% DL/2 (t) UCL	0.574	95% H-Stat (DL/2) UCL	9.959
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.025
		SD in Log Scale	1.411
		Mean in Original Scale	0.0398
		SD in Original Scale	0.0594
		95% t UCL	0.0606
		95% Percentile Bootstrap UCL	0.062
		95% BCA Bootstrap UCL	0.0707
		95% H-UCL	0.122
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.685	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0761		
nu star	21.92		
A-D Test Statistic	0.293	Nonparametric Statistics	
5% A-D Critical Value	0.773	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.773	Mean	0.0465
5% K-S Critical Value	0.223	SD	0.0656
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.016
		95% KM (t) UCL	0.0739
Assuming Gamma Distribution		95% KM (z) UCL	0.0728
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.074
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.103
Maximum	0.28	95% KM (BCA) UCL	0.0811
Mean	0.0436	95% KM (Percentile Bootstrap) UCL	0.0755
Median	0.0295	95% KM (Chebyshev) UCL	0.116
SD	0.0593	97.5% KM (Chebyshev) UCL	0.146
k star	0.424	99% KM (Chebyshev) UCL	0.205
Theta star	0.103		
Nu star	20.34	Potential UCLs to Use	
AppChi2	11.1	95% KM (BCA) UCL	0.0811
95% Gamma Approximate UCL (Use when n >= 40)	0.0798		
95% Adjusted Gamma UCL (Use when n < 40)	0.0834		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	12
Number of Distinct Detected Data	11	Number of Non-Detect Data	12
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0011	Minimum Detected	-6.812
Maximum Detected	0.02	Maximum Detected	-3.912
Mean of Detected	0.00573	Mean of Detected	-5.575
SD of Detected	0.0062	SD of Detected	0.9
Minimum Non-Detect	6.80E-04	Minimum Non-Detect	-7.293
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.696	Shapiro Wilk Test Statistic	0.92
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.336	Mean	-4.534
SD	0.603	SD	3.016
95% DL/2 (t) UCL	0.547	95% H-Stat (DL/2) UCL	40.19

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.12
		SD in Log Scale	0.967
		Mean in Original Scale	0.00365
		SD in Original Scale	0.00483
		95% t UCL	0.00534
		95% Percentile Bootstrap UCL	0.00529
		95% BCA Bootstrap UCL	0.00602
		95% H-UCL	0.0058

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.071	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	0.00534	
nu star	25.72	

A-D Test Statistic	0.782	Nonparametric Statistics	
5% A-D Critical Value	0.749	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.749	Mean	0.0043
5% K-S Critical Value	0.25	SD	0.00527
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0013
		95% KM (t) UCL	0.00653
Assuming Gamma Distribution		95% KM (z) UCL	0.00644
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00643
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0105
Maximum	0.02	95% KM (BCA) UCL	0.00669
Mean	0.00358	95% KM (Percentile Bootstrap) UCL	0.00663
Median	0.00255	95% KM (Chebyshev) UCL	0.00997
SD	0.005	97.5% KM (Chebyshev) UCL	0.0124
k star	0.309	99% KM (Chebyshev) UCL	0.0173
Theta star	0.0116		
Nu star	14.83	Potential UCLs to Use	
AppChi2	7.144	95% KM (t) UCL	0.00653
95% Gamma Approximate UCL (Use when n >= 40)	0.00743		
95% Adjusted Gamma UCL (Use when n < 40)	0.00784		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acetone

General Statistics (Units in mg/kg)			
Number of Valid Data	24	Number of Detected Data	14
Number of Distinct Detected Data	14	Number of Non-Detect Data	10
		Percent Non-Detects	41.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0043	Minimum Detected	-5.449
Maximum Detected	3.6	Maximum Detected	1.281
Mean of Detected	0.613	Mean of Detected	-2.059
SD of Detected	1.023	SD of Detected	2.128
Minimum Non-Detect	0.0035	Minimum Non-Detect	-5.655
Maximum Non-Detect	0.0063	Maximum Non-Detect	-5.067
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	50.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.656	Shapiro Wilk Test Statistic	0.956
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.359	Mean	-3.787
SD	0.828	SD	2.633
95% DL/2 (t) UCL	0.648	95% H-Stat (DL/2) UCL	12.45
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.285
		SD in Log Scale	3.182
		Mean in Original Scale	0.358
		SD in Original Scale	0.828
		95% t UCL	0.648
		95% Percentile Bootstrap UCL	0.652
		95% BCA Bootstrap UCL	0.79
		95% H-UCL	128.5
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.375	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.636		
nu star	10.49		
A-D Test Statistic	0.43	Nonparametric Statistics	
5% A-D Critical Value	0.809	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.809	Mean	0.359
5% K-S Critical Value	0.244	SD	0.81
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.172
		95% KM (t) UCL	0.654
Assuming Gamma Distribution		95% KM (z) UCL	0.642
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.649
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.157
Maximum	3.6	95% KM (BCA) UCL	0.661
Mean	0.358	95% KM (Percentile Bootstrap) UCL	0.67
Median	0.0136	95% KM (Chebyshev) UCL	1.108
SD	0.829	97.5% KM (Chebyshev) UCL	1.431
k star	0.143	99% KM (Chebyshev) UCL	2.067
Theta star	2.496		
Nu star	6.877	Potential UCLs to Use	
AppChi2	2.103	95% KM (BCA) UCL	0.661
95% Gamma Approximate UCL (Use when n >= 40)	1.169		
95% Adjusted Gamma UCL (Use when n < 40)	1.279		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

alpha-BHC

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	12
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	7.30E-04	Minimum Detected	-7.222
Maximum Detected	0.075	Maximum Detected	-2.59
Mean of Detected	0.018	Mean of Detected	-4.9
SD of Detected	0.0235	SD of Detected	1.541
Minimum Non-Detect	4.60E-04	Minimum Non-Detect	-7.684
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	83.33%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.743	Shapiro Wilk Test Statistic	0.946
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0108	Mean	-5.717
SD	0.018	SD	1.765
95% DL/2 (t) UCL	0.0171	95% H-Stat (DL/2) UCL	0.061

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.271
		SD in Log Scale	1.857
		Mean in Original Scale	0.00935
		SD in Original Scale	0.0185
		95% t UCL	0.0158
		95% Percentile Bootstrap UCL	0.016
		95% BCA Bootstrap UCL	0.0184
		95% H-UCL	0.0471

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.57	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0317		
nu star	13.67		

A-D Test Statistic	0.284	Nonparametric Statistics	
5% A-D Critical Value	0.771	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.771	Mean	0.00995
5% K-S Critical Value	0.256	SD	0.018
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00385
		95% KM (t) UCL	0.0166
Assuming Gamma Distribution		95% KM (z) UCL	0.0163
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0164
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0254
Maximum	0.075	95% KM (BCA) UCL	0.0172
Mean	0.00902	95% KM (Percentile Bootstrap) UCL	0.0168
Median	3.66E-04	95% KM (Chebyshev) UCL	0.0267
SD	0.0187	97.5% KM (Chebyshev) UCL	0.034
k star	0.171	99% KM (Chebyshev) UCL	0.0483
Theta star	0.0529		
Nu star	8.19	Potential UCLs to Use	
AppChi2	2.846	95% KM (t) UCL	0.0166
95% Gamma Approximate UCL (Use when n >= 40)	0.026		
95% Adjusted Gamma UCL (Use when n < 40)	0.0281		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

beta-BHC

General Statistics (Units in mg/kg)

Number of Valid Data	18	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	17
		Percent Non-Detects	94.44%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable beta-BHC was not processed!

gamma-BHC (Lindane)

General Statistics (Units in mg/kg)

Number of Valid Data	22	Number of Detected Data	4
Number of Distinct Detected Data	3	Number of Non-Detect Data	18
		Percent Non-Detects	81.82%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0015	Minimum Detected	-6.502
Maximum Detected	0.043	Maximum Detected	-3.147
Mean of Detected	0.0186	Mean of Detected	-4.512
SD of Detected	0.0175	SD of Detected	1.417
Minimum Non-Detect	0.00045	Minimum Non-Detect	-7.706
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.45%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.89	Shapiro Wilk Test Statistic	0.883
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00557	Mean	-6.437
SD	0.00954	SD	1.735
95% DL/2 (t) UCL	0.00907	95% H-Stat (DL/2) UCL	0.0297

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.185
		SD in Log Scale	1.933
		Mean in Original Scale	0.00351
		SD in Original Scale	0.00984
		95% t UCL	0.00711
		95% Percentile Bootstrap UCL	0.00732
		95% BCA Bootstrap UCL	0.00939
		95% H-UCL	0.01

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.437	Data appear Normal at 5% Significance Level
Theta Star	0.0426	
nu star	3.497	

A-D Test Statistic	0.351	Nonparametric Statistics	
5% A-D Critical Value	0.666	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.666	Mean	0.00468
5% K-S Critical Value	0.402	SD	0.00925
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00229
		95% KM (t) UCL	0.00861
Assuming Gamma Distribution		95% KM (z) UCL	0.00844
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0132
Minimum	0.000001	95% KM (bootstrap t) UCL	0.009
Maximum	0.043	95% KM (BCA) UCL	0.0201
Mean	0.00339	95% KM (Percentile Bootstrap) UCL	0.0188
Median	0.000001	95% KM (Chebyshev) UCL	0.0146
SD	0.00988	97.5% KM (Chebyshev) UCL	0.019
k star	0.136	99% KM (Chebyshev) UCL	0.0274
Theta star	0.0248		
Nu star	6.001	Potential UCLs to Use	
AppChi2	1.64	95% KM (t) UCL	0.00861
95% Gamma Approximate UCL (Use when n >= 40)	0.0124	95% KM (Percentile Bootstrap) UCL	0.0188
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	24	Number of Detected Data	16
Number of Distinct Detected Data	15	Number of Non-Detect Data	8
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	6.30E-04	Minimum Detected	-7.37
Maximum Detected	0.34	Maximum Detected	-1.079
Mean of Detected	0.124	Mean of Detected	-2.98
SD of Detected	0.12	SD of Detected	1.921
Minimum Non-Detect	5.70E-04	Minimum Non-Detect	-7.47
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.85	Shapiro Wilk Test Statistic	0.823
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.364	Mean	-2.807
SD	0.543	SD	2.63
95% DL/2 (t) UCL	0.554	95% H-Stat (DL/2) UCL	32.78
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.544
		SD in Log Scale	1.967
		Mean in Original Scale	0.089
		SD in Original Scale	0.109
		95% t UCL	0.127
		95% Percentile Bootstrap UCL	0.127
		95% BCA Bootstrap UCL	0.133
		95% H-UCL	1.047
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.594	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.209		
nu star	19		
A-D Test Statistic	0.477	Nonparametric Statistics	
5% A-D Critical Value	0.781	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.781	Mean	0.105
5% K-S Critical Value	0.224	SD	0.116
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0274
		95% KM (t) UCL	0.152
Assuming Gamma Distribution		95% KM (z) UCL	0.15
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.152
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.162
Maximum	0.34	95% KM (BCA) UCL	0.156
Mean	0.0979	95% KM (Percentile Bootstrap) UCL	0.153
Median	0.067	95% KM (Chebyshev) UCL	0.224
SD	0.106	97.5% KM (Chebyshev) UCL	0.276
k star	0.332	99% KM (Chebyshev) UCL	0.377
Theta star	0.295		
Nu star	15.94	Potential UCLs to Use	
AppChi2	7.921	95% KM (BCA) UCL	0.156
95% Gamma Approximate UCL (Use when n >= 40)	0.197		
95% Adjusted Gamma UCL (Use when n < 40)	0.208		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	23
Raw Statistics		Log-transformed Statistics	
Minimum	0.0018	Minimum of Log Data	-6.32
Maximum	6.5	Maximum of Log Data	1.872
Mean	0.908	Mean of log Data	-1.081
Geometric Mean	0.339	SD of log Data	1.817
Median	0.605		
SD	1.323		
Std. Error of Mean	0.27		
Coefficient of Variation	1.457		
Skewness	3.497		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.6	Shapiro Wilk Test Statistic	0.914
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.371	95% H-UCL	7.417
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.616
95% Adjusted-CLT UCL (Chen-1995)	1.558	97.5% Chebyshev (MVUE) UCL	5.959
95% Modified-t UCL (Johnson-1978)	1.403	99% Chebyshev (MVUE) UCL	8.597
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.574	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.583		
MLE of Mean	0.908		
MLE of Standard Deviation	1.199		
nu star	27.54		
Approximate Chi Square Value (.05)	16.57	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1.352
Adjusted Chi Square Value	15.97	95% Jackknife UCL	1.371
		95% Standard Bootstrap UCL	1.34
Anderson-Darling Test Statistic	0.342	95% Bootstrap-t UCL	1.777
Anderson-Darling 5% Critical Value	0.795	95% Hall's Bootstrap UCL	3.197
Kolmogorov-Smirnov Test Statistic	0.127	95% Percentile Bootstrap UCL	1.386
Kolmogorov-Smirnov 5% Critical Value	0.187	95% BCA Bootstrap UCL	1.654
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.085
		97.5% Chebyshev(Mean, Sd) UCL	2.595
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.595
95% Approximate Gamma UCL (Use when n >= 40)	1.509		
95% Adjusted Gamma UCL (Use when n < 40)	1.566		
Potential UCL to Use		Use 95% Approximate Gamma UCL	1.509

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	22
Number of Distinct Detected Data	20	Number of Non-Detect Data	2
		Percent Non-Detects	8.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.022	Minimum Detected	-3.817
Maximum Detected	5.5	Maximum Detected	1.705
Mean of Detected	0.901	Mean of Detected	-0.934
SD of Detected	1.179	SD of Detected	1.528
Minimum Non-Detect	7.20E-04	Minimum Non-Detect	-7.236
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.83%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.663	Shapiro Wilk Test Statistic	0.931
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.903	Mean	-1.161
SD	1.159	SD	2.076
95% DL/2 (t) UCL	1.309	95% H-Stat (DL/2) UCL	16.77

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.094
		SD in Log Scale	1.632
		Mean in Original Scale	0.839
		SD in Original Scale	1.147
		95% t UCL	1.24
		95% Percentile Bootstrap UCL	1.252
		95% BCA Bootstrap UCL	1.423
		95% H-UCL	4.154

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.656	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.373		
nu star	28.87		

A-D Test Statistic	0.431	Nonparametric Statistics	
5% A-D Critical Value	0.785	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.785	Mean	0.854
5% K-S Critical Value	0.193	SD	1.124
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.236
		95% KM (t) UCL	1.259
Assuming Gamma Distribution		95% KM (z) UCL	1.242
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.258
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.534
Maximum	5.5	95% KM (BCA) UCL	1.291
Mean	0.852	95% KM (Percentile Bootstrap) UCL	1.29
Median	0.609	95% KM (Chebyshev) UCL	1.884
SD	1.143	97.5% KM (Chebyshev) UCL	2.329
k star	0.459	99% KM (Chebyshev) UCL	3.204
Theta star	1.855		
Nu star	22.04	Potential UCLs to Use	
AppChi2	12.37	95% KM (Chebyshev) UCL	1.884
95% Gamma Approximate UCL (Use when n >= 40)	1.518		
95% Adjusted Gamma UCL (Use when n < 40)	1.583		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	23
Number of Distinct Detected Data	20	Number of Non-Detect Data	1
		Percent Non-Detects	4.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0025	Minimum Detected	-5.991
Maximum Detected	2.3	Maximum Detected	0.833
Mean of Detected	0.582	Mean of Detected	-1.29
SD of Detected	0.548	SD of Detected	1.642
Minimum Non-Detect	0.07	Minimum Non-Detect	-2.659
Maximum Non-Detect	0.07	Maximum Non-Detect	-2.659

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.864	Shapiro Wilk Test Statistic	0.874
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.559	Mean	-1.376
SD	0.547	SD	1.66
95% DL/2 (t) UCL	0.751	95% H-Stat (DL/2) UCL	3.398

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.467	Mean in Log Scale	-1.375
SD	0.662	SD in Log Scale	1.659
95% MLE (t) UCL	0.698	Mean in Original Scale	0.559
95% MLE (Tiku) UCL	0.707	SD in Original Scale	0.547
		95% t UCL	0.751
		95% Percentile Bootstrap UCL	0.755
		95% BCA Bootstrap UCL	0.76
		95% H UCL	3.388

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.719	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	0.809	
nu star	33.07	

A-D Test Statistic	0.624	Nonparametric Statistics	
5% A-D Critical Value	0.78	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.78	Mean	0.559
5% K-S Critical Value	0.188	SD	0.536
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.112
		95% KM (t) UCL	0.751
Assuming Gamma Distribution		95% KM (z) UCL	0.743
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.751
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.788
Maximum	2.3	95% KM (BCA) UCL	0.733
Mean	0.558	95% KM (Percentile Bootstrap) UCL	0.746
Median	0.45	95% KM (Chebyshev) UCL	1.047
SD	0.549	97.5% KM (Chebyshev) UCL	1.258
k star	0.478	99% KM (Chebyshev) UCL	1.672
Theta star	1.166		
Nu star	22.96	Potential UCLs to Use	
AppChi2	13.06	95% KM (Chebyshev) UCL	1.047
95% Gamma Approximate UCL (Use when n >= 40)	0.98		
95% Adjusted Gamma UCL (Use when n < 40)	1.022		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	23
Number of Distinct Detected Data	21	Number of Non-Detect Data	1
		Percent Non-Detects	4.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0015	Minimum Detected	-6.502
Maximum Detected	2.5	Maximum Detected	0.916
Mean of Detected	0.484	Mean of Detected	-1.621
SD of Detected	0.573	SD of Detected	1.737
Minimum Non-Detect	2.5	Minimum Non-Detect	0.916
Maximum Non-Detect	2.5	Maximum Non-Detect	0.916

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.767	Shapiro Wilk Test Statistic	0.921
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.516	Mean	-1.544
SD	0.581	SD	1.74
95% DL/2 (t) UCL	0.719	95% H-Stat (DL/2) UCL	3.658

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.626
		SD in Log Scale	1.699
		Mean in Original Scale	0.471
		SD in Original Scale	0.563
		95% t UCL	0.668
		95% Percentile Bootstrap UCL	0.672
		95% BCA Bootstrap UCL	0.725
		95% H-UCL	2.973

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.619	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.781	
nu star	28.47	

A-D Test Statistic	0.225	Nonparametric Statistics	
5% A-D Critical Value	0.789	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.789	Mean	0.48
5% K-S Critical Value	0.19	SD	0.554
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.117
		95% KM (t) UCL	0.68
Assuming Gamma Distribution		95% KM (z) UCL	0.672
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.68
Minimum	0.0015	95% KM (bootstrap t) UCL	0.794
Maximum	2.5	95% KM (BCA) UCL	0.68
Mean	0.478	95% KM (Percentile Bootstrap) UCL	0.685
Median	0.3	95% KM (Chebyshev) UCL	0.988
SD	0.561	97.5% KM (Chebyshev) UCL	1.208
k star	0.643	99% KM (Chebyshev) UCL	1.64
Theta star	0.744		
Nu star	30.86	Potential UCLs to Use	
AppChi2	19.17	95% KM (Chebyshev) UCL	0.988
95% Gamma Approximate UCL (Use when n >= 40)	0.77		
95% Adjusted Gamma UCL (Use when n < 40)	0.797		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bis(2-ethylhexyl)phthalate

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	0.39	Minimum of Log Data	-0.942
Maximum	300	Maximum of Log Data	5.704
Mean	71.43	Mean of log Data	2.878
Geometric Mean	17.78	SD of log Data	2.126
Median	25		
SD	90.34		
Std. Error of Mean	18.44		
Coefficient of Variation	1.265		
Skewness	1.277		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.79	Shapiro Wilk Test Statistic	0.928
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	103	95% H-UCL	1147
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	456.6
95% Adjusted-CLT UCL (Chen-1995)	106.9	97.5% Chebyshev (MVUE) UCL	596.8
95% Modified-t UCL (Johnson-1978)	103.8	99% Chebyshev (MVUE) UCL	872.3
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.432	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	165.2		
MLE of Mean	71.43		
MLE of Standard Deviation	108.6		
nu star	20.75		
Approximate Chi Square Value (.05)	11.41	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	101.8
Adjusted Chi Square Value	10.92	95% Jackknife UCL	103
		95% Standard Bootstrap UCL	101.4
Anderson-Darling Test Statistic	0.489	95% Bootstrap-t UCL	109.6
Anderson-Darling 5% Critical Value	0.815	95% Hall's Bootstrap UCL	105.5
Kolmogorov-Smirnov Test Statistic	0.108	95% Percentile Bootstrap UCL	102.4
Kolmogorov-Smirnov 5% Critical Value	0.189	95% BCA Bootstrap UCL	107.2
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	151.8
		97.5% Chebyshev(Mean, Sd) UCL	186.6
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	254.9
95% Approximate Gamma UCL (Use when n >= 40)	129.9		
95% Adjusted Gamma UCL (Use when n < 40)	135.7		
Potential UCL to Use		Use 95% Adjusted Gamma UCL	135.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Butylbenzylphthalate

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	23
Number of Distinct Detected Data	23	Number of Non-Detect Data	1
		Percent Non-Detects	4.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.037	Minimum Detected	-3.297
Maximum Detected	21	Maximum Detected	3.045
Mean of Detected	5.116	Mean of Detected	0.577
SD of Detected	6.221	SD of Detected	1.792
Minimum Non-Detect	0.046	Minimum Non-Detect	-3.079
Maximum Non-Detect	0.046	Maximum Non-Detect	-3.079

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.791	Shapiro Wilk Test Statistic	0.949
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.904	Mean	0.396
SD	6.172	SD	1.965
95% DL/2 (t) UCL	7.063	95% H-Stat (DL/2) UCL	53.36

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.589	Mean in Log Scale	0.425
SD	6.441	SD in Log Scale	1.904
95% MLE (t) UCL	6.842	Mean in Original Scale	4.905
95% MLE (Tiku) UCL	6.729	SD in Original Scale	6.171
		95% t UCL	7.064
		95% Percentile Bootstrap UCL	7.161
		95% BCA Bootstrap UCL	7.259
		95% H UCL	44.56

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.54	Data appear Gamma Distributed at 5% Significance Level
Theta Star	9.479	
nu star	24.83	

A-D Test Statistic	0.297	Nonparametric Statistics	
5% A-D Critical Value	0.797	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.797	Mean	4.905
5% K-S Critical Value	0.191	SD	6.042
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.261
		95% KM (t) UCL	7.066
Assuming Gamma Distribution		95% KM (z) UCL	6.979
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	7.062
Minimum	1.00E-06	95% KM (bootstrap t) UCL	7.707
Maximum	21	95% KM (BCA) UCL	7.058
Mean	4.903	95% KM (Percentile Bootstrap) UCL	6.99
Median	2.65	95% KM (Chebyshev) UCL	10.4
SD	6.173	97.5% KM (Chebyshev) UCL	12.78
k star	0.384	99% KM (Chebyshev) UCL	17.45
Theta star	12.77		
Nu star	18.43	Potential UCLs to Use	
AppChi2	9.7	95% KM (Chebyshev) UCL	10.4
95% Gamma Approximate UCL (Use when n >= 40)	9.314		
95% Adjusted Gamma UCL (Use when n < 40)	9.761		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	20
Number of Distinct Detected Data	18	Number of Non-Detect Data	4
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.81	Minimum Detected	-0.211
Maximum Detected	34.6	Maximum Detected	3.544
Mean of Detected	12.73	Mean of Detected	1.971
SD of Detected	11.1	SD of Detected	1.249
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.002	Maximum Non-Detect	-6.215

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.87	Shapiro Wilk Test Statistic	0.879
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	10.6	Mean	0.491
SD	11.19	SD	3.566
95% DL/2 (t) UCL	14.52	95% H-Stat (DL/2) UCL	151741

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	9.383	Mean in Log Scale	1.508
SD	12.63	SD in Log Scale	1.562
95% MLE (t) UCL	13.8	Mean in Original Scale	10.69
95% MLE (Tiku) UCL	13.8	SD in Original Scale	11.11
		95% t UCL	14.57
		95% Percentile Bootstrap UCL	14.57
		95% BCA Bootstrap UCL	14.6
		95% H UCL	45.9

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.889	Data do not follow a Discernable Distribution (0.05)
Theta Star	14.31	
nu star	35.56	

A-D Test Statistic	0.957	Nonparametric Statistics	
5% A-D Critical Value	0.768	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.768	Mean	10.74
5% K-S Critical Value	0.199	SD	10.83
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2.268
		95% KM (t) UCL	14.63
Assuming Gamma Distribution		95% KM (z) UCL	14.47
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	14.58
Minimum	1.00E-06	95% KM (bootstrap t) UCL	15.39
Maximum	34.6	95% KM (BCA) UCL	14.54
Mean	10.6	95% KM (Percentile Bootstrap) UCL	14.41
Median	6	95% KM (Chebyshev) UCL	20.62
SD	11.19	97.5% KM (Chebyshev) UCL	24.9
k star	0.235	99% KM (Chebyshev) UCL	33.3
Theta star	45.08		
Nu star	11.29	Potential UCLs to Use	
AppChi2	4.764	97.5% KM (Chebyshev) UCL	24.9
95% Gamma Approximate UCL (Use when n >= 40)	25.13		
95% Adjusted Gamma UCL (Use when n < 40)	26.8		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total Chlordane

General Statistics (Units in mg/kg)			
Number of Valid Data	24	Number of Detected Data	17
Number of Distinct Detected Data	17	Number of Non-Detect Data	7
		Percent Non-Detects	29.17%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0036	Minimum Detected	-5.627
Maximum Detected	1.48	Maximum Detected	0.392
Mean of Detected	0.347	Mean of Detected	-2.056
SD of Detected	0.461	SD of Detected	1.667
Minimum Non-Detect	5.80E-04	Minimum Non-Detect	-7.452
Maximum Non-Detect	0.18	Maximum Non-Detect	-1.715
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	7
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	70.83%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.731	Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.892	5% Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.262	Mean	-2.473
SD	0.407	SD	1.866
95% DL/2 (t) UCL	0.405	95% H-Stat (DL/2) UCL	2.164
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.606
		SD in Log Scale	1.728
		Mean in Original Scale	0.253
		SD in Original Scale	0.412
		95% t UCL	0.397
		95% Percentile Bootstrap UCL	0.394
		95% BCA Bootstrap UCL	0.447
		95% H-UCL	1.218
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.548	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.632		
nu star	18.63		
A-D Test Statistic	0.304	Nonparametric Statistics	
5% A-D Critical Value	0.788	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.788	Mean	0.256
5% K-S Critical Value	0.219	SD	0.402
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0848
		95% KM (t) UCL	0.402
Assuming Gamma Distribution		95% KM (z) UCL	0.396
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.4
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.507
Maximum	1.48	95% KM (BCA) UCL	0.407
Mean	0.247	95% KM (Percentile Bootstrap) UCL	0.4
Median	0.057	95% KM (Chebyshev) UCL	0.626
SD	0.416	97.5% KM (Chebyshev) UCL	0.786
k star	0.204	99% KM (Chebyshev) UCL	1.1
Theta star	1.211		
Nu star	9.792	Potential UCLs to Use	
AppChi2	3.812	95% KM (Chebyshev) UCL	0.626
95% Gamma Approximate UCL (Use when n >= 40)	0.634		
95% Adjusted Gamma UCL (Use when n < 40)	0.681		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	19

Raw Statistics		Log-transformed Statistics	
Minimum	0.0028	Minimum of Log Data	-5.878
Maximum	6.6	Maximum of Log Data	1.887
Mean	1.057	Mean of log Data	-0.841
Geometric Mean	0.431	SD of log Data	1.732
Median	0.72		
SD	1.37		
Std. Error of Mean	0.28		
Coefficient of Variation	1.296		
Skewness	3.04		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.664	Shapiro Wilk Test Statistic	0.906
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.536	95% H-UCL	7.21
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.964
95% Adjusted-CLT UCL (Chen-1995)	1.702	97.5% Chebyshev (MVUE) UCL	6.382
95% Modified-t UCL (Johnson-1978)	1.565	99% Chebyshev (MVUE) UCL	9.167

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.62	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.705		
MLE of Mean	1.057		
MLE of Standard Deviation	1.342		
nu star	29.77		
Approximate Chi Square Value (.05)	18.31	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1.517
Adjusted Chi Square Value	17.68	95% Jackknife UCL	1.536
		95% Standard Bootstrap UCL	1.508
Anderson-Darling Test Statistic	0.432	95% Bootstrap-t UCL	1.892
Anderson-Darling 5% Critical Value	0.789	95% Hall's Bootstrap UCL	3.545
Kolmogorov-Smirnov Test Statistic	0.136	95% Percentile Bootstrap UCL	1.525
Kolmogorov-Smirnov 5% Critical Value	0.186	95% BCA Bootstrap UCL	1.787
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.276
		97.5% Chebyshev(Mean, Sd) UCL	2.803
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.839
95% Approximate Gamma UCL (Use when n >= 40)	1.719		
95% Adjusted Gamma UCL (Use when n < 40)	1.78		

Potential UCL to Use	Use 95% Approximate Gamma UCL	1.719

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	2.3	Minimum of Log Data	0.833
Maximum	152	Maximum of Log Data	5.024
Mean	49.55	Mean of log Data	3.371
Geometric Mean	29.1	SD of log Data	1.126
Median	22.2		
SD	48.57		
Std. Error of Mean	9.914		
Coefficient of Variation	0.98		
Skewness	1.059		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.817	Shapiro Wilk Test Statistic	0.948
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	66.54	95% H-UCL	103.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	113.9
95% Adjusted-CLT UCL (Chen-1995)	68.14	97.5% Chebyshev (MVUE) UCL	140.3
95% Modified-t UCL (Johnson-1978)	66.89	99% Chebyshev (MVUE) UCL	192.3
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.969	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	51.13		
MLE of Mean	49.55		
MLE of Standard Deviation	50.33		
nu star	46.51		
Approximate Chi Square Value (.05)	31.86	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	65.85
Adjusted Chi Square Value	31.01	95% Jackknife UCL	66.54
		95% Standard Bootstrap UCL	65.59
Anderson-Darling Test Statistic	0.699	95% Bootstrap-t UCL	70.15
Anderson-Darling 5% Critical Value	0.77	95% Hall's Bootstrap UCL	67.12
Kolmogorov-Smirnov Test Statistic	0.18	95% Percentile Bootstrap UCL	65.89
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	67.53
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	92.76
		97.5% Chebyshev(Mean, Sd) UCL	111.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	148.2
95% Approximate Gamma UCL (Use when n >= 40)	72.33		
95% Adjusted Gamma UCL (Use when n < 40)	74.31		
Potential UCL to Use		Use 95% Approximate Gamma UCL	72.33

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cyanide

General Statistics (Units in mg/kg)

Number of Valid Data	18	Number of Detected Data	17
Number of Distinct Detected Data	16	Number of Non-Detect Data	1
		Percent Non-Detects	5.56%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.036	Minimum Detected	-3.324
Maximum Detected	5.4	Maximum Detected	1.686
Mean of Detected	0.709	Mean of Detected	-1.138
SD of Detected	1.262	SD of Detected	1.247
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.507	Shapiro Wilk Test Statistic	0.983
5% Shapiro Wilk Critical Value	0.892	5% Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.67	Mean	-1.42
SD	1.236	SD	1.701
95% DL/2 (t) UCL	1.177	95% H-Stat (DL/2) UCL	4.894

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.625	Mean in Log Scale	-1.308
SD	1.249	SD in Log Scale	1.409
95% MLE (t) UCL	1.137	Mean in Original Scale	0.67
95% MLE (Tiku) UCL	1.094	SD in Original Scale	1.236
		95% t UCL	1.177
		95% Percentile Bootstrap UCL	1.22
		95% BCA Bootstrap UCL	1.532
		95% H UCL	2.24

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.66	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.075	
nu star	22.43	

A-D Test Statistic	0.675	Nonparametric Statistics	
5% A-D Critical Value	0.776	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.776	Mean	0.672
5% K-S Critical Value	0.217	SD	1.2
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.292
		95% KM (t) UCL	1.179
Assuming Gamma Distribution		95% KM (z) UCL	1.151
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.177
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.303
Maximum	5.4	95% KM (BCA) UCL	1.257
Mean	0.67	95% KM (Percentile Bootstrap) UCL	1.202
Median	0.278	95% KM (Chebyshev) UCL	1.943
SD	1.236	97.5% KM (Chebyshev) UCL	2.493
k star	0.411	99% KM (Chebyshev) UCL	3.573
Theta star	1.63		
Nu star	14.78	Potential UCLs to Use	
AppChi2	7.112	95% KM (Chebyshev) UCL	1.943
95% Gamma Approximate UCL (Use when n >= 40)	1.392		
95% Adjusted Gamma UCL (Use when n < 40)	1.499		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	24	Number of Detected Data	16
Number of Distinct Detected Data	15	Number of Non-Detect Data	8
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.166	Mean of Detected	-2.723
SD of Detected	0.25	SD of Detected	1.496
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.652	Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.445	Mean	-2.223
SD	0.579	SD	2.151
95% DL/2 (t) UCL	0.647	95% H-Stat (DL/2) UCL	7.696
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.017
		SD in Log Scale	1.466
		Mean in Original Scale	0.125
		SD in Original Scale	0.211
		95% t UCL	0.199
		95% Percentile Bootstrap UCL	0.198
		95% BCA Bootstrap UCL	0.243
		95% H-UCL	0.383
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.575	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.289		
nu star	18.41		
A-D Test Statistic	0.359	Nonparametric Statistics	
5% A-D Critical Value	0.783	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.783	Mean	0.149
5% K-S Critical Value	0.225	SD	0.234
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0569
		95% KM (t) UCL	0.246
Assuming Gamma Distribution		95% KM (z) UCL	0.242
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.246
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.348
Maximum	1	95% KM (BCA) UCL	0.249
Mean	0.136	95% KM (Percentile Bootstrap) UCL	0.246
Median	0.0806	95% KM (Chebyshev) UCL	0.397
SD	0.211	97.5% KM (Chebyshev) UCL	0.504
k star	0.323	99% KM (Chebyshev) UCL	0.715
Theta star	0.422		
Nu star	15.53	Potential UCLs to Use	
AppChi2	7.629	95% KM (BCA) UCL	0.249
95% Gamma Approximate UCL (Use when n >= 40)	0.278		
95% Adjusted Gamma UCL (Use when n < 40)	0.292		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics (Units in mg/kg)			
Number of Valid Data	20	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	9
		Percent Non-Detects	45.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0083	Minimum Detected	-4.791
Maximum Detected	2	Maximum Detected	0.693
Mean of Detected	0.5	Mean of Detected	-1.835
SD of Detected	0.636	SD of Detected	1.932
Minimum Non-Detect	9.80E-04	Minimum Non-Detect	-6.928
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	60.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.794	Shapiro Wilk Test Statistic	0.921
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.28	Mean	-3.427
SD	0.525	SD	2.527
95% DL/2 (t) UCL	0.483	95% H-Stat (DL/2) UCL	16.85
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.649
		SD in Log Scale	2.555
		Mean in Original Scale	0.277
		SD in Original Scale	0.526
		95% t UCL	0.481
		95% Percentile Bootstrap UCL	0.474
		95% BCA Bootstrap UCL	0.557
		95% H-UCL	15.44
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.459	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.09		
nu star	10.1		
A-D Test Statistic	0.237	Nonparametric Statistics	
5% A-D Critical Value	0.778	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.778	Mean	0.28
5% K-S Critical Value	0.268	SD	0.512
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.12
		95% KM (t) UCL	0.487
Assuming Gamma Distribution		95% KM (z) UCL	0.477
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.482
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.69
Maximum	2	95% KM (BCA) UCL	0.499
Mean	0.275	95% KM (Percentile Bootstrap) UCL	0.484
Median	0.0102	95% KM (Chebyshev) UCL	0.803
SD	0.527	97.5% KM (Chebyshev) UCL	1.029
k star	0.145	99% KM (Chebyshev) UCL	1.474
Theta star	1.893		
Nu star	5.817	Potential UCLs to Use	
AppChi2	1.547	95% KM (BCA) UCL	0.499
95% Gamma Approximate UCL (Use when n >= 40)	1.035		
95% Adjusted Gamma UCL (Use when n < 40)	1.159		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

beta-Endosulfan

General Statistics (Units in mg/kg)

Number of Valid Data	18	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	13
		Percent Non-Detects	72.22%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.005	Minimum Detected	-5.298
Maximum Detected	0.3	Maximum Detected	-1.204
Mean of Detected	0.167	Mean of Detected	-2.361
SD of Detected	0.112	SD of Detected	1.676
Minimum Non-Detect	0.0007	Minimum Non-Detect	-7.264
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	77.78%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.985	Shapiro Wilk Test Statistic	0.737
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0509	Mean	-5.124
SD	0.0921	SD	2.452
95% DL/2 (t) UCL	0.0887	95% H-Stat (DL/2) UCL	2.561

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6
		SD in Log Scale	2.468
		Mean in Original Scale	0.0468
		SD in Original Scale	0.094
		95% t UCL	0.0854
		95% Percentile Bootstrap UCL	0.0853
		95% BCA Bootstrap UCL	0.0931
		95% H-UCL	1.152

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.537	Data appear Normal at 5% Significance Level
Theta Star	0.311	
nu star	5.368	

		Nonparametric Statistics	
A-D Test Statistic	0.58		
5% A-D Critical Value	0.691	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.691	Mean	0.05
5% K-S Critical Value	0.364	SD	0.0898
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0237
		95% KM (t) UCL	0.0912
Assuming Gamma Distribution		95% KM (z) UCL	0.0889
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.121
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0812
Maximum	0.3	95% KM (BCA) UCL	0.23
Mean	0.0464	95% KM (Percentile Bootstrap) UCL	0.206
Median	0.000001	95% KM (Chebyshev) UCL	0.153
SD	0.0942	97.5% KM (Chebyshev) UCL	0.198
k star	0.126	99% KM (Chebyshev) UCL	0.285
Theta star	0.369		
Nu star	4.529	Potential UCLs to Use	
AppChi2	0.941	95% KM (t) UCL	0.0912
95% Gamma Approximate UCL (Use when n >= 40)	0.223	95% KM (Percentile Bootstrap) UCL	0.206
95% Adjusted Gamma UCL (Use when n < 40)	0.263		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	16
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.014	Minimum Detected	-4.269
Maximum Detected	0.85	Maximum Detected	-0.163
Mean of Detected	0.264	Mean of Detected	-2.025
SD of Detected	0.287	SD of Detected	1.441
Minimum Non-Detect	9.30E-04	Minimum Non-Detect	-6.98
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	18
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	6
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	75.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.848	Shapiro Wilk Test Statistic	0.948
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0915	Mean	-4.859
SD	0.201	SD	2.543
95% DL/2 (t) UCL	0.162	95% H-Stat (DL/2) UCL	2.822

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-5
		SD in Log Scale	2.348
		Mean in Original Scale	0.0891
		SD in Original Scale	0.202
		95% t UCL	0.16
		95% Percentile Bootstrap UCL	0.162
		95% BCA Bootstrap UCL	0.187
		95% H-UCL	1.049

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.615	Data appear Normal at 5% Significance Level
Theta Star	0.429	
nu star	9.837	

		Nonparametric Statistics	
A-D Test Statistic	0.171		
5% A-D Critical Value	0.741	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.741	Mean	0.0974
5% K-S Critical Value	0.303	SD	0.194
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0424
		95% KM (t) UCL	0.17
Assuming Gamma Distribution		95% KM (z) UCL	0.167
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.163
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.256
Maximum	0.85	95% KM (BCA) UCL	0.232
Mean	0.0879	95% KM (Percentile Bootstrap) UCL	0.201
Median	1.00E-06	95% KM (Chebyshev) UCL	0.282
SD	0.203	97.5% KM (Chebyshev) UCL	0.362
k star	0.122	99% KM (Chebyshev) UCL	0.519
Theta star	0.72		
Nu star	5.865	Potential UCLs to Use	
AppChi2	1.571	95% KM (t) UCL	0.17
95% Gamma Approximate UCL (Use when n >= 40)	0.328	95% KM (Percentile Bootstrap) UCL	0.201
95% Adjusted Gamma UCL (Use when n < 40)	0.363		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin aldehyde

General Statistics (Units in mg/kg)

Number of Valid Data	18	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	12
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.013	Minimum Detected	-4.343
Maximum Detected	0.25	Maximum Detected	-1.386
Mean of Detected	0.1	Mean of Detected	-2.808
SD of Detected	0.0932	SD of Detected	1.227
Minimum Non-Detect	0.0014	Minimum Non-Detect	-6.571
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	0.7778

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.899	Shapiro Wilk Test Statistic	0.901
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0381	Mean	-4.786
SD	0.0681	SD	1.994
95% DL/2 (t) UCL	0.066	95% H-Stat (DL/2) UCL	0.488
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.157	Mean in Log Scale	-5.144
SD	0.0726	SD in Log Scale	1.904
95% MLE (t) UCL	0.186	Mean in Original Scale	0.0349
95% MLE (Tiku) UCL	0.218	SD in Original Scale	0.0695
		95% t UCL	0.0633
		95% Percentile Bootstrap UCL	0.0643
		95% BCA Bootstrap UCL	0.0713
		95% H UCL	0.242
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.672	Data appear Normal at 5% Significance Level	
Theta Star	0.149		
nu star	8.058		
A-D Test Statistic	0.296	Nonparametric Statistics	
5% A-D Critical Value	0.713	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.713	Mean	0.0422
5% K-S Critical Value	0.34	SD	0.0641
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0165
		95% KM (t) UCL	0.071
Assuming Gamma Distribution		95% KM (z) UCL	0.0694
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0683
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0941
Maximum	0.25	95% KM (BCA) UCL	0.114
Mean	0.0334	95% KM (Percentile Bootstrap) UCL	0.0931
Median	0.000001	95% KM (Chebyshev) UCL	0.114
SD	0.0702	97.5% KM (Chebyshev) UCL	0.145
k star	0.135	99% KM (Chebyshev) UCL	0.207
Theta star	0.247		
Nu star	4.868	Potential UCLs to Use	
AppChi2	1.091	95% KM (t) UCL	0.071
95% Gamma Approximate UCL (Use when n >= 40)	0.149	95% KM (Percentile Bootstrap) UCL	0.0931
95% Adjusted Gamma UCL (Use when n < 40)	0.175		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin ketone

General Statistics (Units in mg/kg)

Number of Valid Data	23	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	21
		Percent Non-Detects	91.30%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0012	Minimum Detected	-6.725
Maximum Detected	0.02	Maximum Detected	-3.912
Mean of Detected	0.0106	Mean of Detected	-5.319
SD of Detected	0.0133	SD of Detected	1.989
Minimum Non-Detect	7.80E-04	Minimum Non-Detect	-7.156
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00523	Mean	-6.157
SD	0.00638	SD	1.444
95% DL/2 (t) UCL	0.00752	95% H-Stat (DL/2) UCL	0.0159

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.00231
5% K-S Critical Value	N/A	SD	0.00442
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00152
		95% KM (t) UCL	0.00491
Assuming Gamma Distribution		95% KM (z) UCL	0.0048
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0146
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	0.02
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.02
Median	N/A	95% KM (Chebyshev) UCL	0.00892
SD	N/A	97.5% KM (Chebyshev) UCL	0.0118
k star	N/A	99% KM (Chebyshev) UCL	0.0174
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	97.5% KM (Chebyshev) UCL	0.0118
95% Gamma Approximate UCL (Use when n >= 40)	N/A		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	22
Raw Statistics		Log-transformed Statistics	
Minimum	0.005	Minimum of Log Data	-5.298
Maximum	2.7	Maximum of Log Data	0.993
Mean	1.115	Mean of log Data	-0.747
Geometric Mean	0.474	SD of log Data	1.901
Median	0.99		
SD	0.927		
Std. Error of Mean	0.189		
Coefficient of Variation	0.831		
Skewness	0.314		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.904	Shapiro Wilk Test Statistic	0.811
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.439	95% H-UCL	13.65
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7.624
95% Adjusted-CLT UCL (Chen-1995)	1.439	97.5% Chebyshev (MVUE) UCL	9.878
95% Modified-t UCL (Johnson-1978)	1.441	99% Chebyshev (MVUE) UCL	14.31
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.645	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	1.729		
MLE of Mean	1.115		
MLE of Standard Deviation	1.388		
nu star	30.96		
Approximate Chi Square Value (.05)	19.25	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1.426
Adjusted Chi Square Value	18.6	95% Jackknife UCL	1.439
		95% Standard Bootstrap UCL	1.419
Anderson-Darling Test Statistic	0.886	95% Bootstrap-t UCL	1.461
Anderson-Darling 5% Critical Value	0.787	95% Hall's Bootstrap UCL	1.424
Kolmogorov-Smirnov Test Statistic	0.16	95% Percentile Bootstrap UCL	1.436
Kolmogorov-Smirnov 5% Critical Value	0.186	95% BCA Bootstrap UCL	1.438
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.94
		97.5% Chebyshev(Mean, Sd) UCL	2.297
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.998
95% Approximate Gamma UCL (Use when n >= 40)	1.793		
95% Adjusted Gamma UCL (Use when n < 40)	1.856		
Potential UCL to Use		Use 95% Approximate Gamma UCL	1.793

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Fluorene

General Statistics (Units in mg/kg)			
Number of Valid Data	24	Number of Detected Data	17
Number of Distinct Detected Data	17	Number of Non-Detect Data	7
		Percent Non-Detects	29.17%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0021	Minimum Detected	-6.166
Maximum Detected	0.29	Maximum Detected	-1.238
Mean of Detected	0.0595	Mean of Detected	-3.645
SD of Detected	0.0771	SD of Detected	1.439
Minimum Non-Detect	6.90E-04	Minimum Non-Detect	-7.279
Maximum Non-Detect	3.7	Maximum Non-Detect	1.308
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.736	Shapiro Wilk Test Statistic	0.963
5% Shapiro Wilk Critical Value	0.892	5% Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.375	Mean	-2.847
SD	0.584	SD	2.366
95% DL/2 (t) UCL	0.58	95% H-Stat (DL/2) UCL	9.738
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.837
		SD in Log Scale	1.415
		Mean in Original Scale	0.0482
		SD in Original Scale	0.0672
		95% t UCL	0.0717
		95% Percentile Bootstrap UCL	0.0703
		95% BCA Bootstrap UCL	0.0784
		95% H-UCL	0.148
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.64	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0929		
nu star	21.77		
A-D Test Statistic	0.421	Nonparametric Statistics	
5% A-D Critical Value	0.778	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.778	Mean	0.0563
5% K-S Critical Value	0.218	SD	0.0739
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0179
		95% KM (t) UCL	0.0871
Assuming Gamma Distribution		95% KM (z) UCL	0.0858
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0872
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.107
Maximum	0.29	95% KM (BCA) UCL	0.0916
Mean	0.0532	95% KM (Percentile Bootstrap) UCL	0.0874
Median	0.03	95% KM (Chebyshev) UCL	0.135
SD	0.0668	97.5% KM (Chebyshev) UCL	0.168
k star	0.537	99% KM (Chebyshev) UCL	0.235
Theta star	0.0991		
Nu star	25.77	Potential UCLs to Use	
AppChi2	15.2	95% KM (Chebyshev) UCL	0.135
95% Gamma Approximate UCL (Use when n >= 40)	0.0902		
95% Adjusted Gamma UCL (Use when n < 40)	0.0937		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	23
		Percent Non-Detects	95.83%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Heptachlor was not processed!

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	20
Raw Statistics		Log-transformed Statistics	
Minimum	0.0021	Minimum of Log Data	-6.166
Maximum	4	Maximum of Log Data	1.386
Mean	0.708	Mean of log Data	-1.153
Geometric Mean	0.316	SD of log Data	1.668
Median	0.485		
SD	0.841		
Std. Error of Mean	0.172		
Coefficient of Variation	1.187		
Skewness	2.763		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.715	Shapiro Wilk Test Statistic	0.897
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.002	95% H-UCL	4.349
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.212
95% Adjusted-CLT UCL (Chen-1995)	1.094	97.5% Chebyshev (MVUE) UCL	4.115
95% Modified-t UCL (Johnson-1978)	1.018	99% Chebyshev (MVUE) UCL	5.89
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.677	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.046		
MLE of Mean	0.708		
MLE of Standard Deviation	0.861		
nu star	32.49		
Approximate Chi Square Value (.05)	20.46	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	0.99
Adjusted Chi Square Value	19.79	95% Jackknife UCL	1.002
		95% Standard Bootstrap UCL	0.984
Anderson-Darling Test Statistic	0.345	95% Bootstrap-t UCL	1.173
Anderson-Darling 5% Critical Value	0.783	95% Hall's Bootstrap UCL	2.302
Kolmogorov-Smirnov Test Statistic	0.112	95% Percentile Bootstrap UCL	1.011
Kolmogorov-Smirnov 5% Critical Value	0.185	95% BCA Bootstrap UCL	1.098
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.456
		97.5% Chebyshev(Mean, Sd) UCL	1.78
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.416
95% Approximate Gamma UCL (Use when n >= 40)	1.124		
95% Adjusted Gamma UCL (Use when n < 40)	1.163		
Potential UCL to Use		Use 95% Approximate Gamma UCL	1.124

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Heptachlor epoxide

General Statistics (Units in mg/kg)

Number of Valid Data	15	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	9
		Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0045	Minimum Detected	-5.404
Maximum Detected	1.3	Maximum Detected	0.262
Mean of Detected	0.254	Mean of Detected	-3.384
SD of Detected	0.517	SD of Detected	2.216
Minimum Non-Detect	5.30E-04	Minimum Non-Detect	-7.543
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	80.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.583	Shapiro Wilk Test Statistic	0.871
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.104	Mean	-4.993
SD	0.334	SD	2.245
95% DL/2 (t) UCL	0.256	95% H-Stat (DL/2) UCL	1.741

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-5.833
		SD in Log Scale	2.598
		Mean in Original Scale	0.102
		SD in Original Scale	0.335
		95% t UCL	0.254
		95% Percentile Bootstrap UCL	0.275
		95% BCA Bootstrap UCL	0.362
		95% H-UCL	4.662

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.279	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.909	
nu star	3.35	

		Nonparametric Statistics	
A-D Test Statistic	0.687		
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	0.105
5% K-S Critical Value	0.355	SD	0.322
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0912
		95% KM (t) UCL	0.265
Assuming Gamma Distribution		95% KM (z) UCL	0.255
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.255
Minimum	1.00E-06	95% KM (bootstrap t) UCL	6.366
Maximum	1.3	95% KM (BCA) UCL	0.278
Mean	0.102	95% KM (Percentile Bootstrap) UCL	0.277
Median	1.00E-06	95% KM (Chebyshev) UCL	0.502
SD	0.335	97.5% KM (Chebyshev) UCL	0.674
k star	0.132	99% KM (Chebyshev) UCL	1.012
Theta star	0.771		
Nu star	3.953	Potential UCLs to Use	
AppChi2	0.703	95% KM (t) UCL	0.265
95% Gamma Approximate UCL (Use when n >= 40)	0.571		
95% Adjusted Gamma UCL (Use when n < 40)	0.721		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	8.6	Minimum of Log Data	2.152
Maximum	340	Maximum of Log Data	5.829
Mean	128.9	Mean of log Data	4.329
Geometric Mean	75.88	SD of log Data	1.196
Median	104.9		
SD	107.8		
Std. Error of Mean	22.01		
Coefficient of Variation	0.836		
Skewness	0.408		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.883	Shapiro Wilk Test Statistic	0.9
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	166.6	95% H-UCL	312.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	332.4
95% Adjusted-CLT UCL (Chen-1995)	167.1	97.5% Chebyshev (MVUE) UCL	412.2
95% Modified-t UCL (Johnson-1978)	167	99% Chebyshev (MVUE) UCL	569

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.972	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	132.6		
MLE of Mean	128.9		
MLE of Standard Deviation	130.8		
nu star	46.67		
Approximate Chi Square Value (.05)	31.99	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	165.1
Adjusted Chi Square Value	31.14	95% Jackknife UCL	166.6
		95% Standard Bootstrap UCL	165.4
Anderson-Darling Test Statistic	0.833	95% Bootstrap-t UCL	168.5
Anderson-Darling 5% Critical Value	0.77	95% Hall's Bootstrap UCL	165
Kolmogorov-Smirnov Test Statistic	0.149	95% Percentile Bootstrap UCL	164
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	166.7
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	224.9
		97.5% Chebyshev(Mean, Sd) UCL	266.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	347.9
95% Approximate Gamma UCL (Use when n >= 40)	188.1		
95% Adjusted Gamma UCL (Use when n < 40)	193.2		

Potential UCL to Use	Use 95% Approximate Gamma UCL	188.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	66.2	Minimum of Log Data	4.193
Maximum	1100	Maximum of Log Data	7.003
Mean	336.4	Mean of log Data	5.585
Geometric Mean	266.3	SD of log Data	0.704
Median	245		
SD	245.3		
Std. Error of Mean	50.08		
Coefficient of Variation	0.729		
Skewness	1.548		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.857	Shapiro Wilk Test Statistic	0.984
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	422.2	95% H-UCL	470.2
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	564
95% Adjusted-CLT UCL (Chen-1995)	435.7	97.5% Chebyshev (MVUE) UCL	662.2
95% Modified-t UCL (Johnson-1978)	424.9	99% Chebyshev (MVUE) UCL	855.1
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.034	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	165.4		
MLE of Mean	336.4		
MLE of Standard Deviation	235.9		
nu star	97.64		
Approximate Chi Square Value (.05)	75.84	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	418.8
Adjusted Chi Square Value	74.49	95% Jackknife UCL	422.2
		95% Standard Bootstrap UCL	417.1
Anderson-Darling Test Statistic	0.333	95% Bootstrap-t UCL	449.8
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	467.6
Kolmogorov-Smirnov Test Statistic	0.126	95% Percentile Bootstrap UCL	421.8
Kolmogorov-Smirnov 5% Critical Value	0.18	95% BCA Bootstrap UCL	439.9
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	554.7
		97.5% Chebyshev(Mean, Sd) UCL	649.1
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	834.7
95% Approximate Gamma UCL (Use when n >= 40)	433.1		
95% Adjusted Gamma UCL (Use when n < 40)	440.9		
Potential UCL to Use		Use 95% Approximate Gamma UCL	433.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	20
Number of Distinct Detected Data	20	Number of Non-Detect Data	4
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0068	Minimum Detected	-4.991
Maximum Detected	0.46	Maximum Detected	-0.777
Mean of Detected	0.187	Mean of Detected	-2.171
SD of Detected	0.151	SD of Detected	1.189
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.001	Maximum Non-Detect	-6.908

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.884	Shapiro Wilk Test Statistic	0.905
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.156	Mean	-3.076
SD	0.155	SD	2.333
95% DL/2 (t) UCL	0.21	95% H-Stat (DL/2) UCL	6.743

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.14	Mean in Log Scale	-2.606
SD	0.175	SD in Log Scale	1.479
95% MLE (t) UCL	0.201	Mean in Original Scale	0.157
95% MLE (Tiku) UCL	0.201	SD in Original Scale	0.153
		95% t UCL	0.211
		95% Percentile Bootstrap UCL	0.207
		95% BCA Bootstrap UCL	0.211
		95% H UCL	0.598

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.009	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.186	
nu star	40.35	

A-D Test Statistic	0.702	Nonparametric Statistics	
5% A-D Critical Value	0.765	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.765	Mean	0.157
5% K-S Critical Value	0.199	SD	0.15
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0315
		95% KM (t) UCL	0.211
Assuming Gamma Distribution		95% KM (z) UCL	0.209
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.21
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.213
Maximum	0.46	95% KM (BCA) UCL	0.214
Mean	0.156	95% KM (Percentile Bootstrap) UCL	0.209
Median	0.0798	95% KM (Chebyshev) UCL	0.294
SD	0.155	97.5% KM (Chebyshev) UCL	0.354
k star	0.295	99% KM (Chebyshev) UCL	0.47
Theta star	0.529		
Nu star	14.15	Potential UCLs to Use	
AppChi2	6.673	95% KM (BCA) UCL	0.214
95% Gamma Approximate UCL (Use when n >= 40)	0.331		
95% Adjusted Gamma UCL (Use when n < 40)	0.35		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Methoxychlor

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	22
		Percent Non-Detects	91.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.047	Minimum Detected	-3.058
Maximum Detected	0.091	Maximum Detected	-2.397
Mean of Detected	0.069	Mean of Detected	-2.727
SD of Detected	0.0311	SD of Detected	0.467
Minimum Non-Detect	0.0034	Minimum Non-Detect	-5.684
Maximum Non-Detect	0.18	Maximum Non-Detect	-1.715

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.026	Mean	-4.675
SD	0.0319	SD	1.559
95% DL/2 (t) UCL	0.0371	95% H-Stat (DL/2) UCL	0.094

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.0494
5% K-S Critical Value	N/A	SD	0.0101
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00336
		95% KM (t) UCL	0.0552
Assuming Gamma Distribution		95% KM (z) UCL	0.055
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0782
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	0.091
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.091
Median	N/A	95% KM (Chebyshev) UCL	0.0641
SD	N/A	97.5% KM (Chebyshev) UCL	0.0704
k star	N/A	99% KM (Chebyshev) UCL	0.0829
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.0552
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.091
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Nickel

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	23
Raw Statistics		Log-transformed Statistics	
Minimum	4.6	Minimum of Log Data	1.526
Maximum	52	Maximum of Log Data	3.951
Mean	20.87	Mean of log Data	2.817
Geometric Mean	16.73	SD of log Data	0.693
Median	15.4		
SD	14.12		
Std. Error of Mean	2.882		
Coefficient of Variation	0.677		
Skewness	0.974		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.876	Shapiro Wilk Test Statistic	0.962
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25.81	95% H-UCL	29.1
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	34.91
95% Adjusted-CLT UCL (Chen-1995)	26.22	97.5% Chebyshev (MVUE) UCL	40.92
95% Modified-t UCL (Johnson-1978)	25.9	99% Chebyshev (MVUE) UCL	52.74
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.143	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	9.739		
MLE of Mean	20.87		
MLE of Standard Deviation	14.26		
nu star	102.8		
Approximate Chi Square Value (.05)	80.44	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	25.61
Adjusted Chi Square Value	79.05	95% Jackknife UCL	25.81
		95% Standard Bootstrap UCL	25.45
Anderson-Darling Test Statistic	0.429	95% Bootstrap-t UCL	26.53
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	26.14
Kolmogorov-Smirnov Test Statistic	0.146	95% Percentile Bootstrap UCL	25.66
Kolmogorov-Smirnov 5% Critical Value	0.18	95% BCA Bootstrap UCL	26.03
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	33.43
		97.5% Chebyshev(Mean, Sd) UCL	38.86
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	49.54
95% Approximate Gamma UCL (Use when n >= 40)	26.68		
95% Adjusted Gamma UCL (Use when n < 40)	27.15		
Potential UCL to Use		Use 95% Approximate Gamma UCL	26.68

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	22
Raw Statistics		Log-transformed Statistics	
Minimum	0.0026	Minimum of Log Data	-5.952
Maximum	1.6	Maximum of Log Data	0.47
Mean	0.596	Mean of log Data	-1.454
Geometric Mean	0.234	SD of log Data	1.932
Median	0.395		
SD	0.563		
Std. Error of Mean	0.115		
Coefficient of Variation	0.946		
Skewness	0.637		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.863	Shapiro Wilk Test Statistic	0.846
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.793	95% H-UCL	7.498
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.009
95% Adjusted-CLT UCL (Chen-1995)	0.801	97.5% Chebyshev (MVUE) UCL	5.201
95% Modified-t UCL (Johnson-1978)	0.795	99% Chebyshev (MVUE) UCL	7.544
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.598	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.996		
MLE of Mean	0.596		
MLE of Standard Deviation	0.77		
nu star	28.72		
Approximate Chi Square Value (.05)	17.49	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	0.785
Adjusted Chi Square Value	16.87	95% Jackknife UCL	0.793
		95% Standard Bootstrap UCL	0.775
Anderson-Darling Test Statistic	0.547	95% Bootstrap-t UCL	0.813
Anderson-Darling 5% Critical Value	0.792	95% Hall's Bootstrap UCL	0.79
Kolmogorov-Smirnov Test Statistic	0.14	95% Percentile Bootstrap UCL	0.783
Kolmogorov-Smirnov 5% Critical Value	0.186	95% BCA Bootstrap UCL	0.795
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.097
		97.5% Chebyshev(Mean, Sd) UCL	1.314
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.74
95% Approximate Gamma UCL (Use when n >= 40)	0.978		
95% Adjusted Gamma UCL (Use when n < 40)	1.014		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.978

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenol

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	23
		Percent Non-Detects	95.83%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Phenol was not processed!

Pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	24	Number of Detected Data	21
Number of Distinct Detected Data	18	Number of Non-Detect Data	3
		Percent Non-Detects	12.50%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	9.3	Maximum Detected	2.23
Mean of Detected	1.931	Mean of Detected	-0.00925
SD of Detected	2.034	SD of Detected	1.534
Minimum Non-Detect	0.19	Minimum Non-Detect	-1.661
Maximum Non-Detect	0.23	Maximum Non-Detect	-1.47
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	18
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	25.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.752	Shapiro Wilk Test Statistic	0.873
5% Shapiro Wilk Critical Value	0.908	5% Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.703	Mean	-0.29
SD	1.994	SD	1.62
95% DL/2 (t) UCL	2.401	95% H-Stat (DL/2) UCL	8.955
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.349	Mean in Log Scale	-0.291
SD	2.392	SD in Log Scale	1.621
95% MLE (t) UCL	2.185	Mean in Original Scale	1.703
95% MLE (Tiku) UCL	2.206	SD in Original Scale	1.994
		95% t UCL	2.401
		95% Percentile Bootstrap UCL	2.419
		95% BCA Bootstrap UCL	2.637
		95% H UCL	8.977
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.785	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.461		
nu star	32.96		
A-D Test Statistic	0.389	Nonparametric Statistics	
5% A-D Critical Value	0.776	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.776	Mean	1.7
5% K-S Critical Value	0.196	SD	1.955
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.409
		95% KM (t) UCL	2.401
Assuming Gamma Distribution		95% KM (z) UCL	2.373
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.399
Minimum	1.00E-06	95% KM (bootstrap t) UCL	2.833
Maximum	9.3	95% KM (BCA) UCL	2.454
Mean	1.69	95% KM (Percentile Bootstrap) UCL	2.411
Median	1.1	95% KM (Chebyshev) UCL	3.483
SD	2.005	97.5% KM (Chebyshev) UCL	4.254
k star	0.294	99% KM (Chebyshev) UCL	5.769
Theta star	5.745		
Nu star	14.12	Potential UCLs to Use	
AppChi2	6.653	95% KM (Chebyshev) UCL	3.483
95% Gamma Approximate UCL (Use when n >= 40)	3.586		
95% Adjusted Gamma UCL (Use when n < 40)	3.791		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Silver

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	13
		Percent Non-Detects	54.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.925	Minimum Detected	-0.078
Maximum Detected	8.5	Maximum Detected	2.14
Mean of Detected	4.12	Mean of Detected	1.272
SD of Detected	2.094	SD of Detected	0.611
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.001	Maximum Non-Detect	-6.908

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.973	Shapiro Wilk Test Statistic	0.938
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.889	Mean	-3.534
SD	2.511	SD	4.534
95% DL/2 (t) UCL	2.767	95% H-Stat (DL/2) UCL	2857877

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.357
		SD in Log Scale	1.043
		Mean in Original Scale	2.302
		SD in Original Scale	2.215
		95% t UCL	3.077
		95% Percentile Bootstrap UCL	3.081
		95% BCA Bootstrap UCL	3.209
		95% H-UCL	4.335

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.705	Data appear Normal at 5% Significance Level
Theta Star	1.523	
nu star	59.5	

A-D Test Statistic	0.203	Nonparametric Statistics	
5% A-D Critical Value	0.733	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.733	Mean	2.39
5% K-S Critical Value	0.257	SD	2.088
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.447
		95% KM (t) UCL	3.156
Assuming Gamma Distribution		95% KM (z) UCL	3.125
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.096
Minimum	1.00E-06	95% KM (bootstrap t) UCL	3.164
Maximum	8.5	95% KM (BCA) UCL	4.058
Mean	1.889	95% KM (Percentile Bootstrap) UCL	3.817
Median	1.00E-06	95% KM (Chebyshev) UCL	4.338
SD	2.511	97.5% KM (Chebyshev) UCL	5.182
k star	0.121	99% KM (Chebyshev) UCL	6.838
Theta star	15.57		
Nu star	5.821	Potential UCLs to Use	
AppChi2	1.549	95% KM (t) UCL	3.156
95% Gamma Approximate UCL (Use when n >= 40)	7.096	95% KM (Percentile Bootstrap) UCL	3.817
95% Adjusted Gamma UCL (Use when n < 40)	7.849		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Tetrachloroethene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	22
		Percent Non-Detects	91.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.012	Minimum Detected	-4.423
Maximum Detected	0.037	Maximum Detected	-3.297
Mean of Detected	0.0245	Mean of Detected	-3.86
SD of Detected	0.0177	SD of Detected	0.796
Minimum Non-Detect	4.80E-04	Minimum Non-Detect	-7.642
Maximum Non-Detect	0.093	Maximum Non-Detect	-2.375

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0108	Mean	-6.555
SD	0.0162	SD	2.228
95% DL/2 (t) UCL	0.0165	95% H-Stat (DL/2) UCL	0.136

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.0134
5% K-S Critical Value	N/A	SD	0.00573
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00191
		95% KM (t) UCL	0.0167
Assuming Gamma Distribution		95% KM (z) UCL	0.0165
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0297
Minimum	N/A	95% KM (bootstrap t) UCL	0.014
Maximum	N/A	95% KM (BCA) UCL	0.037
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	0.0217
SD	N/A	97.5% KM (Chebyshev) UCL	0.0253
k star	N/A	99% KM (Chebyshev) UCL	0.0324
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.0167
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Toluene

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	22
		Percent Non-Detects	91.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.04	Minimum Detected	-3.219
Maximum Detected	1.9	Maximum Detected	0.642
Mean of Detected	0.97	Mean of Detected	-1.289
SD of Detected	1.315	SD of Detected	2.73
Minimum Non-Detect	4.80E-04	Minimum Non-Detect	-7.642
Maximum Non-Detect	0.065	Maximum Non-Detect	-2.733

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	95.83%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0861	Mean	-6.753
SD	0.387	SD	2.493
95% DL/2 (t) UCL	0.221	95% H-Stat (DL/2) UCL	0.339

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.118
5% K-S Critical Value	N/A	SD	0.372
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.107
		95% KM (t) UCL	0.301
Assuming Gamma Distribution		95% KM (z) UCL	0.294
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.343
Minimum	N/A	95% KM (bootstrap t) UCL	0.118
Maximum	N/A	95% KM (BCA) UCL	1.9
Mean	N/A	95% KM (Percentile Bootstrap) UCL	1.9
Median	N/A	95% KM (Chebyshev) UCL	0.585
SD	N/A	97.5% KM (Chebyshev) UCL	0.788
k star	N/A	99% KM (Chebyshev) UCL	1.185
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	99% KM (Chebyshev) UCL	1.185
95% Gamma Approximate UCL (Use when n >= 40)	N/A		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vinyl chloride

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	17
		Percent Non-Detects	70.83%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.012	Minimum Detected	-4.423
Maximum Detected	0.35	Maximum Detected	-1.05
Mean of Detected	0.151	Mean of Detected	-2.576
SD of Detected	0.139	SD of Detected	1.471
Minimum Non-Detect	7.50E-04	Minimum Non-Detect	-7.195
Maximum Non-Detect	0.19	Maximum Non-Detect	-1.661

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	87.50%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.866	Shapiro Wilk Test Statistic	0.821
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0617	Mean	-4.943
SD	0.0965	SD	2.689
95% DL/2 (t) UCL	0.0955	95% H-Stat (DL/2) UCL	5.094

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-5.48
		SD in Log Scale	2.103
		Mean in Original Scale	0.0452
		SD in Original Scale	0.0993
		95% t UCL	0.08
		95% Percentile Bootstrap UCL	0.0795
		95% BCA Bootstrap UCL	0.0912
		95% H-UCL	0.247

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.584	Data appear Normal at 5% Significance Level
Theta Star	0.259	
nu star	8.171	

		Nonparametric Statistics	
A-D Test Statistic	0.636		
5% A-D Critical Value	0.733	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.733	Mean	0.0532
5% K-S Critical Value	0.321	SD	0.0939
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0208
		95% KM (t) UCL	0.0888
Assuming Gamma Distribution		95% KM (z) UCL	0.0873
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0842
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0982
Maximum	0.35	95% KM (BCA) UCL	0.171
Mean	0.0442	95% KM (Percentile Bootstrap) UCL	0.102
Median	1.00E-06	95% KM (Chebyshev) UCL	0.144
SD	0.0998	97.5% KM (Chebyshev) UCL	0.183
k star	0.123	99% KM (Chebyshev) UCL	0.26
Theta star	0.36		
Nu star	5.885	Potential UCLs to Use	
AppChi2	1.581	95% KM (t) UCL	0.0888
95% Gamma Approximate UCL (Use when n >= 40)	0.164	95% KM (Percentile Bootstrap) UCL	0.102
95% Adjusted Gamma UCL (Use when n < 40)	0.182		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	11.9	Minimum of Log Data	2.477
Maximum	630	Maximum of Log Data	6.446
Mean	176.1	Mean of log Data	4.617
Geometric Mean	101.2	SD of log Data	1.101
Median	93.3		
SD	191.1		
Std. Error of Mean	39.01		
Coefficient of Variation	1.086		
Skewness	1.438		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.767	Shapiro Wilk Test Statistic	0.965
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	242.9	95% H-UCL	343.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	380.9
95% Adjusted-CLT UCL (Chen-1995)	252.5	97.5% Chebyshev (MVUE) UCL	468.4
95% Modified-t UCL (Johnson-1978)	244.8	99% Chebyshev (MVUE) UCL	640.2
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.937	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	188		
MLE of Mean	176.1		
MLE of Standard Deviation	181.9		
nu star	44.95		
Approximate Chi Square Value (.05)	30.57	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	240.2
Adjusted Chi Square Value	29.74	95% Jackknife UCL	242.9
		95% Standard Bootstrap UCL	236.5
Anderson-Darling Test Statistic	0.658	95% Bootstrap-t UCL	260.9
Anderson-Darling 5% Critical Value	0.771	95% Hall's Bootstrap UCL	245.2
Kolmogorov-Smirnov Test Statistic	0.128	95% Percentile Bootstrap UCL	242.5
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	249.5
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	346.1
		97.5% Chebyshev(Mean, Sd) UCL	419.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	564.2
95% Approximate Gamma UCL (Use when n >= 40)	258.9		
95% Adjusted Gamma UCL (Use when n < 40)	266.1		
Potential UCL to Use		Use 95% Approximate Gamma UCL	258.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total LMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	0.00598	Minimum of Log Data	-5.119
Maximum	2.135	Maximum of Log Data	0.759
Mean	0.772	Mean of log Data	-1.085
Geometric Mean	0.338	SD of log Data	1.747
Median	0.565		
SD	0.717		
Std. Error of Mean	0.146		
Coefficient of Variation	0.929		
Skewness	0.744		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.876	Shapiro Wilk Test Statistic	0.866
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.023	95% H-UCL	5.919
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.006
95% Adjusted-CLT UCL (Chen-1995)	1.037	97.5% Chebyshev (MVUE) UCL	5.153
95% Modified-t UCL (Johnson-1978)	1.027	99% Chebyshev (MVUE) UCL	7.408
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.664	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.164		
MLE of Mean	0.772		
MLE of Standard Deviation	0.948		
nu star	31.87		
Approximate Chi Square Value (.05)	19.97	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1.013
Adjusted Chi Square Value	19.3	95% Jackknife UCL	1.023
		95% Standard Bootstrap UCL	1.003
Anderson-Darling Test Statistic	0.45	95% Bootstrap-t UCL	1.068
Anderson-Darling 5% Critical Value	0.785	95% Hall's Bootstrap UCL	1.016
Kolmogorov-Smirnov Test Statistic	0.103	95% Percentile Bootstrap UCL	1.028
Kolmogorov-Smirnov 5% Critical Value	0.185	95% BCA Bootstrap UCL	1.046
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.411
		97.5% Chebyshev(Mean, Sd) UCL	1.687
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.229
95% Approximate Gamma UCL (Use when n >= 40)	1.233		
95% Adjusted Gamma UCL (Use when n < 40)	1.275		
Potential UCL to Use		Use 95% Approximate Gamma UCL	1.233

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total HMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	0.0358	Minimum of Log Data	-3.329
Maximum	48.6	Maximum of Log Data	3.884
Mean	8.961	Mean of log Data	1.322
Geometric Mean	3.751	SD of log Data	1.735
Median	6.475		
SD	10.33		
Std. Error of Mean	2.109		
Coefficient of Variation	1.153		
Skewness	2.54		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.727	Shapiro Wilk Test Statistic	0.897
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	12.58	95% H-UCL	63.24
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	43.41
95% Adjusted-CLT UCL (Chen-1995)	13.6	97.5% Chebyshev (MVUE) UCL	55.82
95% Modified-t UCL (Johnson-1978)	12.76	99% Chebyshev (MVUE) UCL	80.18
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.636	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	14.1		
MLE of Mean	8.961		
MLE of Standard Deviation	11.24		
nu star	30.51		
Approximate Chi Square Value (.05)	18.89	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	12.43
Adjusted Chi Square Value	18.25	95% Jackknife UCL	12.58
		95% Standard Bootstrap UCL	12.38
Anderson-Darling Test Statistic	0.558	95% Bootstrap-t UCL	14.37
Anderson-Darling 5% Critical Value	0.788	95% Hall's Bootstrap UCL	28.62
Kolmogorov-Smirnov Test Statistic	0.148	95% Percentile Bootstrap UCL	12.76
Kolmogorov-Smirnov 5% Critical Value	0.186	95% BCA Bootstrap UCL	13.77
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	18.15
		97.5% Chebyshev(Mean, Sd) UCL	22.13
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	29.95
95% Approximate Gamma UCL (Use when n >= 40)	14.47		
95% Adjusted Gamma UCL (Use when n < 40)	14.98		
Potential UCL to Use		Use 95% Approximate Gamma UCL	14.47

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCB Aroclors

General Statistics (Units in mg/kg)			
Number of Valid Data	113	Number of Detected Data	97
Number of Distinct Detected Data	84	Number of Non-Detect Data	16
		Percent Non-Detects	14.16%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.04	Minimum Detected	-3.219
Maximum Detected	235	Maximum Detected	5.46
Mean of Detected	11.78	Mean of Detected	0.549
SD of Detected	33.91	SD of Detected	1.974
Minimum Non-Detect	0.014	Minimum Non-Detect	-4.269
Maximum Non-Detect	0.24	Maximum Non-Detect	-1.427
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	31
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	82
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	27.43%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.365	Lilliefors Test Statistic	0.0636
5% Lilliefors Critical Value	0.09	5% Lilliefors Critical Value	0.09
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	10.11	Mean	-0.0639
SD	31.66	SD	2.382
95% DL/2 (t) UCL	15.05	95% H-Stat (DL/2) UCL	37.7
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.897	Mean in Log Scale	-0.0586
SD	38.48	SD in Log Scale	2.373
95% MLE (t) UCL	7.901	Mean in Original Scale	10.11
95% MLE (Tiku) UCL	8.029	SD in Original Scale	31.66
		95% t UCL	15.05
		95% Percentile Bootstrap UCL	15.31
		95% BCA Bootstrap UCL	16.76
		95% H UCL	36.81
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.347	Data appear Lognormal at 5% Significance Level	
Theta Star	33.97		
nu star	67.25		
A-D Test Statistic	4.998	Nonparametric Statistics	
5% A-D Critical Value	0.855	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.855	Mean	10.11
5% K-S Critical Value	0.098	SD	31.52
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2.981
		95% KM (t) UCL	15.06
Assuming Gamma Distribution		95% KM (z) UCL	15.02
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	15.05
Minimum	1.00E-06	95% KM (bootstrap t) UCL	18.76
Maximum	235	95% KM (BCA) UCL	15.97
Mean	10.11	95% KM (Percentile Bootstrap) UCL	15.52
Median	0.882	95% KM (Chebyshev) UCL	23.11
SD	31.66	97.5% KM (Chebyshev) UCL	28.73
k star	0.195	99% KM (Chebyshev) UCL	39.77
Theta star	51.76		
Nu star	44.14	Potential UCLs to Use	
AppChi2	29.9	97.5% KM (Chebyshev) UCL	28.73
95% Gamma Approximate UCL (Use when n >= 40)	14.92		
95% Adjusted Gamma UCL (Use when n < 40)	15		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzidine

General Statistics (Units in mg/kg)

Number of Valid Observations	6	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	5.4	Minimum of Log Data	1.686
Maximum	14	Maximum of Log Data	2.639
Mean	10.6	Mean of log Data	2.314
Geometric Mean	10.12	SD of log Data	0.353
Median	10.5		
SD	3.245		
Std. Error of Mean	1.325		
Coefficient of Variation	0.306		
Skewness	-0.57		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.922	Shapiro Wilk Test Statistic	0.878
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	13.27	95% H-UCL	15.52
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	17.33
95% Adjusted-CLT UCL (Chen-1995)	12.45	97.5% Chebyshev (MVUE) UCL	20.22
95% Modified-t UCL (Johnson-1978)	13.22	99% Chebyshev (MVUE) UCL	25.89

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.533	Data appear Normal at 5% Significance Level	
Theta Star	1.916		
MLE of Mean	10.6		
MLE of Standard Deviation	4.507		
nu star	66.39		
Approximate Chi Square Value (.05)	48.64	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	12.78
Adjusted Chi Square Value	43.21	95% Jackknife UCL	13.27
		95% Standard Bootstrap UCL	12.61
Anderson-Darling Test Statistic	0.361	95% Bootstrap-t UCL	13
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	13.12
Kolmogorov-Smirnov Test Statistic	0.195	95% Percentile Bootstrap UCL	12.53
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	12.4
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16.37
		97.5% Chebyshev(Mean, Sd) UCL	18.87
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23.78
95% Approximate Gamma UCL (Use when n >= 40)	14.47		
95% Adjusted Gamma UCL (Use when n < 40)	16.29		

Potential UCL to Use		Use 95% Student's-t UCL	13.27

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Total DDx

General Statistics (Units in mg/kg)			
Number of Valid Data	24	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	8
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0037	Minimum Detected	-5.599
Maximum Detected	2.6	Maximum Detected	0.956
Mean of Detected	0.667	Mean of Detected	-1.769
SD of Detected	0.878	SD of Detected	2.057
Minimum Non-Detect	0.00097	Minimum Non-Detect	-6.938
Maximum Non-Detect	0.035	Maximum Non-Detect	-3.352
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	50.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.765	Shapiro Wilk Test Statistic	0.936
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.448	Mean	-2.88
SD	0.777	SD	2.44
95% DL/2 (t) UCL	0.72	95% H-Stat (DL/2) UCL	12.91
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.15
		SD in Log Scale	2.628
		Mean in Original Scale	0.446
		SD in Original Scale	0.778
		95% t UCL	0.718
		95% Percentile Bootstrap UCL	0.717
		95% BCA Bootstrap UCL	0.756
		95% H-UCL	23.03
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.424	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.575		
nu star	13.56		
A-D Test Statistic	0.476	Nonparametric Statistics	
5% A-D Critical Value	0.803	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.803	Mean	0.447
5% K-S Critical Value	0.228	SD	0.761
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.16
		95% KM (t) UCL	0.722
Assuming Gamma Distribution		95% KM (z) UCL	0.711
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.717
Minimum	0.000001	95% KM (bootstrap t) UCL	0.865
Maximum	2.6	95% KM (BCA) UCL	0.733
Mean	0.445	95% KM (Percentile Bootstrap) UCL	0.728
Median	0.0316	95% KM (Chebyshev) UCL	1.146
SD	0.779	97.5% KM (Chebyshev) UCL	1.449
k star	0.162	99% KM (Chebyshev) UCL	2.043
Theta star	2.738		
Nu star	7.798	Potential UCLs to Use	
AppChi2	2.619	95% KM (BCA) UCL	0.733
95% Gamma Approximate UCL (Use when n >= 40)	1.324		
95% Adjusted Gamma UCL (Use when n < 40)	1.438		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

di-n-Butylphthalate

General Statistics (Units in mg/kg)			
Number of Valid Data	24	Number of Detected Data	16
Number of Distinct Detected Data	15	Number of Non-Detect Data	8
		Percent Non-Detects	33.33%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.087	Minimum Detected	-2.442
Maximum Detected	4.4	Maximum Detected	1.482
Mean of Detected	1.096	Mean of Detected	-0.605
SD of Detected	1.209	SD of Detected	1.322
Minimum Non-Detect	0.035	Minimum Non-Detect	-3.352
Maximum Non-Detect	0.056	Maximum Non-Detect	-2.882
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	16
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.816	Shapiro Wilk Test Statistic	0.921
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.737	Mean	-1.688
SD	1.105	SD	1.895
95% DL/2 (t) UCL	1.124	95% H-Stat (DL/2) UCL	5.225
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.404	Mean in Log Scale	-1.649
SD	1.445	SD in Log Scale	1.852
95% MLE (t) UCL	0.909	Mean in Original Scale	0.739
95% MLE (Tiku) UCL	0.945	SD in Original Scale	1.104
		95% t UCL	1.125
		95% Percentile Bootstrap UCL	1.152
		95% BCA Bootstrap UCL	1.184
		95% H UCL	4.716
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.729	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.503		
nu star	23.32		
A-D Test Statistic	0.507	Nonparametric Statistics	
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	0.759
5% K-S Critical Value	0.222	SD	1.067
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.225
		95% KM (t) UCL	1.145
Assuming Gamma Distribution		95% KM (z) UCL	1.129
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.14
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.315
Maximum	4.4	95% KM (BCA) UCL	1.145
Mean	0.73	95% KM (Percentile Bootstrap) UCL	1.142
Median	0.16	95% KM (Chebyshev) UCL	1.74
SD	1.11	97.5% KM (Chebyshev) UCL	2.164
k star	0.169	99% KM (Chebyshev) UCL	2.998
Theta star	4.31		
Nu star	8.133	Potential UCLs to Use	
AppChi2	2.812	95% KM (BCA) UCL	1.145

95% Gamma Approximate UCL (Use when n >= 40)	2.112
95% Adjusted Gamma UCL (Use when n < 40)	2.288

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,1-Dichloroethane

General Statistics (Units in mg/kg)			
Number of Valid Data	34	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	33
		Percent Non-Detects	97.06%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 1,1-Dichloroethane was not processed!

2-Butanone

General Statistics (Units in mg/kg)			
Number of Valid Data	32	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	16
		Percent Non-Detects	50.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0075	Minimum Detected	-4.893
Maximum Detected	0.0881	Maximum Detected	-2.429
Mean of Detected	0.033	Mean of Detected	-3.629
SD of Detected	0.0219	SD of Detected	0.713
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.13	Maximum Non-Detect	-2.04
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	32
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.911	Shapiro Wilk Test Statistic	0.968
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0242	Mean	-4.187
SD	0.0219	SD	1.089
95% DL/2 (t) UCL	0.0307	95% H-Stat (DL/2) UCL	0.0451
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.227
		SD in Log Scale	0.841
		Mean in Original Scale	0.0209
		SD in Original Scale	0.0198
		95% t UCL	0.0268
		95% Percentile Bootstrap UCL	0.0271
		95% BCA Bootstrap UCL	0.0281
		95% H-UCL	0.0292
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	2.029	Data appear Normal at 5% Significance Level	
Theta Star	0.0163		
nu star	64.94		
A-D Test Statistic	0.154	Nonparametric Statistics	
5% A-D Critical Value	0.748	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.748	Mean	0.0221
5% K-S Critical Value	0.217	SD	0.0198
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00379
		95% KM (t) UCL	0.0286
Assuming Gamma Distribution		95% KM (z) UCL	0.0284
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0283
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.03
Maximum	0.0881	95% KM (BCA) UCL	0.0295
Mean	0.0186	95% KM (Percentile Bootstrap) UCL	0.0292
Median	0.0138	95% KM (Chebyshev) UCL	0.0387
SD	0.0217	97.5% KM (Chebyshev) UCL	0.0458
k star	0.222	99% KM (Chebyshev) UCL	0.0599
Theta star	0.0839		
Nu star	14.19	Potential UCLs to Use	
AppChi2	6.704	95% KM (t) UCL	0.0286
95% Gamma Approximate UCL (Use when n >= 40)	0.0394	95% KM (Percentile Bootstrap) UCL	0.0292
95% Adjusted Gamma UCL (Use when n < 40)	0.0411		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	37
		Percent Non-Detects	88.10%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0076	Minimum Detected	-4.88
Maximum Detected	0.0525	Maximum Detected	-2.947
Mean of Detected	0.0179	Mean of Detected	-4.355
SD of Detected	0.0195	SD of Detected	0.816
Minimum Non-Detect	0.011	Minimum Non-Detect	-4.51
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.636	Shapiro Wilk Test Statistic	0.738
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0962	Mean	-3.344
SD	0.252	SD	1.228
95% DL/2 (t) UCL	0.162	95% H-Stat (DL/2) UCL	0.124
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.637
		SD in Log Scale	0.393
		Mean in Original Scale	0.0107
		SD in Original Scale	0.0072
		95% t UCL	0.0126
		95% Percentile Bootstrap UCL	0.0127
		95% BCA Bootstrap UCL	0.0139
		95% H-UCL	0.0117
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.794	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.0226		
nu star	7.937		
A-D Test Statistic	0.866	Nonparametric Statistics	
5% A-D Critical Value	0.686	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.686	Mean	0.0119
5% K-S Critical Value	0.361	SD	0.0118
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.00368
		95% KM (t) UCL	0.0181
Assuming Gamma Distribution		95% KM (z) UCL	0.018
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0179
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0928
Maximum	0.0525	95% KM (BCA) UCL	0.0219
Mean	0.0125	95% KM (Percentile Bootstrap) UCL	0.0188
Median	0.0121	95% KM (Chebyshev) UCL	0.028
SD	0.00906	97.5% KM (Chebyshev) UCL	0.0349
k star	1.207	99% KM (Chebyshev) UCL	0.0485
Theta star	0.0104		
Nu star	101.4	Potential UCLs to Use	
AppChi2	79.19	95% KM (t) UCL	0.0181
95% Gamma Approximate UCL (Use when n >= 40)	0.016		
95% Adjusted Gamma UCL (Use when n < 40)	0.0162		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	29
		Percent Non-Detects	69.05%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0014	Minimum Detected	-6.571
Maximum Detected	0.103	Maximum Detected	-2.273
Mean of Detected	0.0436	Mean of Detected	-3.957
SD of Detected	0.0373	SD of Detected	1.728
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.892	Shapiro Wilk Test Statistic	0.784
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0947	Mean	-3.518
SD	0.253	SD	1.46
95% DL/2 (t) UCL	0.16	95% H-Stat (DL/2) UCL	0.167
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.784
		SD in Log Scale	1.221
		Mean in Original Scale	0.0184
		SD in Original Scale	0.0267
		95% t UCL	0.0253
		95% Percentile Bootstrap UCL	0.0256
		95% BCA Bootstrap UCL	0.0267
		95% H-UCL	0.029
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.612	Data appear Normal at 5% Significance Level	
Theta Star	0.0712		
nu star	15.92		
A-D Test Statistic	0.941	Nonparametric Statistics	
5% A-D Critical Value	0.772	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.772	Mean	0.0248
5% K-S Critical Value	0.246	SD	0.0323
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.00694
		95% KM (t) UCL	0.0365
Assuming Gamma Distribution		95% KM (z) UCL	0.0362
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0364
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0385
Maximum	0.103	95% KM (BCA) UCL	0.0372
Mean	0.0228	95% KM (Percentile Bootstrap) UCL	0.0377
Median	0.0146	95% KM (Chebyshev) UCL	0.0551
SD	0.0273	97.5% KM (Chebyshev) UCL	0.0682
k star	0.276	99% KM (Chebyshev) UCL	0.0939
Theta star	0.0827		
Nu star	23.19	Potential UCLs to Use	
AppChi2	13.24	95% KM (t) UCL	0.0365
95% Gamma Approximate UCL (Use when n >= 40)	0.04	95% KM (Percentile Bootstrap) UCL	0.0377
95% Adjusted Gamma UCL (Use when n < 40)	0.0408		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acetone

General Statistics (Units in mg/kg)			
Number of Valid Data	32	Number of Detected Data	24
Number of Distinct Detected Data	24	Number of Non-Detect Data	8
		Percent Non-Detects	25.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0138	Minimum Detected	-4.283
Maximum Detected	3.1	Maximum Detected	1.131
Mean of Detected	0.288	Mean of Detected	-2.428
SD of Detected	0.697	SD of Detected	1.305
Minimum Non-Detect	0.0037	Minimum Non-Detect	-5.599
Maximum Non-Detect	0.034	Maximum Non-Detect	-3.381
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	19
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	40.63%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.408	Shapiro Wilk Test Statistic	0.905
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.217	Mean	-3.18
SD	0.613	SD	1.782
95% DL/2 (t) UCL	0.401	95% H-Stat (DL/2) UCL	0.623
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.126
		SD in Log Scale	1.674
		Mean in Original Scale	0.217
		SD in Original Scale	0.613
		95% t UCL	0.401
		95% Percentile Bootstrap UCL	0.42
		95% BCA Bootstrap UCL	0.503
		95% H-UCL	0.486
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.493	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.583		
nu star	23.69		
A-D Test Statistic	2.679	Nonparametric Statistics	
5% A-D Critical Value	0.803	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.803	Mean	0.219
5% K-S Critical Value	0.188	SD	0.603
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.109
		95% KM (t) UCL	0.404
Assuming Gamma Distribution		95% KM (z) UCL	0.398
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.402
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.616
Maximum	3.1	95% KM (BCA) UCL	0.419
Mean	0.216	95% KM (Percentile Bootstrap) UCL	0.419
Median	0.0463	95% KM (Chebyshev) UCL	0.694
SD	0.614	97.5% KM (Chebyshev) UCL	0.899
k star	0.199	99% KM (Chebyshev) UCL	1.302
Theta star	1.082		
Nu star	12.77	Potential UCLs to Use	
AppChi2	5.737	97.5% KM (Chebyshev) UCL	0.899
95% Gamma Approximate UCL (Use when n >= 40)	0.48		
95% Adjusted Gamma UCL (Use when n < 40)	0.502		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	22
Number of Distinct Detected Data	20	Number of Non-Detect Data	20
		Percent Non-Detects	47.62%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.017	Minimum Detected	-4.075
Maximum Detected	0.162	Maximum Detected	-1.82
Mean of Detected	0.0676	Mean of Detected	-2.963
SD of Detected	0.0488	SD of Detected	0.766
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.864	Shapiro Wilk Test Statistic	0.912
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.105	Mean	-3.195
SD	0.252	SD	1.17
95% DL/2 (t) UCL	0.17	95% H-Stat (DL/2) UCL	0.129
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.513
		SD in Log Scale	0.881
		Mean in Original Scale	0.0442
		SD in Original Scale	0.0433
		95% t UCL	0.0554
		95% Percentile Bootstrap UCL	0.0554
		95% BCA Bootstrap UCL	0.057
		95% H-UCL	0.0597
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.766	Data appear Lognormal at 5% Significance Level	
Theta Star	0.0383		
nu star	77.69		
A-D Test Statistic	0.808	Nonparametric Statistics	
5% A-D Critical Value	0.756	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.756	Mean	0.048
5% K-S Critical Value	0.188	SD	0.0426
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00708
		95% KM (t) UCL	0.0599
Assuming Gamma Distribution		95% KM (z) UCL	0.0596
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0592
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0617
Maximum	0.162	95% KM (BCA) UCL	0.0598
Mean	0.0413	95% KM (Percentile Bootstrap) UCL	0.0598
Median	0.0276	95% KM (Chebyshev) UCL	0.0788
SD	0.0462	97.5% KM (Chebyshev) UCL	0.0922
k star	0.252	99% KM (Chebyshev) UCL	0.118
Theta star	0.164		
Nu star	21.14	Potential UCLs to Use	
AppChi2	11.69	95% KM (t) UCL	0.0599
95% Gamma Approximate UCL (Use when n >= 40)	0.0747	95% KM (% Bootstrap) UCL	0.0598
95% Adjusted Gamma UCL (Use when n < 40)	0.0763		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Observations	42	Number of Distinct Observations	32
Raw Statistics		Log-transformed Statistics	
Minimum	0.41	Minimum of Log Data	-0.892
Maximum	8.7	Maximum of Log Data	2.163
Mean	3.322	Mean of log Data	0.919
Geometric Mean	2.506	SD of log Data	0.827
Median	2.75		
SD	2.252		
Std. Error of Mean	0.347		
Coefficient of Variation	0.678		
Skewness	0.602		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.875	Shapiro Wilk Test Statistic	0.891
Shapiro Wilk Critical Value	0.942	Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	3.907	95% H-UCL	4.674
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	5.669
95% Adjusted-CLT UCL (Chen-1995)	3.928	97.5% Chebyshev (MVUE) UCL	6.612
95% Modified-t UCL (Johnson-1978)	3.912	99% Chebyshev (MVUE) UCL	8.464
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.802	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.843		
MLE of Mean	3.322		
MLE of Standard Deviation	2.475		
nu star	151.4		
Approximate Chi Square Value (.05)	124	Nonparametric Statistics	
Adjusted Level of Significance	0.0443	95% CLT UCL	3.894
Adjusted Chi Square Value	123.1	95% Jackknife UCL	3.907
		95% Standard Bootstrap UCL	3.891
Anderson-Darling Test Statistic	0.436	95% Bootstrap-t UCL	3.971
Anderson-Darling 5% Critical Value	0.761	95% Hall's Bootstrap UCL	3.924
Kolmogorov-Smirnov Test Statistic	0.119	95% Percentile Bootstrap UCL	3.894
Kolmogorov-Smirnov 5% Critical Value	0.138	95% BCA Bootstrap UCL	3.922
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	4.837
		97.5% Chebyshev(Mean, Sd) UCL	5.492
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	6.779
95% Approximate Gamma UCL (Use when n >= 40)	4.058		
95% Adjusted Gamma UCL (Use when n < 40)	4.087		
Potential UCL to Use		Use 95% Approximate Gamma UCL	4.058

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	34
Number of Distinct Detected Data	33	Number of Non-Detect Data	8
		Percent Non-Detects	19.05%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0291	Minimum Detected	-3.537
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.271	Mean of Detected	-1.775
SD of Detected	0.31	SD of Detected	0.983
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	0.088	Maximum Non-Detect	-2.43
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	18
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	24
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	42.86%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.681	Shapiro Wilk Test Statistic	0.974
5% Shapiro Wilk Critical Value	0.933	5% Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.223	Mean	-2.265
SD	0.296	SD	1.409
95% DL/2 (t) UCL	0.3	95% H-Stat (DL/2) UCL	0.524
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.103	Mean in Log Scale	-2.155
SD	0.419	SD in Log Scale	1.204
95% MLE (t) UCL	0.211	Mean in Original Scale	0.224
95% MLE (Tiku) UCL	0.228	SD in Original Scale	0.295
		95% t UCL	0.301
		95% Percentile Bootstrap UCL	0.3
		95% BCA Bootstrap UCL	0.327
		95% H UCL	0.39
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.118	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.242		
nu star	76.04		
A-D Test Statistic	0.551	Nonparametric Statistics	
5% A-D Critical Value	0.772	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.772	Mean	0.226
5% K-S Critical Value	0.155	SD	0.291
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0455
		95% KM (t) UCL	0.303
Assuming Gamma Distribution		95% KM (z) UCL	0.301
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.302
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.359
Maximum	1.4	95% KM (BCA) UCL	0.31
Mean	0.219	95% KM (Percentile Bootstrap) UCL	0.309
Median	0.125	95% KM (Chebyshev) UCL	0.424
SD	0.299	97.5% KM (Chebyshev) UCL	0.51
k star	0.271	99% KM (Chebyshev) UCL	0.679
Theta star	0.811		
Nu star	22.72	Potential UCLs to Use	
AppChi2	12.88	95% KM (BCA) UCL	0.31
95% Gamma Approximate UCL (Use when n >= 40)	0.387		
95% Adjusted Gamma UCL (Use when n < 40)	0.395		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	36
Number of Distinct Detected Data	35	Number of Non-Detect Data	6
		Percent Non-Detects	14.29%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0164	Minimum Detected	-4.11
Maximum Detected	1.5	Maximum Detected	0.405
Mean of Detected	0.292	Mean of Detected	-1.727
SD of Detected	0.339	SD of Detected	1.039
Minimum Non-Detect	0.013	Minimum Non-Detect	-4.343
Maximum Non-Detect	0.081	Maximum Non-Detect	-2.513

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	29
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	30.95%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.676	Shapiro Wilk Test Statistic	0.983
5% Shapiro Wilk Critical Value	0.935	5% Shapiro Wilk Critical Value	0.935
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.253	Mean	-2.109
SD	0.328	SD	1.384
95% DL/2 (t) UCL	0.338	95% H-Stat (DL/2) UCL	0.581

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.177	Mean in Log Scale	-2.035
SD	0.41	SD in Log Scale	1.236
95% MLE (t) UCL	0.283	Mean in Original Scale	0.253
95% MLE (Tiku) UCL	0.289	SD in Original Scale	0.328
		95% t UCL	0.339
		95% Percentile Bootstrap UCL	0.345
		95% BCA Bootstrap UCL	0.366
		95% H UCL	0.467

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.068	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.273	
nu star	76.92	

A-D Test Statistic	0.467	Nonparametric Statistics	
5% A-D Critical Value	0.773	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.773	Mean	0.253
5% K-S Critical Value	0.151	SD	0.324
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0507
		95% KM (t) UCL	0.339
Assuming Gamma Distribution		95% KM (z) UCL	0.337
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.338
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.4
Maximum	1.5	95% KM (BCA) UCL	0.347
Mean	0.25	95% KM (Percentile Bootstrap) UCL	0.339
Median	0.148	95% KM (Chebyshev) UCL	0.474
SD	0.33	97.5% KM (Chebyshev) UCL	0.57
k star	0.321	99% KM (Chebyshev) UCL	0.758
Theta star	0.78		
Nu star	26.95	Potential UCLs to Use	
AppChi2	16.11	95% KM (BCA) UCL	0.347
95% Gamma Approximate UCL (Use when n >= 40)	0.419		
95% Adjusted Gamma UCL (Use when n < 40)	0.427		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	33
Number of Distinct Detected Data	32	Number of Non-Detect Data	9
		Percent Non-Detects	21.43%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0261	Minimum Detected	-3.646
Maximum Detected	1.5	Maximum Detected	0.405
Mean of Detected	0.255	Mean of Detected	-1.807
SD of Detected	0.309	SD of Detected	0.918
Minimum Non-Detect	0.016	Minimum Non-Detect	-4.135
Maximum Non-Detect	0.088	Maximum Non-Detect	-2.43
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	18
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	24
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	42.86%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.62	Shapiro Wilk Test Statistic	0.976
5% Shapiro Wilk Critical Value	0.931	5% Shapiro Wilk Critical Value	0.931
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.205	Mean	-2.296
SD	0.289	SD	1.302
95% DL/2 (t) UCL	0.28	95% H-Stat (DL/2) UCL	0.408
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0853	Mean in Log Scale	-2.208
SD	0.407	SD in Log Scale	1.138
95% MLE (t) UCL	0.191	Mean in Original Scale	0.206
95% MLE (Tiku) UCL	0.207	SD in Original Scale	0.289
		95% t UCL	0.281
		95% Percentile Bootstrap UCL	0.288
		95% BCA Bootstrap UCL	0.311
		95% H UCL	0.328
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.182	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.216		
nu star	78.01		
A-D Test Statistic	0.857	Nonparametric Statistics	
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	0.207
5% K-S Critical Value	0.157	SD	0.285
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0446
		95% KM (t) UCL	0.282
Assuming Gamma Distribution		95% KM (z) UCL	0.28
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.281
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.355
Maximum	1.5	95% KM (BCA) UCL	0.288
Mean	0.2	95% KM (Percentile Bootstrap) UCL	0.283
Median	0.117	95% KM (Chebyshev) UCL	0.402
SD	0.292	97.5% KM (Chebyshev) UCL	0.486
k star	0.253	99% KM (Chebyshev) UCL	0.651
Theta star	0.791		
Nu star	21.25	Potential UCLs to Use	
AppChi2	11.78	95% KM (BCA) UCL	0.288
95% Gamma Approximate UCL (Use when n >= 40)	0.361		
95% Adjusted Gamma UCL (Use when n < 40)	0.369		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	29
Number of Distinct Detected Data	28	Number of Non-Detect Data	13
		Percent Non-Detects	30.95%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0323	Minimum Detected	-3.433
Maximum Detected	0.629	Maximum Detected	-0.464
Mean of Detected	0.21	Mean of Detected	-1.902
SD of Detected	0.17	SD of Detected	0.867
Minimum Non-Detect	0.016	Minimum Non-Detect	-4.135
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.863	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.926	5% Shapiro Wilk Critical Value	0.926
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.207	Mean	-2.397
SD	0.279	SD	1.415
95% DL/2 (t) UCL	0.28	95% H-Stat (DL/2) UCL	0.465
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.397
		SD in Log Scale	1.084
		Mean in Original Scale	0.156
		SD in Original Scale	0.163
		95% t UCL	0.198
		95% Percentile Bootstrap UCL	0.199
		95% BCA Bootstrap UCL	0.202
		95% H-UCL	0.248
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.469	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.143		
nu star	85.22		
A-D Test Statistic	0.757	Nonparametric Statistics	
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	0.162
5% K-S Critical Value	0.165	SD	0.162
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0261
		95% KM (t) UCL	0.206
Assuming Gamma Distribution		95% KM (z) UCL	0.205
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.205
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.212
Maximum	0.629	95% KM (BCA) UCL	0.21
Mean	0.151	95% KM (Percentile Bootstrap) UCL	0.208
Median	0.091	95% KM (Chebyshev) UCL	0.276
SD	0.168	97.5% KM (Chebyshev) UCL	0.325
k star	0.229	99% KM (Chebyshev) UCL	0.422
Theta star	0.659		
Nu star	19.23	Potential UCLs to Use	
AppChi2	10.28	95% KM (Percentile Bootstrap) UCL	0.208
95% Gamma Approximate UCL (Use when n >= 40)	0.282		
95% Adjusted Gamma UCL (Use when n < 40)	0.289		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

alpha-BHC

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	32
		Percent Non-Detects	94.12%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	6.00E-04	Minimum Detected	-7.419
Maximum Detected	8.70E-04	Maximum Detected	-7.047
Mean of Detected	7.35E-04	Mean of Detected	-7.233
SD of Detected	1.91E-04	SD of Detected	0.263
Minimum Non-Detect	4.60E-04	Minimum Non-Detect	-7.684
Maximum Non-Detect	0.012	Maximum Non-Detect	-4.423

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	34
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00273	Mean	-6.173
SD	0.00158	SD	0.868
95% DL/2 (t) UCL	0.00319	95% H-Stat (DL/2) UCL	0.0043

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	6.68E-04
5% K-S Critical Value	N/A	SD	1.17E-04
Data not Gamma Distributed at 5% Significance Level		SE of Mean	8.27E-05
		95% KM (t) UCL	8.07E-04
Assuming Gamma Distribution		95% KM (z) UCL	8.03E-04
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	8.49E-04
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	8.70E-04
Mean	N/A	95% KM (Percentile Bootstrap) UCL	8.70E-04
Median	N/A	95% KM (Chebyshev) UCL	0.00103
SD	N/A	97.5% KM (Chebyshev) UCL	0.00118
k star	N/A	99% KM (Chebyshev) UCL	0.00149
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	8.07E-04
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	8.70E-04
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

beta-BHC

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	31
		Percent Non-Detects	91.18%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0025	Minimum Detected	-5.991
Maximum Detected	0.016	Maximum Detected	-4.135
Mean of Detected	0.00757	Mean of Detected	-5.2
SD of Detected	0.00735	SD of Detected	0.958
Minimum Non-Detect	0.00082	Minimum Non-Detect	-7.106
Maximum Non-Detect	0.012	Maximum Non-Detect	-4.423

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	33
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	97.06%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.843	Shapiro Wilk Test Statistic	0.939
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00335	Mean	-5.945
SD	0.00265	SD	0.754
95% DL/2 (t) UCL	0.00412	95% H-Stat (DL/2) UCL	0.00463

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.38
		SD in Log Scale	0.811
		Mean in Original Scale	0.00116
		SD in Original Scale	0.00272
		95% t UCL	0.00195
		95% Percentile Bootstrap UCL	0.00204
		95% BCA Bootstrap UCL	0.00263
		95% H-UCL	0.00119

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.00306
5% K-S Critical Value	N/A	SD	0.00231
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00051043
		95% KM (t) UCL	0.00393
Assuming Gamma Distribution		95% KM (z) UCL	0.0039
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0042
Minimum	N/A	95% KM (bootstrap t) UCL	0.00399
Maximum	N/A	95% KM (BCA) UCL	0.016
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	0.00529
SD	N/A	97.5% KM (Chebyshev) UCL	0.00625
k star	N/A	99% KM (Chebyshev) UCL	0.00814
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.00393
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

delta-BHC

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	32
		Percent Non-Detects	94.12%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0167	Minimum Detected	-4.092
Maximum Detected	0.0368	Maximum Detected	-3.302
Mean of Detected	0.0268	Mean of Detected	-3.697
SD of Detected	0.0142	SD of Detected	0.559
Minimum Non-Detect	4.90E-04	Minimum Non-Detect	-7.621
Maximum Non-Detect	0.012	Maximum Non-Detect	-4.423

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	32
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	94.12%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00412	Mean	-6.097
SD	0.00646	SD	1.137
95% DL/2 (t) UCL	0.00599	95% H-Stat (DL/2) UCL	0.0072

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

A-D Test Statistic	N/A	Nonparametric Statistics	
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.0173
5% K-S Critical Value	N/A	SD	0.0034
Data not Gamma Distributed at 5% Significance Level		SE of Mean	8.24E-04
		95% KM (t) UCL	0.0187
Assuming Gamma Distribution		95% KM (z) UCL	0.0186
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0304
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	0.0368
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	0.0209
SD	N/A	97.5% KM (Chebyshev) UCL	0.0224
k star	N/A	99% KM (Chebyshev) UCL	0.0255
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.0187
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bis(2-ethylhexyl)phthalate

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	26
		Percent Non-Detects	61.90%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.13	Minimum Detected	-2.04
Maximum Detected	2.54	Maximum Detected	0.932
Mean of Detected	0.835	Mean of Detected	-0.613
SD of Detected	0.758	SD of Detected	1.014
Minimum Non-Detect	0.036	Minimum Non-Detect	-3.324
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.847	Shapiro Wilk Test Statistic	0.924
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.422	Mean	-1.853
SD	0.615	SD	1.46
95% DL/2 (t) UCL	0.582	95% H-Stat (DL/2) UCL	0.884
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.133
		SD in Log Scale	1.374
		Mean in Original Scale	0.348
		SD in Original Scale	0.6
		95% t UCL	0.504
		95% Percentile Bootstrap UCL	0.509
		95% BCA Bootstrap UCL	0.554
		95% H-UCL	0.556
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.096	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.762		
nu star	35.07		
A-D Test Statistic	0.406	Nonparametric Statistics	
5% A-D Critical Value	0.758	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.758	Mean	0.412
5% K-S Critical Value	0.22	SD	0.574
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.093
		95% KM (t) UCL	0.568
Assuming Gamma Distribution		95% KM (z) UCL	0.565
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.561
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.635
Maximum	2.54	95% KM (BCA) UCL	0.592
Mean	0.318	95% KM (Percentile Bootstrap) UCL	0.58
Median	1.00E-06	95% KM (Chebyshev) UCL	0.817
SD	0.615	97.5% KM (Chebyshev) UCL	0.993
k star	0.114	99% KM (Chebyshev) UCL	1.337
Theta star	2.792		
Nu star	9.567	Potential UCLs to Use	
AppChi2	3.673	95% KM (t) UCL	0.568
95% Gamma Approximate UCL (Use when n >= 40)	0.828		
95% Adjusted Gamma UCL (Use when n < 40)	0.859		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	41
Number of Distinct Detected Data	38	Number of Non-Detect Data	1
		Percent Non-Detects	2.38%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.15	Minimum Detected	-1.897
Maximum Detected	70.2	Maximum Detected	4.251
Mean of Detected	9.991	Mean of Detected	1.649
SD of Detected	13.57	SD of Detected	1.208
Minimum Non-Detect	0.62	Minimum Non-Detect	-0.478
Maximum Non-Detect	0.62	Maximum Non-Detect	-0.478

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.644	Shapiro Wilk Test Statistic	0.978
5% Shapiro Wilk Critical Value	0.941	5% Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	9.76	Mean	1.582
SD	13.48	SD	1.27
95% DL/2 (t) UCL	13.26	95% H-Stat (DL/2) UCL	18.52

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	9.381	Mean in Log Scale	1.586
SD	13.78	SD in Log Scale	1.262
95% MLE (t) UCL	12.96	Mean in Original Scale	9.761
95% MLE (Tiku) UCL	12.69	SD in Original Scale	13.48
		95% t UCL	13.26
		95% Percentile Bootstrap UCL	13.64
		95% BCA Bootstrap UCL	14.51
		95% H UCL	18.3

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.847	Data appear Gamma Distributed at 5% Significance Level
Theta Star	11.8	
nu star	69.45	

A-D Test Statistic	0.743	Nonparametric Statistics	
5% A-D Critical Value	0.783	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.783	Mean	9.756
5% K-S Critical Value	0.143	SD	13.32
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.082
		95% KM (t) UCL	13.26
Assuming Gamma Distribution		95% KM (z) UCL	13.18
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	13.24
Minimum	1.00E-06	95% KM (bootstrap t) UCL	16.04
Maximum	70.2	95% KM (BCA) UCL	13.64
Mean	9.753	95% KM (Percentile Bootstrap) UCL	13.43
Median	4.85	95% KM (Chebyshev) UCL	18.83
SD	13.49	97.5% KM (Chebyshev) UCL	22.76
k star	0.589	99% KM (Chebyshev) UCL	30.47
Theta star	16.56		
Nu star	49.48	Potential UCLs to Use	
AppChi2	34.33	95% KM (Chebyshev) UCL	18.83
95% Gamma Approximate UCL (Use when n >= 40)	14.06		
95% Adjusted Gamma UCL (Use when n < 40)	14.24		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total Chlordane

General Statistics (Units in mg/kg)			
Number of Valid Data	34	Number of Detected Data	21
Number of Distinct Detected Data	21	Number of Non-Detect Data	13
		Percent Non-Detects	38.24%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0038	Minimum Detected	-5.573
Maximum Detected	0.15	Maximum Detected	-1.9
Mean of Detected	0.0433	Mean of Detected	-3.51
SD of Detected	0.0341	SD of Detected	0.998
Minimum Non-Detect	0.0015	Minimum Non-Detect	-6.502
Maximum Non-Detect	0.12	Maximum Non-Detect	-2.12
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	33
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	97.06%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.878	Shapiro Wilk Test Statistic	0.92
5% Shapiro Wilk Critical Value	0.908	5% Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0309	Mean	-4.351
SD	0.0334	SD	1.588
95% DL/2 (t) UCL	0.0406	95% H-Stat (DL/2) UCL	0.112
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.199
		SD in Log Scale	1.22
		Mean in Original Scale	0.0289
		SD in Original Scale	0.0325
		95% t UCL	0.0384
		95% Percentile Bootstrap UCL	0.0379
		95% BCA Bootstrap UCL	0.0395
		95% H-UCL	0.0564
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.31	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0331		
nu star	55.02		
A-D Test Statistic	0.399	Nonparametric Statistics	
5% A-D Critical Value	0.758	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.758	Mean	0.0296
5% K-S Critical Value	0.193	SD	0.0324
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0058
		95% KM (t) UCL	0.0394
Assuming Gamma Distribution		95% KM (z) UCL	0.0392
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.039
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0424
Maximum	0.15	95% KM (BCA) UCL	0.0414
Mean	0.0277	95% KM (Percentile Bootstrap) UCL	0.0404
Median	0.0156	95% KM (Chebyshev) UCL	0.0549
SD	0.0336	97.5% KM (Chebyshev) UCL	0.0658
k star	0.22	99% KM (Chebyshev) UCL	0.0873
Theta star	0.126		
Nu star	14.97	Potential UCLs to Use	
AppChi2	7.243	95% KM (Percentile Bootstrap) UCL	0.0404
95% Gamma Approximate UCL (Use when n >= 40)	0.0572		
95% Adjusted Gamma UCL (Use when n < 40)	0.0594		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics (Units in mg/kg)

Number of Valid Observations	42	Number of Distinct Observations	40
Raw Statistics		Log-transformed Statistics	
Minimum	6.1	Minimum of Log Data	1.808
Maximum	72.9	Maximum of Log Data	4.289
Mean	20.51	Mean of log Data	2.791
Geometric Mean	16.3	SD of log Data	0.679
Median	14.4		
SD	14.74		
Std. Error of Mean	2.275		
Coefficient of Variation	0.719		
Skewness	1.403		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.796	Shapiro Wilk Test Statistic	0.863
Shapiro Wilk Critical Value	0.942	Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	24.33	95% H-UCL	25.48
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	30.5
95% Adjusted-CLT UCL (Chen-1995)	24.77	97.5% Chebyshev (MVUE) UCL	34.87
95% Modified-t UCL (Johnson-1978)	24.42	99% Chebyshev (MVUE) UCL	43.46
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.181	Data do not follow a Discernable Distribution (0.05)	
Theta Star	9.401		
MLE of Mean	20.51		
MLE of Standard Deviation	13.88		
nu star	183.2		
Approximate Chi Square Value (.05)	152.9	Nonparametric Statistics	
Adjusted Level of Significance	0.0443	95% CLT UCL	24.25
Adjusted Chi Square Value	151.9	95% Jackknife UCL	24.33
		95% Standard Bootstrap UCL	24.24
Anderson-Darling Test Statistic	1.364	95% Bootstrap-t UCL	24.92
Anderson-Darling 5% Critical Value	0.758	95% Hall's Bootstrap UCL	24.99
Kolmogorov-Smirnov Test Statistic	0.169	95% Percentile Bootstrap UCL	24.43
Kolmogorov-Smirnov 5% Critical Value	0.138	95% BCA Bootstrap UCL	24.91
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	30.42
		97.5% Chebyshev(Mean, Sd) UCL	34.71
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	43.14
95% Approximate Gamma UCL (Use when n >= 40)	24.57		
95% Adjusted Gamma UCL (Use when n < 40)	24.73		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	30.42

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	37
Number of Distinct Detected Data	35	Number of Non-Detect Data	5
		Percent Non-Detects	11.90%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0242	Minimum Detected	-3.721
Maximum Detected	1.6	Maximum Detected	0.47
Mean of Detected	0.317	Mean of Detected	-1.634
SD of Detected	0.361	SD of Detected	1.015
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	0.088	Maximum Non-Detect	-2.43
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	30
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	28.57%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.688	Shapiro Wilk Test Statistic	0.981
5% Shapiro Wilk Critical Value	0.936	5% Shapiro Wilk Critical Value	0.936
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.281	Mean	-1.939
SD	0.352	SD	1.304
95% DL/2 (t) UCL	0.373	95% H-Stat (DL/2) UCL	0.585
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.21	Mean in Log Scale	-1.882
SD	0.43	SD in Log Scale	1.183
95% MLE (t) UCL	0.321	Mean in Original Scale	0.282
95% MLE (Tiku) UCL	0.325	SD in Original Scale	0.351
		95% t UCL	0.373
		95% Percentile Bootstrap UCL	0.378
		95% BCA Bootstrap UCL	0.396
		95% H UCL	0.492
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.096	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.289		
nu star	81.1		
A-D Test Statistic	0.485	Nonparametric Statistics	
5% A-D Critical Value	0.773	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.773	Mean	0.283
5% K-S Critical Value	0.149	SD	0.347
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0543
		95% KM (t) UCL	0.374
Assuming Gamma Distribution		95% KM (z) UCL	0.372
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.373
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.427
Maximum	1.6	95% KM (BCA) UCL	0.38
Mean	0.279	95% KM (Percentile Bootstrap) UCL	0.378
Median	0.164	95% KM (Chebyshev) UCL	0.519
SD	0.354	97.5% KM (Chebyshev) UCL	0.622
k star	0.358	99% KM (Chebyshev) UCL	0.823
Theta star	0.778		
Nu star	30.11	Potential UCLs to Use	
AppChi2	18.58	95% KM (BCA) UCL	0.38
95% Gamma Approximate UCL (Use when n >= 40)	0.452		
95% Adjusted Gamma UCL (Use when n < 40)	0.46		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg)

Number of Valid Observations	42	Number of Distinct Observations	42
Raw Statistics		Log-transformed Statistics	
Minimum	3.9	Minimum of Log Data	1.361
Maximum	179	Maximum of Log Data	5.187
Mean	41.33	Mean of log Data	3.247
Geometric Mean	25.72	SD of log Data	1.018
Median	22.1		
SD	39.87		
Std. Error of Mean	6.152		
Coefficient of Variation	0.965		
Skewness	1.446		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.782	Shapiro Wilk Test Statistic	0.864
Shapiro Wilk Critical Value	0.942	Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	51.68	95% H-UCL	63.04
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	76.51
95% Adjusted-CLT UCL (Chen-1995)	52.92	97.5% Chebyshev (MVUE) UCL	91.25
95% Modified-t UCL (Johnson-1978)	51.91	99% Chebyshev (MVUE) UCL	120.2
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.124	Data do not follow a Discernable Distribution (0.05)	
Theta Star	36.76		
MLE of Mean	41.33		
MLE of Standard Deviation	38.98		
nu star	94.43		
Approximate Chi Square Value (.05)	73.02	Nonparametric Statistics	
Adjusted Level of Significance	0.0443	95% CLT UCL	51.45
Adjusted Chi Square Value	72.35	95% Jackknife UCL	51.68
		95% Standard Bootstrap UCL	51.4
Anderson-Darling Test Statistic	1.434	95% Bootstrap-t UCL	53.98
Anderson-Darling 5% Critical Value	0.774	95% Hall's Bootstrap UCL	54.17
Kolmogorov-Smirnov Test Statistic	0.187	95% Percentile Bootstrap UCL	51.58
Kolmogorov-Smirnov 5% Critical Value	0.14	95% BCA Bootstrap UCL	51.71
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	68.15
		97.5% Chebyshev(Mean, Sd) UCL	79.75
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	102.5
95% Approximate Gamma UCL (Use when n >= 40)	53.45		
95% Adjusted Gamma UCL (Use when n < 40)	53.95		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	68.15

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cyanide

General Statistics (Units in mg/kg)

Number of Valid Data	12	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	11
		Percent Non-Detects	91.67%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Cyanide was not processed!

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	21
Number of Distinct Detected Data	21	Number of Non-Detect Data	21
		Percent Non-Detects	50.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.027	Minimum Detected	-3.612
Maximum Detected	0.129	Maximum Detected	-2.048
Mean of Detected	0.0662	Mean of Detected	-2.839
SD of Detected	0.0327	SD of Detected	0.521
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.903	Shapiro Wilk Test Statistic	0.91
5% Shapiro Wilk Critical Value	0.908	5% Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.104	Mean	-3.097
SD	0.251	SD	1.086
95% DL/2 (t) UCL	0.17	95% H-Stat (DL/2) UCL	0.124
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.207
		SD in Log Scale	0.575
		Mean in Original Scale	0.0479
		SD in Original Scale	0.0302
		95% t UCL	0.0558
		95% Percentile Bootstrap UCL	0.0557
		95% BCA Bootstrap UCL	0.0562
		95% H-UCL	0.0569
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	3.61	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.0183		
nu star	151.6		
A-D Test Statistic	0.794	Nonparametric Statistics	
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	0.0514
5% K-S Critical Value	0.19	SD	0.0299
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.00516
		95% KM (t) UCL	0.0601
Assuming Gamma Distribution		95% KM (z) UCL	0.0599
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0599
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0615
Maximum	0.129	95% KM (BCA) UCL	0.0612
Mean	0.0428	95% KM (Percentile Bootstrap) UCL	0.0608
Median	0.0369	95% KM (Chebyshev) UCL	0.0739
SD	0.0359	97.5% KM (Chebyshev) UCL	0.0837
k star	0.302	99% KM (Chebyshev) UCL	0.103
Theta star	0.142		
Nu star	25.34	Potential UCLs to Use	
AppChi2	14.87	95% KM (t) UCL	0.0601
95% Gamma Approximate UCL (Use when n >= 40)	0.073		
95% Adjusted Gamma UCL (Use when n < 40)	0.0744		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics (Units in mg/kg)			
Number of Valid Data	34	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	28
		Percent Non-Detects	82.35%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0018	Minimum Detected	-6.32
Maximum Detected	0.0267	Maximum Detected	-3.623
Mean of Detected	0.00927	Mean of Detected	-5.085
SD of Detected	0.00923	SD of Detected	1.004
Minimum Non-Detect	0.00097	Minimum Non-Detect	-6.938
Maximum Non-Detect	0.025	Maximum Non-Detect	-3.689

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	33
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	97.06%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.818	Shapiro Wilk Test Statistic	0.96
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00434	Mean	-5.857
SD	0.00494	SD	0.922
95% DL/2 (t) UCL	0.00577	95% H-Stat (DL/2) UCL	0.00639
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.179
		SD in Log Scale	1.123
		Mean in Original Scale	0.00207
		SD in Original Scale	0.00494
		95% t UCL	0.0035
		95% Percentile Bootstrap UCL	0.00364
		95% BCA Bootstrap UCL	0.00442
		95% H-UCL	0.00238
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.802	Data appear Normal at 5% Significance Level	
Theta Star	0.0116		
nu star	9.624		
A-D Test Statistic	0.257	Nonparametric Statistics	
5% A-D Critical Value	0.71	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.71	Mean	0.00333
5% K-S Critical Value	0.338	SD	0.00458
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00088698
		95% KM (t) UCL	0.00483
Assuming Gamma Distribution		95% KM (z) UCL	0.00479
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00453
Minimum	0.000001	95% KM (bootstrap t) UCL	0.00544
Maximum	0.0267	95% KM (BCA) UCL	0.00959
Mean	0.00164	95% KM (Percentile Bootstrap) UCL	0.0075
Median	0.000001	95% KM (Chebyshev) UCL	0.00719
SD	0.00508	97.5% KM (Chebyshev) UCL	0.00887
k star	0.141	99% KM (Chebyshev) UCL	0.0122
Theta star	0.0116		
Nu star	9.603	Potential UCLs to Use	
AppChi2	3.695	95% KM (t) UCL	0.00483
95% Gamma Approximate UCL (Use when n >= 40)	0.00425	95% KM (Percentile Bootstrap) UCL	0.0075
95% Adjusted Gamma UCL (Use when n < 40)	0.00447		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

beta-Endosulfan

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	31
		Percent Non-Detects	91.18%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0015	Minimum Detected	-6.502
Maximum Detected	0.0027	Maximum Detected	-5.915
Mean of Detected	0.00197	Mean of Detected	-6.265
SD of Detected	6.43E-04	SD of Detected	0.31
Minimum Non-Detect	9.00E-04	Minimum Non-Detect	-7.013
Maximum Non-Detect	0.025	Maximum Non-Detect	-3.689

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	34
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.871	Shapiro Wilk Test Statistic	0.901
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00321	Mean	-5.994
SD	0.00251	SD	0.751
95% DL/2 (t) UCL	0.00394	95% H-Stat (DL/2) UCL	0.00439

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.741
		SD in Log Scale	0.214
		Mean in Original Scale	0.00121
		SD in Original Scale	3.21E-04
		95% t UCL	0.0013
		95% Percentile Bootstrap UCL	0.00131
		95% BCA Bootstrap UCL	0.00133
		95% H-UCL	0.00129

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.00164
5% K-S Critical Value	N/A	SD	3.58E-04
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.39E-04
		95% KM (t) UCL	0.00188
Assuming Gamma Distribution		95% KM (z) UCL	0.00187
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00184
Minimum	N/A	95% KM (bootstrap t) UCL	0.00225
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.0027
Median	N/A	95% KM (Chebyshev) UCL	0.00225
SD	N/A	97.5% KM (Chebyshev) UCL	0.00251
k star	N/A	99% KM (Chebyshev) UCL	0.00302
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.00188
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	0.0027
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	38
Number of Distinct Detected Data	37	Number of Non-Detect Data	4
		Percent Non-Detects	9.52%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0331	Minimum Detected	-3.408
Maximum Detected	2.9	Maximum Detected	1.065
Mean of Detected	0.544	Mean of Detected	-1.167
SD of Detected	0.625	SD of Detected	1.122
Minimum Non-Detect	0.012	Minimum Non-Detect	-4.423
Maximum Non-Detect	0.081	Maximum Non-Detect	-2.513
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	33
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	21.43%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.727	Shapiro Wilk Test Statistic	0.973
5% Shapiro Wilk Critical Value	0.938	5% Shapiro Wilk Critical Value	0.938
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.493	Mean	-1.494
SD	0.614	SD	1.496
95% DL/2 (t) UCL	0.653	95% H-Stat (DL/2) UCL	1.372
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.403	Mean in Log Scale	-1.4
SD	0.714	SD in Log Scale	1.294
95% MLE (t) UCL	0.589	Mean in Original Scale	0.494
95% MLE (Tiku) UCL	0.589	SD in Original Scale	0.613
		95% t UCL	0.654
		95% Percentile Bootstrap UCL	0.662
		95% BCA Bootstrap UCL	0.694
		95% H UCL	0.983
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.968	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.562		
nu star	73.54		
A-D Test Statistic	0.482	Nonparametric Statistics	
5% A-D Critical Value	0.777	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.777	Mean	0.495
5% K-S Critical Value	0.147	SD	0.605
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0946
		95% KM (t) UCL	0.654
Assuming Gamma Distribution		95% KM (z) UCL	0.651
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.654
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.725
Maximum	2.9	95% KM (BCA) UCL	0.664
Mean	0.492	95% KM (Percentile Bootstrap) UCL	0.658
Median	0.274	95% KM (Chebyshev) UCL	0.907
SD	0.615	97.5% KM (Chebyshev) UCL	1.086
k star	0.384	99% KM (Chebyshev) UCL	1.436
Theta star	1.28		
Nu star	32.26	Potential UCLs to Use	
AppChi2	20.28	95% KM (Chebyshev) UCL	0.907
95% Gamma Approximate UCL (Use when n >= 40)	0.782		
95% Adjusted Gamma UCL (Use when n < 40)	0.796		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	32
Number of Distinct Detected Data	31	Number of Non-Detect Data	10
		Percent Non-Detects	23.81%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0341	Minimum Detected	-3.378
Maximum Detected	1.2	Maximum Detected	0.182
Mean of Detected	0.244	Mean of Detected	-1.792
SD of Detected	0.263	SD of Detected	0.869
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	0.088	Maximum Non-Detect	-2.43
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	19
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	23
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	45.24%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.662	Shapiro Wilk Test Statistic	0.967
5% Shapiro Wilk Critical Value	0.93	5% Shapiro Wilk Critical Value	0.93
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.192	Mean	-2.326
SD	0.247	SD	1.296
95% DL/2 (t) UCL	0.256	95% H-Stat (DL/2) UCL	0.391
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0833	Mean in Log Scale	-2.195
SD	0.357	SD in Log Scale	1.072
95% MLE (t) UCL	0.176	Mean in Original Scale	0.194
95% MLE (Tiku) UCL	0.193	SD in Original Scale	0.246
		95% t UCL	0.258
		95% Percentile Bootstrap UCL	0.258
		95% BCA Bootstrap UCL	0.277
		95% H UCL	0.297
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.338	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.182		
nu star	85.62		
A-D Test Statistic	0.692	Nonparametric Statistics	
5% A-D Critical Value	0.765	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.765	Mean	0.196
5% K-S Critical Value	0.158	SD	0.242
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0379
		95% KM (t) UCL	0.26
Assuming Gamma Distribution		95% KM (z) UCL	0.258
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.258
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.306
Maximum	1.2	95% KM (BCA) UCL	0.267
Mean	0.186	95% KM (Percentile Bootstrap) UCL	0.262
Median	0.133	95% KM (Chebyshev) UCL	0.361
SD	0.252	97.5% KM (Chebyshev) UCL	0.433
k star	0.239	99% KM (Chebyshev) UCL	0.573
Theta star	0.778		
Nu star	20.09	Potential UCLs to Use	
AppChi2	10.92	95% KM (BCA) UCL	0.267
95% Gamma Approximate UCL (Use when n >= 40)	0.342		
95% Adjusted Gamma UCL (Use when n < 40)	0.35		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	42	Number of Distinct Observations	40
Raw Statistics		Log-transformed Statistics	
Minimum	3.1	Minimum of Log Data	1.131
Maximum	769	Maximum of Log Data	6.645
Mean	121.8	Mean of log Data	4.129
Geometric Mean	62.1	SD of log Data	1.218
Median	54		
SD	156.7		
Std. Error of Mean	24.18		
Coefficient of Variation	1.286		
Skewness	2.484		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.681	Shapiro Wilk Test Statistic	0.931
Shapiro Wilk Critical Value	0.942	Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	162.5	95% H-UCL	214.3
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	254.3
95% Adjusted-CLT UCL (Chen-1995)	171.5	97.5% Chebyshev (MVUE) UCL	309.6
95% Modified-t UCL (Johnson-1978)	164.1	99% Chebyshev (MVUE) UCL	418
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.825	Data do not follow a Discernable Distribution (0.05)	
Theta Star	147.7		
MLE of Mean	121.8		
MLE of Standard Deviation	134.2		
nu star	69.27		
Approximate Chi Square Value (.05)	51.11	Nonparametric Statistics	
Adjusted Level of Significance	0.0443	95% CLT UCL	161.6
Adjusted Chi Square Value	50.56	95% Jackknife UCL	162.5
		95% Standard Bootstrap UCL	160.7
Anderson-Darling Test Statistic	0.883	95% Bootstrap-t UCL	173.2
Anderson-Darling 5% Critical Value	0.784	95% Hall's Bootstrap UCL	180.6
Kolmogorov-Smirnov Test Statistic	0.156	95% Percentile Bootstrap UCL	162.4
Kolmogorov-Smirnov 5% Critical Value	0.141	95% BCA Bootstrap UCL	173.1
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	227.2
		97.5% Chebyshev(Mean, Sd) UCL	272.8
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	362.4
95% Approximate Gamma UCL (Use when n >= 40)	165.1		
95% Adjusted Gamma UCL (Use when n < 40)	166.9		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	227.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	42	Number of Distinct Observations	41

Raw Statistics		Log-transformed Statistics	
Minimum	38.5	Minimum of Log Data	3.651
Maximum	1125	Maximum of Log Data	7.026
Mean	213	Mean of log Data	5.013
Geometric Mean	150.4	SD of log Data	0.782
Median	129.5		
SD	223.3		
Std. Error of Mean	34.46		
Coefficient of Variation	1.048		
Skewness	2.443		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.669	Shapiro Wilk Test Statistic	0.906
Shapiro Wilk Critical Value	0.942	Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	271	95% H-UCL	264.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	320.4
95% Adjusted-CLT UCL (Chen-1995)	283.6	97.5% Chebyshev (MVUE) UCL	371.5
95% Modified-t UCL (Johnson-1978)	273.2	99% Chebyshev (MVUE) UCL	471.8

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.485	Data do not follow a Discernable Distribution (0.05)	
Theta Star	143.5		
MLE of Mean	213		
MLE of Standard Deviation	174.8		
nu star	124.7		
Approximate Chi Square Value (.05)	99.92	Nonparametric Statistics	
Adjusted Level of Significance	0.0443	95% CLT UCL	269.7
Adjusted Chi Square Value	99.13	95% Jackknife UCL	271
		95% Standard Bootstrap UCL	268.6
Anderson-Darling Test Statistic	1.959	95% Bootstrap-t UCL	292.9
Anderson-Darling 5% Critical Value	0.765	95% Hall's Bootstrap UCL	293.2
Kolmogorov-Smirnov Test Statistic	0.17	95% Percentile Bootstrap UCL	271.3
Kolmogorov-Smirnov 5% Critical Value	0.139	95% BCA Bootstrap UCL	282.5
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	363.2
		97.5% Chebyshev(Mean, Sd) UCL	428.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	555.9
95% Approximate Gamma UCL (Use when n >= 40)	265.9		
95% Adjusted Gamma UCL (Use when n < 40)	268		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	363.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	26
Number of Distinct Detected Data	22	Number of Non-Detect Data	16
		Percent Non-Detects	38.10%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.047	Minimum Detected	-3.058
Maximum Detected	0.56	Maximum Detected	-0.58
Mean of Detected	0.215	Mean of Detected	-1.765
SD of Detected	0.136	SD of Detected	0.732
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.042	Maximum Non-Detect	-3.17
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	26
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	38.10%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.938	Shapiro Wilk Test Statistic	0.942
5% Shapiro Wilk Critical Value	0.92	5% Shapiro Wilk Critical Value	0.92
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.136	Mean	-3.357
SD	0.147	SD	2.344
95% DL/2 (t) UCL	0.174	95% H-Stat (DL/2) UCL	2.48
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0964	Mean in Log Scale	-2.424
SD	0.196	SD in Log Scale	1.049
95% MLE (t) UCL	0.147	Mean in Original Scale	0.145
95% MLE (Tiku) UCL	0.153	SD in Original Scale	0.139
		95% t UCL	0.181
		95% Percentile Bootstrap UCL	0.179
		95% BCA Bootstrap UCL	0.183
		95% H UCL	0.228
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	2.11	Data appear Normal at 5% Significance Level	
Theta Star	0.102		
nu star	109.7		
A-D Test Statistic	0.297	Nonparametric Statistics	
5% A-D Critical Value	0.755	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.755	Mean	0.151
5% K-S Critical Value	0.173	SD	0.133
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0209
		95% KM (t) UCL	0.186
Assuming Gamma Distribution		95% KM (z) UCL	0.185
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.186
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.191
Maximum	0.56	95% KM (BCA) UCL	0.192
Mean	0.133	95% KM (Percentile Bootstrap) UCL	0.189
Median	0.0705	95% KM (Chebyshev) UCL	0.242
SD	0.15	97.5% KM (Chebyshev) UCL	0.281
k star	0.177	99% KM (Chebyshev) UCL	0.359
Theta star	0.751		
Nu star	14.86	Potential UCLs to Use	
AppChi2	7.164	95% KM (t) UCL	0.186
95% Gamma Approximate UCL (Use when n >= 40)	0.276	95% KM (Percentile Bootstrap) UCL	0.189
95% Adjusted Gamma UCL (Use when n < 40)	0.283		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Methoxychlor

General Statistics (Units in mg/kg)

Number of Valid Data	34	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	32
		Percent Non-Detects	94.12%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0045	Minimum Detected	-5.404
Maximum Detected	0.0091	Maximum Detected	-4.699
Mean of Detected	0.0068	Mean of Detected	-5.052
SD of Detected	0.00325	SD of Detected	0.498
Minimum Non-Detect	0.0038	Minimum Non-Detect	-5.573
Maximum Non-Detect	0.12	Maximum Non-Detect	-2.12

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	34
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00977	Mean	-5.02
SD	0.0125	SD	0.828
95% DL/2 (t) UCL	0.0134	95% H-Stat (DL/2) UCL	0.0129

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

A-D Test Statistic	N/A	Nonparametric Statistics	
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.00492
5% K-S Critical Value	N/A	SD	0.00132
Data not Gamma Distributed at 5% Significance Level		SE of Mean	5.64E-04
		95% KM (t) UCL	0.00587
Assuming Gamma Distribution		95% KM (z) UCL	0.00585
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00781
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	0.0091
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	0.00738
SD	N/A	97.5% KM (Chebyshev) UCL	0.00844
k star	N/A	99% KM (Chebyshev) UCL	0.0105
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.00587
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Nickel

General Statistics (Units in mg/kg)

Number of Valid Observations	42	Number of Distinct Observations	38

Raw Statistics		Log-transformed Statistics	
Minimum	5.2	Minimum of Log Data	1.649
Maximum	119	Maximum of Log Data	4.779
Mean	23.63	Mean of log Data	2.848
Geometric Mean	17.26	SD of log Data	0.769
Median	14		
SD	22.2		
Std. Error of Mean	3.426		
Coefficient of Variation	0.94		
Skewness	2.464		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.707	Shapiro Wilk Test Statistic	0.876
Shapiro Wilk Critical Value	0.942	Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	29.39	95% H-UCL	29.92
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	36.15
95% Adjusted-CLT UCL (Chen-1995)	30.65	97.5% Chebyshev (MVUE) UCL	41.84
95% Modified-t UCL (Johnson-1978)	29.61	99% Chebyshev (MVUE) UCL	53.03

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.631	Data do not follow a Discernable Distribution (0.05)	
Theta Star	14.49		
MLE of Mean	23.63		
MLE of Standard Deviation	18.5		
nu star	137		
Approximate Chi Square Value (.05)	110.9	Nonparametric Statistics	
Adjusted Level of Significance	0.0443	95% CLT UCL	29.26
Adjusted Chi Square Value	110.1	95% Jackknife UCL	29.39
		95% Standard Bootstrap UCL	29.21
Anderson-Darling Test Statistic	1.46	95% Bootstrap-t UCL	31.72
Anderson-Darling 5% Critical Value	0.763	95% Hall's Bootstrap UCL	34.17
Kolmogorov-Smirnov Test Statistic	0.169	95% Percentile Bootstrap UCL	29.65
Kolmogorov-Smirnov 5% Critical Value	0.139	95% BCA Bootstrap UCL	30.81
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	38.56
		97.5% Chebyshev(Mean, Sd) UCL	45.02
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	57.72
95% Approximate Gamma UCL (Use when n >= 40)	29.17		
95% Adjusted Gamma UCL (Use when n < 40)	29.39		

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	38.56

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	33
Number of Distinct Detected Data	32	Number of Non-Detect Data	9
		Percent Non-Detects	21.43%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0187	Minimum Detected	-3.979
Maximum Detected	1.2	Maximum Detected	0.182
Mean of Detected	0.213	Mean of Detected	-2.009
SD of Detected	0.249	SD of Detected	0.971
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	0.088	Maximum Non-Detect	-2.43
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	22
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	47.62%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.66	Shapiro Wilk Test Statistic	0.981
5% Shapiro Wilk Critical Value	0.931	5% Shapiro Wilk Critical Value	0.931
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.172	Mean	-2.463
SD	0.234	SD	1.291
95% DL/2 (t) UCL	0.233	95% H-Stat (DL/2) UCL	0.338
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0598	Mean in Log Scale	-2.409
SD	0.344	SD in Log Scale	1.182
95% MLE (t) UCL	0.149	Mean in Original Scale	0.172
95% MLE (Tiku) UCL	0.168	SD in Original Scale	0.233
		95% t UCL	0.233
		95% Percentile Bootstrap UCL	0.236
		95% BCA Bootstrap UCL	0.252
		95% H UCL	0.29
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.135	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.187		
nu star	74.91		
A-D Test Statistic	0.586	Nonparametric Statistics	
5% A-D Critical Value	0.771	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.771	Mean	0.173
5% K-S Critical Value	0.157	SD	0.23
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0361
		95% KM (t) UCL	0.234
Assuming Gamma Distribution		95% KM (z) UCL	0.232
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.233
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.269
Maximum	1.2	95% KM (BCA) UCL	0.235
Mean	0.167	95% KM (Percentile Bootstrap) UCL	0.234
Median	0.105	95% KM (Chebyshev) UCL	0.33
SD	0.237	97.5% KM (Chebyshev) UCL	0.398
k star	0.255	99% KM (Chebyshev) UCL	0.532
Theta star	0.656		
Nu star	21.39	Potential UCLs to Use	
AppChi2	11.89	95% KM (BCA) UCL	0.235
95% Gamma Approximate UCL (Use when n >= 40)	0.301		
95% Adjusted Gamma UCL (Use when n < 40)	0.307		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	38
Number of Distinct Detected Data	38	Number of Non-Detect Data	4
		Percent Non-Detects	9.52%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0303	Minimum Detected	-3.497
Maximum Detected	2.5	Maximum Detected	0.916
Mean of Detected	0.508	Mean of Detected	-1.173
SD of Detected	0.539	SD of Detected	1.071
Minimum Non-Detect	0.013	Minimum Non-Detect	-4.343
Maximum Non-Detect	0.081	Maximum Non-Detect	-2.513
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	33
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	21.43%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.751	Shapiro Wilk Test Statistic	0.975
5% Shapiro Wilk Critical Value	0.938	5% Shapiro Wilk Critical Value	0.938
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.461	Mean	-1.493
SD	0.532	SD	1.447
95% DL/2 (t) UCL	0.599	95% H-Stat (DL/2) UCL	1.232
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.385	Mean in Log Scale	-1.394
SD	0.62	SD in Log Scale	1.233
95% MLE (t) UCL	0.546	Mean in Original Scale	0.462
95% MLE (Tiku) UCL	0.546	SD in Original Scale	0.531
		95% t UCL	0.6
		95% Percentile Bootstrap UCL	0.6
		95% BCA Bootstrap UCL	0.621
		95% H UCL	0.88
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.076	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.472		
nu star	81.79		
A-D Test Statistic	0.307	Nonparametric Statistics	
5% A-D Critical Value	0.774	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.774	Mean	0.462
5% K-S Critical Value	0.147	SD	0.525
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.082
		95% KM (t) UCL	0.6
Assuming Gamma Distribution		95% KM (z) UCL	0.597
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.6
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.659
Maximum	2.5	95% KM (BCA) UCL	0.612
Mean	0.459	95% KM (Percentile Bootstrap) UCL	0.595
Median	0.294	95% KM (Chebyshev) UCL	0.82
SD	0.534	97.5% KM (Chebyshev) UCL	0.975
k star	0.397	99% KM (Chebyshev) UCL	1.279
Theta star	1.158		
Nu star	33.32	Potential UCLs to Use	
AppChi2	21.12	95% KM (Chebyshev) UCL	0.82
95% Gamma Approximate UCL (Use when n >= 40)	0.724		
95% Adjusted Gamma UCL (Use when n < 40)	0.736		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Selenium

General Statistics (Units in mg/kg)

Number of Valid Data	42	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	40
		Percent Non-Detects	95.24%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.7	Minimum Detected	0.531
Maximum Detected	1.8	Maximum Detected	0.588
Mean of Detected	1.75	Mean of Detected	0.559
SD of Detected	0.0707	SD of Detected	0.0404
Minimum Non-Detect	0.034	Minimum Non-Detect	-3.381
Maximum Non-Detect	5.3	Maximum Non-Detect	1.668

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.227	Mean	-0.521
SD	0.811	SD	1.694
95% DL/2 (t) UCL	1.437	95% H-Stat (DL/2) UCL	5.861

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	1.707
5% K-S Critical Value	N/A	SD	0.0258
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00973
		95% KM (t) UCL	1.724
Assuming Gamma Distribution		95% KM (z) UCL	1.723
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.77
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	1.8
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	1.75
SD	N/A	97.5% KM (Chebyshev) UCL	1.768
k star	N/A	99% KM (Chebyshev) UCL	1.804
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	1.724
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Silver

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	21
Number of Distinct Detected Data	20	Number of Non-Detect Data	21
		Percent Non-Detects	50.00%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.76	Minimum Detected	-0.274
Maximum Detected	30.7	Maximum Detected	3.424
Mean of Detected	6.906	Mean of Detected	1.486
SD of Detected	7.54	SD of Detected	0.977
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	1.6	Maximum Non-Detect	0.47
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	24
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	18
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	57.14%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.708	Shapiro Wilk Test Statistic	0.972
5% Shapiro Wilk Critical Value	0.908	5% Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.681	Mean	-0.331
SD	6.2	SD	2.698
95% DL/2 (t) UCL	5.291	95% H-Stat (DL/2) UCL	196.3
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.233
		SD in Log Scale	1.514
		Mean in Original Scale	3.671
		SD in Original Scale	6.204
		95% t UCL	5.282
		95% Percentile Bootstrap UCL	5.329
		95% BCA Bootstrap UCL	5.905
		95% H-UCL	8.036
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.113	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	6.204		
nu star	46.75		
A-D Test Statistic	0.456	Nonparametric Statistics	
5% A-D Critical Value	0.764	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.764	Mean	3.836
5% K-S Critical Value	0.194	SD	6.042
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.955
		95% KM (t) UCL	5.444
Assuming Gamma Distribution		95% KM (z) UCL	5.407
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.424
Minimum	1.00E-06	95% KM (bootstrap t) UCL	6.989
Maximum	30.7	95% KM (BCA) UCL	5.707
Mean	3.453	95% KM (Percentile Bootstrap) UCL	5.607
Median	0.38	95% KM (Chebyshev) UCL	8
SD	6.32	97.5% KM (Chebyshev) UCL	9.802
k star	0.117	99% KM (Chebyshev) UCL	13.34
Theta star	29.6		
Nu star	9.8	Potential UCLs to Use	
AppChi2	3.817	95% KM (t) UCL	5.444
95% Gamma Approximate UCL (Use when n >= 40)	8.865		
95% Adjusted Gamma UCL (Use when n < 40)	9.184		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc

General Statistics (Units in mg/kg)			
Number of Valid Observations	42	Number of Distinct Observations	40
Raw Statistics		Log-transformed Statistics	
Minimum	19.1	Minimum of Log Data	2.95
Maximum	542	Maximum of Log Data	6.295
Mean	168.7	Mean of log Data	4.793
Geometric Mean	120.7	SD of log Data	0.865
Median	128.5		
SD	133		
Std. Error of Mean	20.52		
Coefficient of Variation	0.788		
Skewness	0.956		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.824	Shapiro Wilk Test Statistic	0.881
Shapiro Wilk Critical Value	0.942	Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	203.3	95% H-UCL	236.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	287.4
95% Adjusted-CLT UCL (Chen-1995)	205.7	97.5% Chebyshev (MVUE) UCL	336.8
95% Modified-t UCL (Johnson-1978)	203.8	99% Chebyshev (MVUE) UCL	433.7
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.538	Data do not follow a Discernable Distribution (0.05)	
Theta Star	109.7		
MLE of Mean	168.7		
MLE of Standard Deviation	136		
nu star	129.2		
Approximate Chi Square Value (.05)	104	Nonparametric Statistics	
Adjusted Level of Significance	0.0443	95% CLT UCL	202.5
Adjusted Chi Square Value	103.1	95% Jackknife UCL	203.3
		95% Standard Bootstrap UCL	202.4
Anderson-Darling Test Statistic	1.105	95% Bootstrap-t UCL	206.2
Anderson-Darling 5% Critical Value	0.765	95% Hall's Bootstrap UCL	206.8
Kolmogorov-Smirnov Test Statistic	0.178	95% Percentile Bootstrap UCL	202.5
Kolmogorov-Smirnov 5% Critical Value	0.139	95% BCA Bootstrap UCL	206.8
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	258.2
		97.5% Chebyshev(Mean, Sd) UCL	296.9
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	372.9
95% Approximate Gamma UCL (Use when n >= 40)	209.7		
95% Adjusted Gamma UCL (Use when n < 40)	211.4		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	258.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total DDx

General Statistics (Units in mg/kg)			
Number of Valid Data	34	Number of Detected Data	11
Number of Distinct Detected Data	10	Number of Non-Detect Data	23
		Percent Non-Detects	67.65%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0057	Minimum Detected	-5.167
Maximum Detected	0.0221	Maximum Detected	-3.812
Mean of Detected	0.011	Mean of Detected	-4.605
SD of Detected	0.00535	SD of Detected	0.457
Minimum Non-Detect	0.0015	Minimum Non-Detect	-6.502
Maximum Non-Detect	0.025	Maximum Non-Detect	-3.689
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	34
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.862	Shapiro Wilk Test Statistic	0.917
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00585	Mean	-5.544
SD	0.00526	SD	0.963
95% DL/2 (t) UCL	0.00738	95% H-Stat (DL/2) UCL	0.00931
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.377
		SD in Log Scale	0.617
		Mean in Original Scale	0.00577
		SD in Original Scale	0.00475
		95% t UCL	0.00715
		95% Percentile Bootstrap UCL	0.00711
		95% BCA Bootstrap UCL	0.00746
		95% H-UCL	0.00696
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	3.881	Data appear Normal at 5% Significance Level	
Theta Star	0.00284		
nu star	85.38		
A-D Test Statistic	0.496	Nonparametric Statistics	
5% A-D Critical Value	0.731	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.731	Mean	0.00754
5% K-S Critical Value	0.256	SD	0.00389
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00071811
		95% KM (t) UCL	0.00876
Assuming Gamma Distribution		95% KM (z) UCL	0.00872
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00872
Minimum	0.000001	95% KM (bootstrap t) UCL	0.00933
Maximum	0.0221	95% KM (BCA) UCL	0.00997
Mean	0.00357	95% KM (Percentile Bootstrap) UCL	0.00922
Median	0.000001	95% KM (Chebyshev) UCL	0.0107
SD	0.00601	97.5% KM (Chebyshev) UCL	0.012
k star	0.155	99% KM (Chebyshev) UCL	0.0147
Theta star	0.0231		
Nu star	10.51	Potential UCLs to Use	
AppChi2	4.265	95% KM (t) UCL	0.00876
95% Gamma Approximate UCL (Use when n >= 40)	0.0088	95% KM (Percentile Bootstrap) UCL	0.00922
95% Adjusted Gamma UCL (Use when n < 40)	0.00923		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	11
Number of Distinct Detected Data	10	Number of Non-Detect Data	31
		Percent Non-Detects	73.81%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0797	Minimum Detected	-2.529
Maximum Detected	0.459	Maximum Detected	-0.78
Mean of Detected	0.22	Mean of Detected	-1.693
SD of Detected	0.13	SD of Detected	0.645
Minimum Non-Detect	0.0066	Minimum Non-Detect	-5.021
Maximum Non-Detect	0.25	Maximum Non-Detect	-1.386
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	38
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	90.48%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.9	Shapiro Wilk Test Statistic	0.892
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0956	Mean	-2.958
SD	0.104	SD	1.237
95% DL/2 (t) UCL	0.123	95% H-Stat (DL/2) UCL	0.186
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.026
		SD in Log Scale	0.908
		Mean in Original Scale	0.0811
		SD in Original Scale	0.106
		95% t UCL	0.109
		95% Percentile Bootstrap UCL	0.109
		95% BCA Bootstrap UCL	0.116
		95% H-UCL	0.101
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	2.215	Data appear Normal at 5% Significance Level	
Theta Star	0.0992		
nu star	48.72		
A-D Test Statistic	0.543	Nonparametric Statistics	
5% A-D Critical Value	0.734	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.734	Mean	0.118
5% K-S Critical Value	0.257	SD	0.0882
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0144
		95% KM (t) UCL	0.142
Assuming Gamma Distribution		95% KM (z) UCL	0.142
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.14
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.15
Maximum	0.459	95% KM (BCA) UCL	0.161
Mean	0.0576	95% KM (Percentile Bootstrap) UCL	0.15
Median	1.00E-06	95% KM (Chebyshev) UCL	0.181
SD	0.117	97.5% KM (Chebyshev) UCL	0.208
k star	0.112	99% KM (Chebyshev) UCL	0.261
Theta star	0.513		
Nu star	9.431	Potential UCLs to Use	
AppChi2	3.589	95% KM (t) UCL	0.142
95% Gamma Approximate UCL (Use when n >= 40)	0.151	95% KM (Percentile Bootstrap) UCL	0.15
95% Adjusted Gamma UCL (Use when n < 40)	0.157		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total LMW PAHs

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	33
Number of Distinct Detected Data	33	Number of Non-Detect Data	9
		Percent Non-Detects	21.43%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0187	Minimum Detected	-3.979
Maximum Detected	1.2	Maximum Detected	0.182
Mean of Detected	0.281	Mean of Detected	-1.722
SD of Detected	0.268	SD of Detected	1.047
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	0.088	Maximum Non-Detect	-2.43
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	25
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	40.48%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.819	Shapiro Wilk Test Statistic	0.969
5% Shapiro Wilk Critical Value	0.931	5% Shapiro Wilk Critical Value	0.931
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.226	Mean	-2.239
SD	0.26	SD	1.418
95% DL/2 (t) UCL	0.293	95% H-Stat (DL/2) UCL	0.548
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.14	Mean in Log Scale	-2.173
SD	0.356	SD in Log Scale	1.291
95% MLE (t) UCL	0.232	Mean in Original Scale	0.226
95% MLE (Tiku) UCL	0.244	SD in Original Scale	0.26
		95% t UCL	0.294
		95% Percentile Bootstrap UCL	0.295
		95% BCA Bootstrap UCL	0.307
		95% H UCL	0.451
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.149	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.245		
nu star	75.82		
A-D Test Statistic	0.223	Nonparametric Statistics	
5% A-D Critical Value	0.771	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.771	Mean	0.226
5% K-S Critical Value	0.157	SD	0.256
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0402
		95% KM (t) UCL	0.294
Assuming Gamma Distribution		95% KM (z) UCL	0.293
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.293
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.309
Maximum	1.2	95% KM (BCA) UCL	0.296
Mean	0.221	95% KM (Percentile Bootstrap) UCL	0.302
Median	0.142	95% KM (Chebyshev) UCL	0.402
SD	0.264	97.5% KM (Chebyshev) UCL	0.477
k star	0.251	99% KM (Chebyshev) UCL	0.626
Theta star	0.882		
Nu star	21.05	Potential UCLs to Use	
AppChi2	11.63	95% KM (BCA) UCL	0.296
95% Gamma Approximate UCL (Use when n >= 40)	0.4		
95% Adjusted Gamma UCL (Use when n < 40)	0.409		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total HMW PAHs

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	38
Number of Distinct Detected Data	38	Number of Non-Detect Data	4
		Percent Non-Detects	9.52%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.117	Minimum Detected	-2.147
Maximum Detected	15	Maximum Detected	2.708
Mean of Detected	2.914	Mean of Detected	0.501
SD of Detected	3.361	SD of Detected	1.17
Minimum Non-Detect	0.017	Minimum Non-Detect	-4.075
Maximum Non-Detect	0.081	Maximum Non-Detect	-2.513
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	38
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	9.52%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.709	Shapiro Wilk Test Statistic	0.967
5% Shapiro Wilk Critical Value	0.938	5% Shapiro Wilk Critical Value	0.938
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.638	Mean	0.0394
SD	3.307	SD	1.831
95% DL/2 (t) UCL	3.496	95% H-Stat (DL/2) UCL	14.77
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.444	Mean in Log Scale	0.252
SD	3.512	SD in Log Scale	1.358
95% MLE (t) UCL	3.356	Mean in Original Scale	2.648
95% MLE (Tiku) UCL	3.313	SD in Original Scale	3.299
		95% t UCL	3.504
		95% Percentile Bootstrap UCL	3.535
		95% BCA Bootstrap UCL	3.715
		95% H UCL	5.83
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.952	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.061		
nu star	72.35		
A-D Test Statistic	0.312	Nonparametric Statistics	
5% A-D Critical Value	0.777	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.777	Mean	2.647
5% K-S Critical Value	0.147	SD	3.26
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.51
		95% KM (t) UCL	3.505
Assuming Gamma Distribution		95% KM (z) UCL	3.486
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.503
Minimum	1.00E-06	95% KM (bootstrap t) UCL	3.92
Maximum	15	95% KM (BCA) UCL	3.568
Mean	2.636	95% KM (Percentile Bootstrap) UCL	3.518
Median	1.67	95% KM (Chebyshev) UCL	4.869
SD	3.309	97.5% KM (Chebyshev) UCL	5.831
k star	0.355	99% KM (Chebyshev) UCL	7.72
Theta star	7.435		
Nu star	29.78	Potential UCLs to Use	
AppChi2	18.32	95% KM (Chebyshev) UCL	4.869
95% Gamma Approximate UCL (Use when n >= 40)	4.285		
95% Adjusted Gamma UCL (Use when n < 40)	4.361		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acetone

General Statistics (Units in mg/kg)

Number of Valid Data	3	Number of Detected Data		2
Number of Distinct Detected Data	2	Number of Non-Detect Data		1
		Percent Non-Detects	33.33%	

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Acetone was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Acenaphthene

General Statistics (Units in mg/kg)

Number of Valid Data	3	Number of Detected Data		1
Number of Distinct Detected Data	1	Number of Non-Detect Data		2
		Percent Non-Detects	66.67%	

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Acenaphthene was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	3	Number of Detected Data		1
Number of Distinct Detected Data	1	Number of Non-Detect Data		2
		Percent Non-Detects	66.67%	

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Anthracene was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Arsenic was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Benzo(a)anthracene

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Benzo(a)anthracene was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Benzo(a)pyrene

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Benzo(a)pyrene was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Benzo(g,h,I)perylene

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Benzo(g,h,I)perylene was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Benzo(k)fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Benzo(k)fluoranthene was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Bis(2-ethylhexyl)phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	3	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	1
		Percent Non-Detects	33.33%

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Bis(2-ethylhexyl)phthalate was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Chrysene

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Chrysene was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Dibenzo(a,h)anthracene

General Statistics (Units in mg/kg)

Number of Valid Data	3	Number of Detected Data		2
Number of Distinct Detected Data	2	Number of Non-Detect Data		1
		Percent Non-Detects	33.33%	

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Dibenzo(a,h)anthracene was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Fluoranthene

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Fluoranthene was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Indeno(1,2,3-cd)pyrene

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Indeno(1,2,3-cd)pyrene was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Phenanthrene

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Phenanthrene was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Pyrene

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Pyrene was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Total Chlordane

General Statistics (Units in mg/kg)			
Number of Valid Data	22	Number of Detected Data	14
Number of Distinct Detected Data	14	Number of Non-Detect Data	8
		Percent Non-Detects	36.36%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0123	Minimum Detected	-4.398
Maximum Detected	0.3	Maximum Detected	-1.204
Mean of Detected	0.13	Mean of Detected	-2.342
SD of Detected	0.0896	SD of Detected	0.902
Minimum Non-Detect	0.0052	Minimum Non-Detect	-5.259
Maximum Non-Detect	0.053	Maximum Non-Detect	-2.937
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	54.55%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.939	Shapiro Wilk Test Statistic	0.933
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0863	Mean	-3.24
SD	0.092	SD	1.467
95% DL/2 (t) UCL	0.12	95% H-Stat (DL/2) UCL	0.329
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0418	Mean in Log Scale	-3.071
SD	0.141	SD in Log Scale	1.248
95% MLE (t) UCL	0.0934	Mean in Original Scale	0.0878
95% MLE (Tiku) UCL	0.109	SD in Original Scale	0.0907
		95% t UCL	0.121
		95% Percentile Bootstrap UCL	0.12
		95% BCA Bootstrap UCL	0.124
		95% H UCL	0.225
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.472	Data appear Normal at 5% Significance Level	
Theta Star	0.0883		
nu star	41.21		
A-D Test Statistic	0.243	Nonparametric Statistics	
5% A-D Critical Value	0.748	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.748	Mean	0.0875
5% K-S Critical Value	0.232	SD	0.0889
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0197
		95% KM (t) UCL	0.121
Assuming Gamma Distribution		95% KM (z) UCL	0.12
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.118
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.124
Maximum	0.3	95% KM (BCA) UCL	0.131
Mean	0.0827	95% KM (Percentile Bootstrap) UCL	0.124
Median	0.043	95% KM (Chebyshev) UCL	0.173
SD	0.0952	97.5% KM (Chebyshev) UCL	0.21
k star	0.19	99% KM (Chebyshev) UCL	0.283
Theta star	0.434		
Nu star	8.371	Potential UCLs to Use	
AppChi2	2.952	95% KM (t) UCL	0.121
95% Gamma Approximate UCL (Use when n >= 40)	0.234	95% KM (Percentile Bootstrap) UCL	0.124
95% Adjusted Gamma UCL (Use when n < 40)	0.255		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total DDx

General Statistics (Units in mg/kg)

Number of Valid Data	22	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	17
		Percent Non-Detects	77.27%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0141	Minimum Detected	-4.262
Maximum Detected	0.299	Maximum Detected	-1.207
Mean of Detected	0.115	Mean of Detected	-2.57
SD of Detected	0.109	SD of Detected	1.106
Minimum Non-Detect	0.0052	Minimum Non-Detect	-5.259
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	90.91%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.845	Shapiro Wilk Test Statistic	0.95
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.046	Mean	-3.579
SD	0.0621	SD	1.022
95% DL/2 (t) UCL	0.0688	95% H-Stat (DL/2) UCL	0.0843

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.738
		SD in Log Scale	1.373
		Mean in Original Scale	0.0302
		SD in Original Scale	0.0669
		95% t UCL	0.0547
		95% Percentile Bootstrap UCL	0.0558
		95% BCA Bootstrap UCL	0.0682
		95% H-UCL	0.0576

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.681	Data appear Normal at 5% Significance Level
Theta Star	0.169	
nu star	6.811	

		Nonparametric Statistics	
A-D Test Statistic	0.257		
5% A-D Critical Value	0.688	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.688	Mean	0.0384
5% K-S Critical Value	0.362	SD	0.0629
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0152
		95% KM (t) UCL	0.0645
Assuming Gamma Distribution		95% KM (z) UCL	0.0634
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0716
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0723
Maximum	0.299	95% KM (BCA) UCL	0.12
Mean	0.0261	95% KM (Percentile Bootstrap) UCL	0.11
Median	1.00E-06	95% KM (Chebyshev) UCL	0.105
SD	0.0685	97.5% KM (Chebyshev) UCL	0.133
k star	0.122	99% KM (Chebyshev) UCL	0.189
Theta star	0.215		
Nu star	5.356	Potential UCLs to Use	
AppChi2	1.32	95% KM (t) UCL	0.0645
95% Gamma Approximate UCL (Use when n >= 40)	0.106	95% KM (Percentile Bootstrap) UCL	0.11
95% Adjusted Gamma UCL (Use when n < 40)	0.119		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor epoxide

General Statistics (Units in mg/kg)

Number of Valid Data	22	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	21
		Percent Non-Detects	95.45%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Heptachlor epoxide was not processed!

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Cadmium was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Chromium

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Chromium was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Copper

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Copper was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Lead was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Mercury

General Statistics (Units in mg/kg)

Number of Valid Data	3	Number of Detected Data		2
Number of Distinct Detected Data	2	Number of Non-Detect Data		1
		Percent Non-Detects	33.33%	

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Mercury was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Nickel

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Nickel was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Silver

General Statistics (Units in mg/kg)

Number of Valid Data	3	Number of Detected Data		1
Number of Distinct Detected Data	1	Number of Non-Detect Data		2
		Percent Non-Detects	66.67%	

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Silver was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Zinc

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Zinc was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Total LMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Total LMW PAHs was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Total HMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Total HMW PAHs was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Total PCBs

General Statistics (Units in mg/kg)

Number of Valid Data	22	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	21
		Percent Non-Detects	95.45%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Total PCBs was not processed!

Surface Soil

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	12	Number of Distinct Observations	12

Raw Statistics		Log-transformed Statistics	
Minimum	6860	Minimum of Log Data	8.833
Maximum	36900	Maximum of Log Data	10.52
Mean	19802	Mean of log Data	9.777
Geometric Mean	17623	SD of log Data	0.516
Median	16200		
SD	9746		
Std. Error of Mean	2814		
Coefficient of Variation	0.492		
Skewness	0.607		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.927	Shapiro Wilk Test Statistic	0.965
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	24854	95% H-UCL	28180
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	33128
95% Adjusted-CLT UCL (Chen-1995)	24956	97.5% Chebyshev (MVUE) UCL	38856
95% Modified-t UCL (Johnson-1978)	24937	99% Chebyshev (MVUE) UCL	50109

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.392	Data appear Normal at 5% Significance Level	
Theta Star	5838		
MLE of Mean	19802		
MLE of Standard Deviation	10752		
nu star	81.41		
Approximate Chi Square Value (.05)	61.61	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	24430
Adjusted Chi Square Value	58.99	95% Jackknife UCL	24854
		95% Standard Bootstrap UCL	24388
Anderson-Darling Test Statistic	0.246	95% Bootstrap-t UCL	26114
Anderson-Darling 5% Critical Value	0.734	95% Hall's Bootstrap UCL	25164
Kolmogorov-Smirnov Test Statistic	0.15	95% Percentile Bootstrap UCL	24363
Kolmogorov-Smirnov 5% Critical Value	0.246	95% BCA Bootstrap UCL	24788
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	32066
		97.5% Chebyshev(Mean, Sd) UCL	37372
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	47796
95% Approximate Gamma UCL (Use when n >= 40)	26162		
95% Adjusted Gamma UCL (Use when n < 40)	27325		

Potential UCL to Use	Use 95% Student's-t UCL	24854

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Observations	12	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	0.27	Minimum of Log Data	-1.309
Maximum	1.9	Maximum of Log Data	0.642
Mean	0.805	Mean of log Data	-0.406
Geometric Mean	0.667	SD of log Data	0.64
Median	0.675		
SD	0.522		
Std. Error of Mean	0.151		
Coefficient of Variation	0.649		
Skewness	0.999		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.881	Shapiro Wilk Test Statistic	0.947
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.075	95% H-UCL	1.283
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.472
95% Adjusted-CLT UCL (Chen-1995)	1.099	97.5% Chebyshev (MVUE) UCL	1.762
95% Modified-t UCL (Johnson-1978)	1.083	99% Chebyshev (MVUE) UCL	2.332

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.166	Data appear Normal at 5% Significance Level	
Theta Star	0.371		
MLE of Mean	0.805		
MLE of Standard Deviation	0.547		
nu star	51.98		
Approximate Chi Square Value (.05)	36.42	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	1.053
Adjusted Chi Square Value	34.44	95% Jackknife UCL	1.075
		95% Standard Bootstrap UCL	1.04
Anderson-Darling Test Statistic	0.375	95% Bootstrap-t UCL	1.137
Anderson-Darling 5% Critical Value	0.739	95% Hall's Bootstrap UCL	1.146
Kolmogorov-Smirnov Test Statistic	0.183	95% Percentile Bootstrap UCL	1.057
Kolmogorov-Smirnov 5% Critical Value	0.248	95% BCA Bootstrap UCL	1.106
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.462
		97.5% Chebyshev(Mean, Sd) UCL	1.747
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.305
95% Approximate Gamma UCL (Use when n >= 40)	1.148		
95% Adjusted Gamma UCL (Use when n < 40)	1.214		

Potential UCL to Use	Use 95% Student's-t UCL	1.075

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units are in mg/kg)

Number of Valid Observations	12	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	4.9	Minimum of Log Data	1.589
Maximum	21.3	Maximum of Log Data	3.059
Mean	10.85	Mean of log Data	2.309
Geometric Mean	10.06	SD of log Data	0.408
Median	10.03		
SD	4.51		
Std. Error of Mean	1.302		
Coefficient of Variation	0.416		
Skewness	1.042		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.935	Shapiro Wilk Test Statistic	0.989
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	13.19	95% H-UCL	14.04
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16.52
95% Adjusted-CLT UCL (Chen-1995)	13.41	97.5% Chebyshev (MVUE) UCL	18.97
95% Modified-t UCL (Johnson-1978)	13.26	99% Chebyshev (MVUE) UCL	23.78

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.115	Data appear Normal at 5% Significance Level	
Theta Star	2.122		
MLE of Mean	10.85		
MLE of Standard Deviation	4.799		
nu star	122.8		
Approximate Chi Square Value (.05)	98.18	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	13
Adjusted Chi Square Value	94.83	95% Jackknife UCL	13.19
		95% Standard Bootstrap UCL	12.93
Anderson-Darling Test Statistic	0.159	95% Bootstrap-t UCL	13.91
Anderson-Darling 5% Critical Value	0.731	95% Hall's Bootstrap UCL	14.67
Kolmogorov-Smirnov Test Statistic	0.123	95% Percentile Bootstrap UCL	13.08
Kolmogorov-Smirnov 5% Critical Value	0.246	95% BCA Bootstrap UCL	13.24
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16.53
		97.5% Chebyshev(Mean, Sd) UCL	18.99
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23.81
95% Approximate Gamma UCL (Use when n >= 40)	13.57		
95% Adjusted Gamma UCL (Use when n < 40)	14.05		

Potential UCL to Use	Use 95% Student's-t UCL	13.19

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chromium

General Statistics (Units in mg/kg)

Number of Valid Observations	12	Number of Distinct Observations	12

Raw Statistics		Log-transformed Statistics	
Minimum	12.6	Minimum of Log Data	2.534
Maximum	72.8	Maximum of Log Data	4.288
Mean	32.83	Mean of log Data	3.382
Geometric Mean	29.42	SD of log Data	0.49
Median	30.1		
SD	16.58		
Std. Error of Mean	4.786		
Coefficient of Variation	0.505		
Skewness	1.268		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.913	Shapiro Wilk Test Statistic	0.994
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	41.42	95% H-UCL	45.42
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	53.49
95% Adjusted-CLT UCL (Chen-1995)	42.57	97.5% Chebyshev (MVUE) UCL	62.43
95% Modified-t UCL (Johnson-1978)	41.71	99% Chebyshev (MVUE) UCL	80.01

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.599	Data appear Normal at 5% Significance Level	
Theta Star	9.121		
MLE of Mean	32.83		
MLE of Standard Deviation	17.3		
nu star	86.37		
Approximate Chi Square Value (.05)	65.95	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	40.7
Adjusted Chi Square Value	63.23	95% Jackknife UCL	41.42
		95% Standard Bootstrap UCL	40.27
Anderson-Darling Test Statistic	0.138	95% Bootstrap-t UCL	44.4
Anderson-Darling 5% Critical Value	0.733	95% Hall's Bootstrap UCL	50.03
Kolmogorov-Smirnov Test Statistic	0.0947	95% Percentile Bootstrap UCL	40.69
Kolmogorov-Smirnov 5% Critical Value	0.246	95% BCA Bootstrap UCL	42.43
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	53.69
		97.5% Chebyshev(Mean, Sd) UCL	62.71
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	80.45
95% Approximate Gamma UCL (Use when n >= 40)	42.99		
95% Adjusted Gamma UCL (Use when n < 40)	44.84		

Potential UCL to Use	Use 95% Student's-t UCL	41.42

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg)

Number of Valid Observations	12	Number of Distinct Observations	12

Raw Statistics		Log-transformed Statistics	
Minimum	18.1	Minimum of Log Data	2.896
Maximum	129	Maximum of Log Data	4.86
Mean	52.27	Mean of log Data	3.796
Geometric Mean	44.53	SD of log Data	0.593
Median	48.48		
SD	31.76		
Std. Error of Mean	9.168		
Coefficient of Variation	0.608		
Skewness	1.275		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.889	Shapiro Wilk Test Statistic	0.968
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	68.74	95% H-UCL	79.53
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	92.41
95% Adjusted-CLT UCL (Chen-1995)	70.96	97.5% Chebyshev (MVUE) UCL	109.8
95% Modified-t UCL (Johnson-1978)	69.3	99% Chebyshev (MVUE) UCL	144

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.513	Data appear Normal at 5% Significance Level	
Theta Star	20.8		
MLE of Mean	52.27		
MLE of Standard Deviation	32.97		
nu star	60.31		
Approximate Chi Square Value (.05)	43.45	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	67.35
Adjusted Chi Square Value	41.28	95% Jackknife UCL	68.74
		95% Standard Bootstrap UCL	66.69
Anderson-Darling Test Statistic	0.252	95% Bootstrap-t UCL	75.61
Anderson-Darling 5% Critical Value	0.738	95% Hall's Bootstrap UCL	79.29
Kolmogorov-Smirnov Test Statistic	0.163	95% Percentile Bootstrap UCL	67.3
Kolmogorov-Smirnov 5% Critical Value	0.247	95% BCA Bootstrap UCL	70.81
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	92.23
		97.5% Chebyshev(Mean, Sd) UCL	109.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	143.5
95% Approximate Gamma UCL (Use when n >= 40)	72.55		
95% Adjusted Gamma UCL (Use when n < 40)	76.38		

Potential UCL to Use	Use 95% Student's-t UCL	68.74

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

HMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Observations	12	Number of Distinct Observations	12

Raw Statistics		Log-transformed Statistics	
Minimum	0.92	Minimum of Log Data	-0.0834
Maximum	15.17	Maximum of Log Data	2.719
Mean	7.017	Mean of log Data	1.716
Geometric Mean	5.562	SD of log Data	0.785
Median	5.89		
SD	4.484		
Std. Error of Mean	1.294		
Coefficient of Variation	0.639		
Skewness	0.674		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.929	Shapiro Wilk Test Statistic	0.933
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	9.341	95% H-UCL	13.83
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	14.94
95% Adjusted-CLT UCL (Chen-1995)	9.415	97.5% Chebyshev (MVUE) UCL	18.24
95% Modified-t UCL (Johnson-1978)	9.383	99% Chebyshev (MVUE) UCL	24.7

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.784	Data appear Normal at 5% Significance Level	
Theta Star	3.933		
MLE of Mean	7.017		
MLE of Standard Deviation	5.253		
nu star	42.82		
Approximate Chi Square Value (.05)	28.82	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	9.146
Adjusted Chi Square Value	27.07	95% Jackknife UCL	9.341
		95% Standard Bootstrap UCL	9.077
Anderson-Darling Test Statistic	0.209	95% Bootstrap-t UCL	9.731
Anderson-Darling 5% Critical Value	0.741	95% Hall's Bootstrap UCL	9.53
Kolmogorov-Smirnov Test Statistic	0.127	95% Percentile Bootstrap UCL	9.068
Kolmogorov-Smirnov 5% Critical Value	0.248	95% BCA Bootstrap UCL	9.47
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	12.66
		97.5% Chebyshev(Mean, Sd) UCL	15.1
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	19.9
95% Approximate Gamma UCL (Use when n >= 40)	10.43		
95% Adjusted Gamma UCL (Use when n < 40)	11.1		

Potential UCL to Use	Use 95% Student's-t UCL	9.341

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	12	Number of Distinct Observations	12
Raw Statistics		Log-transformed Statistics	
Minimum	43.9	Minimum of Log Data	3.782
Maximum	262	Maximum of Log Data	5.568
Mean	120.6	Mean of log Data	4.622
Geometric Mean	101.7	SD of log Data	0.622
Median	114		
SD	71.3		
Std. Error of Mean	20.58		
Coefficient of Variation	0.591		
Skewness	0.676		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.907	Shapiro Wilk Test Statistic	0.917
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	157.5	95% H-UCL	189.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	219.1
95% Adjusted-CLT UCL (Chen-1995)	158.7	97.5% Chebyshev (MVUE) UCL	261.5
95% Modified-t UCL (Johnson-1978)	158.2	99% Chebyshev (MVUE) UCL	344.7
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.374	Data appear Normal at 5% Significance Level	
Theta Star	50.78		
MLE of Mean	120.6		
MLE of Standard Deviation	78.24		
nu star	56.98		
Approximate Chi Square Value (.05)	40.63	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	154.4
Adjusted Chi Square Value	38.53	95% Jackknife UCL	157.5
		95% Standard Bootstrap UCL	153.5
Anderson-Darling Test Statistic	0.449	95% Bootstrap-t UCL	164.5
Anderson-Darling 5% Critical Value	0.739	95% Hall's Bootstrap UCL	159
Kolmogorov-Smirnov Test Statistic	0.222	95% Percentile Bootstrap UCL	155.8
Kolmogorov-Smirnov 5% Critical Value	0.247	95% BCA Bootstrap UCL	156.6
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	210.3
		97.5% Chebyshev(Mean, Sd) UCL	249.1
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	325.3
95% Approximate Gamma UCL (Use when n >= 40)	169.1		
95% Adjusted Gamma UCL (Use when n < 40)	178.3		
Potential UCL to Use		Use 95% Student's-t UCL	157.5

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	12	Number of Distinct Observations	12

Raw Statistics		Log-transformed Statistics	
Minimum	191	Minimum of Log Data	5.252
Maximum	1150	Maximum of Log Data	7.048
Mean	562	Mean of log Data	6.212
Geometric Mean	498.6	SD of log Data	0.52
Median	472		
SD	284.9		
Std. Error of Mean	82.25		
Coefficient of Variation	0.507		
Skewness	0.812		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.94	Shapiro Wilk Test Statistic	0.987
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	709.7	95% H-UCL	801.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	941.9
95% Adjusted-CLT UCL (Chen-1995)	717.9	97.5% Chebyshev (MVUE) UCL	1106
95% Modified-t UCL (Johnson-1978)	712.9	99% Chebyshev (MVUE) UCL	1427

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.309	Data appear Normal at 5% Significance Level	
Theta Star	169.9		
MLE of Mean	562		
MLE of Standard Deviation	309		
nu star	79.41		
Approximate Chi Square Value (.05)	59.88	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	697.3
Adjusted Chi Square Value	57.3	95% Jackknife UCL	709.7
		95% Standard Bootstrap UCL	691.4
Anderson-Darling Test Statistic	0.158	95% Bootstrap-t UCL	754.3
Anderson-Darling 5% Critical Value	0.735	95% Hall's Bootstrap UCL	724.3
Kolmogorov-Smirnov Test Statistic	0.131	95% Percentile Bootstrap UCL	702.9
Kolmogorov-Smirnov 5% Critical Value	0.246	95% BCA Bootstrap UCL	700.3
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	920.5
		97.5% Chebyshev(Mean, Sd) UCL	1076
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1380
95% Approximate Gamma UCL (Use when n >= 40)	745.3		
95% Adjusted Gamma UCL (Use when n < 40)	778.9		

Potential UCL to Use	Use 95% Student's-t UCL	709.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics (Units in mg/kg)

Number of Valid Observations	12	Number of Distinct Observations	11

Raw Statistics		Log-transformed Statistics	
Minimum	0.11	Minimum of Log Data	-2.207
Maximum	4.5	Maximum of Log Data	1.504
Mean	0.732	Mean of log Data	-0.962
Geometric Mean	0.382	SD of log Data	1.042
Median	0.285		
SD	1.218		
Std. Error of Mean	0.352		
Coefficient of Variation	1.665		
Skewness	3.164		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.517	Shapiro Wilk Test Statistic	0.904
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.363	95% H-UCL	1.683
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.486
95% Adjusted-CLT UCL (Chen-1995)	1.653	97.5% Chebyshev (MVUE) UCL	1.862
95% Modified-t UCL (Johnson-1978)	1.417	99% Chebyshev (MVUE) UCL	2.6

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.73	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	1.002		
MLE of Mean	0.732		
MLE of Standard Deviation	0.856		
nu star	17.52		
Approximate Chi Square Value (.05)	9.048	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	1.31
Adjusted Chi Square Value	8.134	95% Jackknife UCL	1.363
		95% Standard Bootstrap UCL	1.284
Anderson-Darling Test Statistic	1.012	95% Bootstrap-t UCL	3.104
Anderson-Darling 5% Critical Value	0.76	95% Hall's Bootstrap UCL	3.288
Kolmogorov-Smirnov Test Statistic	0.235	95% Percentile Bootstrap UCL	1.37
Kolmogorov-Smirnov 5% Critical Value	0.253	95% BCA Bootstrap UCL	1.761
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.264
		97.5% Chebyshev(Mean, Sd) UCL	2.927
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4.23
95% Approximate Gamma UCL (Use when n >= 40)	1.417		
95% Adjusted Gamma UCL (Use when n < 40)	1.576		

Potential UCL to Use	Use 95% Approximate Gamma UCL	1.417

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics (Units in mg/kg)			
Number of Valid Data	12	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	2
		Percent Non-Detects	16.67%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.021	Minimum Detected	-3.863
Maximum Detected	0.127	Maximum Detected	-2.068
Mean of Detected	0.0618	Mean of Detected	-2.974
SD of Detected	0.0399	SD of Detected	0.651
Minimum Non-Detect	0.018	Minimum Non-Detect	-4.017
Maximum Non-Detect	0.022	Maximum Non-Detect	-3.817
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	25.00%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.857	Shapiro Wilk Test Statistic	0.928
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0531	Mean	-3.247
SD	0.0414	SD	0.869
95% DL/2 (t) UCL	0.0746	95% H-Stat (DL/2) UCL	0.115
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0478	Mean in Log Scale	-3.213
SD	0.047	SD in Log Scale	0.815
95% MLE (t) UCL	0.0722	Mean in Original Scale	0.0535
95% MLE (Tiku) UCL	0.073	SD in Original Scale	0.0409
		95% t UCL	0.0747
		95% Percentile Bootstrap UCL	0.0722
		95% BCA Bootstrap UCL	0.0741
		95% H UCL	0.106
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	2.024	Data appear Normal at 5% Significance Level	
Theta Star	0.0305		
nu star	40.47		
A-D Test Statistic	0.419	Nonparametric Statistics	
5% A-D Critical Value	0.733	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.733	Mean	0.055
5% K-S Critical Value	0.269	SD	0.0378
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0115
		95% KM (t) UCL	0.0756
Assuming Gamma Distribution		95% KM (z) UCL	0.0739
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0752
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0823
Maximum	0.127	95% KM (BCA) UCL	0.0756
Mean	0.0515	95% KM (Percentile Bootstrap) UCL	0.0743
Median	0.0375	95% KM (Chebyshev) UCL	0.105
SD	0.0434	97.5% KM (Chebyshev) UCL	0.127
k star	0.331	99% KM (Chebyshev) UCL	0.169
Theta star	0.155		
Nu star	7.952	Potential UCLs to Use	
AppChi2	2.708	95% KM (t) UCL	0.0756
95% Gamma Approximate UCL (Use when n >= 40)	0.151	95% KM (Percentile Bootstrap) UCL	0.0743
95% Adjusted Gamma UCL (Use when n < 40)	0.181		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	12	Number of Distinct Observations	12

Raw Statistics		Log-transformed Statistics	
Minimum	15.6	Minimum of Log Data	2.747
Maximum	80.3	Maximum of Log Data	4.386
Mean	42.88	Mean of log Data	3.649
Geometric Mean	38.42	SD of log Data	0.499
Median	36.9		
SD	20.61		
Std. Error of Mean	5.951		
Coefficient of Variation	0.481		
Skewness	0.662		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.935	Shapiro Wilk Test Statistic	0.976
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	53.56	95% H-UCL	60.01
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	70.64
95% Adjusted-CLT UCL (Chen-1995)	53.88	97.5% Chebyshev (MVUE) UCL	82.6
95% Modified-t UCL (Johnson-1978)	53.75	99% Chebyshev (MVUE) UCL	106.1

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.598	Data appear Normal at 5% Significance Level	
Theta Star	11.92		
MLE of Mean	42.88		
MLE of Standard Deviation	22.6		
nu star	86.34		
Approximate Chi Square Value (.05)	65.92	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	52.66
Adjusted Chi Square Value	63.21	95% Jackknife UCL	53.56
		95% Standard Bootstrap UCL	52.42
Anderson-Darling Test Statistic	0.181	95% Bootstrap-t UCL	55.55
Anderson-Darling 5% Critical Value	0.733	95% Hall's Bootstrap UCL	52.72
Kolmogorov-Smirnov Test Statistic	0.119	95% Percentile Bootstrap UCL	52.85
Kolmogorov-Smirnov 5% Critical Value	0.246	95% BCA Bootstrap UCL	53.1
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	68.81
		97.5% Chebyshev(Mean, Sd) UCL	80.04
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	102.1
95% Approximate Gamma UCL (Use when n >= 40)	56.16		
95% Adjusted Gamma UCL (Use when n < 40)	58.57		

Potential UCL to Use	Use 95% Student's-t UCL	53.56

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Zinc

General Statistics (Units in mg/kg)			
Number of Valid Observations	12	Number of Distinct Observations	12
Raw Statistics		Log-transformed Statistics	
Minimum	48.3	Minimum of Log Data	3.877
Maximum	301	Maximum of Log Data	5.707
Mean	120.4	Mean of log Data	4.635
Geometric Mean	103	SD of log Data	0.569
Median	96.8		
SD	75.82		
Std. Error of Mean	21.89		
Coefficient of Variation	0.63		
Skewness	1.471		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.85	Shapiro Wilk Test Statistic	0.962
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	159.7	95% H-UCL	177.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	207.2
95% Adjusted-CLT UCL (Chen-1995)	166.4	97.5% Chebyshev (MVUE) UCL	245.2
95% Modified-t UCL (Johnson-1978)	161.3	99% Chebyshev (MVUE) UCL	320
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.577	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	46.74		
MLE of Mean	120.4		
MLE of Standard Deviation	75.03		
nu star	61.84		
Approximate Chi Square Value (.05)	44.75	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	156.4
Adjusted Chi Square Value	42.54	95% Jackknife UCL	159.7
		95% Standard Bootstrap UCL	154.1
Anderson-Darling Test Statistic	0.312	95% Bootstrap-t UCL	188.6
Anderson-Darling 5% Critical Value	0.738	95% Hall's Bootstrap UCL	231.5
Kolmogorov-Smirnov Test Statistic	0.124	95% Percentile Bootstrap UCL	157.6
Kolmogorov-Smirnov 5% Critical Value	0.247	95% BCA Bootstrap UCL	165.2
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	215.8
		97.5% Chebyshev(Mean, Sd) UCL	257.1
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	338.2
95% Approximate Gamma UCL (Use when n >= 40)	166.4		
95% Adjusted Gamma UCL (Use when n < 40)	175.1		
Potential UCL to Use		Use 95% Approximate Gamma UCL	166.4

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aldrin

General Statistics (Units in mg/kg)

Number of Valid Data	4	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	3
		Percent Non-Detects	75.00%

Warning: This data set only has 4 observations!
Data set is too small to compute reliable and meaningful statistics and estimates
The data set for variable Aldrin was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results

Aluminum

General Statistics (Units in mg/kg) (Units in mg/kg)

Number of Valid Observations	27	Number of Distinct Observations	25

Raw Statistics		Log-transformed Statistics	
Minimum	6590	Minimum of Log Data	8.793
Maximum	27050	Maximum of Log Data	10.21
Mean	12631	Mean of log Data	9.389
Geometric Mean	11954	SD of log Data	0.331
Median	11600		
SD	4568		
Std. Error of Mean	879.1		
Coefficient of Variation	0.362		
Skewness	1.437		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.887	Shapiro Wilk Test Statistic	0.971
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	14130	95% H-UCL	14232
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16169
95% Adjusted-CLT UCL (Chen-1995)	14337	97.5% Chebyshev (MVUE) UCL	17713
95% Modified-t UCL (Johnson-1978)	14171	99% Chebyshev (MVUE) UCL	20746

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	8.234	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1534		
MLE of Mean	12631		
MLE of Standard Deviation	4402		
nu star	444.7		
Approximate Chi Square Value (.05)	396.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	14077
Adjusted Chi Square Value	393.9	95% Jackknife UCL	14130
		95% Standard Bootstrap UCL	14051
Anderson-Darling Test Statistic	0.46	95% Bootstrap-t UCL	14499
Anderson-Darling 5% Critical Value	0.744	95% Hall's Bootstrap UCL	14531
Kolmogorov-Smirnov Test Statistic	0.135	95% Percentile Bootstrap UCL	14084
Kolmogorov-Smirnov 5% Critical Value	0.168	95% BCA Bootstrap UCL	14312
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16463
		97.5% Chebyshev(Mean, Sd) UCL	18121
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	21378
95% Approximate Gamma UCL (Use when n >= 40)	14155		
95% Adjusted Gamma UCL (Use when n < 40)	14259		

Potential UCL to Use	Use 95% Approximate Gamma UCL	14155

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Antimony

General Statistics (Units in mg/kg)

Number of Valid Data	27	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	20
		Percent Non-Detects	74.07%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.18	Minimum Detected	-1.715
Maximum Detected	1.7	Maximum Detected	0.531
Mean of Detected	0.619	Mean of Detected	-0.848
SD of Detected	0.596	SD of Detected	0.899
Minimum Non-Detect	0.01	Minimum Non-Detect	-4.605
Maximum Non-Detect	0.059	Maximum Non-Detect	-2.83

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	7
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	74.07%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.782	Shapiro Wilk Test Statistic	0.879
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.18	Mean	-2.961
SD	0.39	SD	1.424
95% DL/2 (t) UCL	0.308	95% H-Stat (DL/2) UCL	0.341

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.558
		SD in Log Scale	2.09
		Mean in Original Scale	0.178
		SD in Original Scale	0.391
		95% t UCL	0.306
		95% Percentile Bootstrap UCL	0.315
		95% BCA Bootstrap UCL	0.375
		95% H-UCL	1.405

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.956	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.647	
nu star	13.38	

		Nonparametric Statistics	
A-D Test Statistic	0.555		
5% A-D Critical Value	0.721	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.721	Mean	0.294
5% K-S Critical Value	0.317	SD	0.341
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0708
		95% KM (t) UCL	0.414
Assuming Gamma Distribution		95% KM (z) UCL	0.41
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.402
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.757
Maximum	1.7	95% KM (BCA) UCL	0.5
Mean	0.16	95% KM (Percentile Bootstrap) UCL	0.44
Median	1.00E-06	95% KM (Chebyshev) UCL	0.602
SD	0.398	97.5% KM (Chebyshev) UCL	0.736
k star	0.109	99% KM (Chebyshev) UCL	0.998
Theta star	1.472		
Nu star	5.884	Potential UCLs to Use	
AppChi2	1.581	95% KM (t) UCL	0.414
95% Gamma Approximate UCL (Use when n >= 40)	0.597		
95% Adjusted Gamma UCL (Use when n < 40)	0.654		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Gamma BHC (Lindane)

General Statistics (Units in mg/kg)

Number of Valid Data	4	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	3
		Percent Non-Detects	75.00%

Warning: This data set only has 4 observations!
Data set is too small to compute reliable and meaningful statistics and estimates
The data set for variable Gamma BHC (Lindane) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	27	Number of Detected Data	18
Number of Distinct Detected Data	17	Number of Non-Detect Data	9
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.14	Minimum Detected	-1.966
Maximum Detected	5.6	Maximum Detected	1.723
Mean of Detected	1.864	Mean of Detected	0.163
SD of Detected	1.612	SD of Detected	1.105
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.019	Maximum Non-Detect	-3.963

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	18
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.885	Shapiro Wilk Test Statistic	0.939
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.246	Mean	-1.61
SD	1.579	SD	2.763
95% DL/2 (t) UCL	1.764	95% H-Stat (DL/2) UCL	163.4

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.768	Mean in Log Scale	-0.707
SD	2.116	SD in Log Scale	1.581
95% MLE (t) UCL	1.463	Mean in Original Scale	1.277
95% MLE (Tiku) UCL	1.516	SD in Original Scale	1.555
		95% t UCL	1.787
		95% Percentile Bootstrap UCL	1.784
		95% BCA Bootstrap UCL	1.863
		95% H UCL	4.88

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.06	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.759	
nu star	38.16	

A-D Test Statistic	0.281	Nonparametric Statistics	
5% A-D Critical Value	0.762	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.762	Mean	1.29
5% K-S Critical Value	0.208	SD	1.515
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.3
		95% KM (t) UCL	1.801
Assuming Gamma Distribution		95% KM (z) UCL	1.783
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.794
Minimum	0.000001	95% KM (bootstrap t) UCL	1.934
Maximum	5.6	95% KM (BCA) UCL	1.846
Mean	1.243	95% KM (Percentile Bootstrap) UCL	1.799
Median	0.69	95% KM (Chebyshev) UCL	2.598
SD	1.581	97.5% KM (Chebyshev) UCL	3.164
k star	0.168	99% KM (Chebyshev) UCL	4.276
Theta star	7.395		
Nu star	9.076	Potential UCLs to Use	
AppChi2	3.373	95% KM (Percentile Bootstrap) UCL	1.799
95% Gamma Approximate UCL (Use when n >= 40)	3.345		
95% Adjusted Gamma UCL (Use when n < 40)	3.577		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total Chlordane

General Statistics (Units in mg/kg)

Number of Valid Data	4	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	1
		Percent Non-Detects	25.00%

Warning: This data set only has 4 observations!
Data set is too small to compute reliable and meaningful statistics and estimates
The data set for variable Total Chlordane was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results

Chromium

General Statistics (Units in mg/kg) (Units in mg/kg)			
Number of Valid Observations	27	Number of Distinct Observations	27
Raw Statistics		Log-transformed Statistics	
Minimum	10.3	Minimum of Log Data	2.332
Maximum	128	Maximum of Log Data	4.852
Mean	30.56	Mean of log Data	3.231
Geometric Mean	25.29	SD of log Data	0.595
Median	25.7		
SD	23.4		
Std. Error of Mean	4.504		
Coefficient of Variation	0.766		
Skewness	2.947		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.706	Shapiro Wilk Test Statistic	0.955
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	38.24	95% H-UCL	38.36
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	45.77
95% Adjusted-CLT UCL (Chen-1995)	40.7	97.5% Chebyshev (MVUE) UCL	52.61
95% Modified-t UCL (Johnson-1978)	38.67	99% Chebyshev (MVUE) UCL	66.05
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.513	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	12.16		
MLE of Mean	30.56		
MLE of Standard Deviation	19.28		
nu star	135.7		
Approximate Chi Square Value (.05)	109.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	37.97
Adjusted Chi Square Value	108.3	95% Jackknife UCL	38.24
		95% Standard Bootstrap UCL	37.82
Anderson-Darling Test Statistic	0.598	95% Bootstrap-t UCL	43.42
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	72.61
Kolmogorov-Smirnov Test Statistic	0.131	95% Percentile Bootstrap UCL	38.37
Kolmogorov-Smirnov 5% Critical Value	0.17	95% BCA Bootstrap UCL	41.05
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	50.19
		97.5% Chebyshev(Mean, Sd) UCL	58.69
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	75.37
95% Approximate Gamma UCL (Use when n >= 40)	37.77		
95% Adjusted Gamma UCL (Use when n < 40)	38.29		
Potential UCL to Use		Use 95% Approximate Gamma UCL	37.77

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg) (Units in mg/kg)			
Number of Valid Observations	27	Number of Distinct Observations	25
Raw Statistics		Log-transformed Statistics	
Minimum	2.5	Minimum of Log Data	0.916
Maximum	27.8	Maximum of Log Data	3.325
Mean	10.86	Mean of log Data	2.226
Geometric Mean	9.265	SD of log Data	0.596
Median	10.2		
SD	6.064		
Std. Error of Mean	1.167		
Coefficient of Variation	0.558		
Skewness	0.87		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.932	Shapiro Wilk Test Statistic	0.973
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	12.85	95% H-UCL	14.07
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16.79
95% Adjusted-CLT UCL (Chen-1995)	12.99	97.5% Chebyshev (MVUE) UCL	19.3
95% Modified-t UCL (Johnson-1978)	12.89	99% Chebyshev (MVUE) UCL	24.24
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.958	Data appear Normal at 5% Significance Level	
Theta Star	3.673		
MLE of Mean	10.86		
MLE of Standard Deviation	6.317		
nu star	159.7		
Approximate Chi Square Value (.05)	131.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	12.78
Adjusted Chi Square Value	129.9	95% Jackknife UCL	12.85
		95% Standard Bootstrap UCL	12.76
Anderson-Darling Test Statistic	0.268	95% Bootstrap-t UCL	13.14
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	13.23
Kolmogorov-Smirnov Test Statistic	0.0956	95% Percentile Bootstrap UCL	12.76
Kolmogorov-Smirnov 5% Critical Value	0.169	95% BCA Bootstrap UCL	12.88
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	15.95
		97.5% Chebyshev(Mean, Sd) UCL	18.15
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	22.47
95% Approximate Gamma UCL (Use when n >= 40)	13.19		
95% Adjusted Gamma UCL (Use when n < 40)	13.36		
Potential UCL to Use		Use 95% Student's-t UCL	12.85

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg) (Units in mg/kg)			
Number of Valid Observations	27	Number of Distinct Observations	26
Raw Statistics		Log-transformed Statistics	
Minimum	10.5	Minimum of Log Data	2.351
Maximum	136	Maximum of Log Data	4.913
Mean	46.77	Mean of log Data	3.63
Geometric Mean	37.7	SD of log Data	0.696
Median	38.1		
SD	30.6		
Std. Error of Mean	5.89		
Coefficient of Variation	0.654		
Skewness	1.111		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk Test Statistic	0.969
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	56.81	95% H-UCL	64.48
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	77.42
95% Adjusted-CLT UCL (Chen-1995)	57.8	97.5% Chebyshev (MVUE) UCL	90.35
95% Modified-t UCL (Johnson-1978)	57.02	99% Chebyshev (MVUE) UCL	115.8
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.224	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	21.03		
MLE of Mean	46.77		
MLE of Standard Deviation	31.36		
nu star	120.1		
Approximate Chi Square Value (.05)	95.79	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	56.45
Adjusted Chi Square Value	94.4	95% Jackknife UCL	56.81
		95% Standard Bootstrap UCL	56.32
Anderson-Darling Test Statistic	0.18	95% Bootstrap-t UCL	58.06
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	58.97
Kolmogorov-Smirnov Test Statistic	0.0919	95% Percentile Bootstrap UCL	56.72
Kolmogorov-Smirnov 5% Critical Value	0.17	95% BCA Bootstrap UCL	57.42
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	72.44
		97.5% Chebyshev(Mean, Sd) UCL	83.55
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	105.4
95% Approximate Gamma UCL (Use when n >= 40)	58.63		
95% Adjusted Gamma UCL (Use when n < 40)	59.49		
Potential UCL to Use		Use 95% Approximate Gamma UCL	58.63

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cyanide

General Statistics (Units in mg/kg)			
Number of Valid Data	27	Number of Detected Data	20
Number of Distinct Detected Data	18	Number of Non-Detect Data	7
		Percent Non-Detects	25.93%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.2	Minimum Detected	-1.609
Maximum Detected	4	Maximum Detected	1.386
Mean of Detected	1.181	Mean of Detected	-0.247
SD of Detected	1.208	SD of Detected	0.897
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.72	Shapiro Wilk Test Statistic	0.913
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.875	Mean	-1.794
SD	1.159	SD	2.773
95% DL/2 (t) UCL	1.255	95% H-Stat (DL/2) UCL	142.8
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.633	Mean in Log Scale	-0.798
SD	1.425	SD in Log Scale	1.245
95% MLE (t) UCL	1.1	Mean in Original Scale	0.901
95% MLE (Tiku) UCL	1.114	SD in Original Scale	1.14
		95% t UCL	1.275
		95% Percentile Bootstrap UCL	1.271
		95% BCA Bootstrap UCL	1.369
		95% H UCL	1.961
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.184	Data appear Lognormal at 5% Significance Level	
Theta Star	0.997		
nu star	47.37		
A-D Test Statistic	1.288	Nonparametric Statistics	
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	0.926
5% K-S Critical Value	0.198	SD	1.101
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.217
		95% KM (t) UCL	1.297
Assuming Gamma Distribution		95% KM (z) UCL	1.284
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.285
Minimum	0.000001	95% KM (bootstrap t) UCL	1.445
Maximum	4	95% KM (BCA) UCL	1.339
Mean	0.874	95% KM (Percentile Bootstrap) UCL	1.323
Median	0.48	95% KM (Chebyshev) UCL	1.874
SD	1.16	97.5% KM (Chebyshev) UCL	2.284
k star	0.205	99% KM (Chebyshev) UCL	3.089
Theta star	4.275		
Nu star	11.05	Potential UCLs to Use	
AppChi2	4.605	95% KM (BCA) UCL	1.339
95% Gamma Approximate UCL (Use when n >= 40)	2.097		
95% Adjusted Gamma UCL (Use when n < 40)	2.225		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics (Units in mg/kg)

Number of Valid Data	2	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	1
		Percent Non-Detects	50.00%

Warning: This data set only has 2 observations!
Data set is too small to compute reliable and meaningful statistics and estimates
The data set for variable Dieldrin was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results

HMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Observations	27	Number of Distinct Observations	27
Raw Statistics		Log-transformed Statistics	
Minimum	0.306	Minimum of Log Data	-1.184
Maximum	26.81	Maximum of Log Data	3.289
Mean	5.914	Mean of log Data	1.152
Geometric Mean	3.166	SD of log Data	1.241
Median	3.461		
SD	6.531		
Std. Error of Mean	1.257		
Coefficient of Variation	1.104		
Skewness	1.803		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.796	Shapiro Wilk Test Statistic	0.968
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	8.057	95% H-UCL	13.68
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	14.63
95% Adjusted-CLT UCL (Chen-1995)	8.447	97.5% Chebyshev (MVUE) UCL	18.14
95% Modified-t UCL (Johnson-1978)	8.13	99% Chebyshev (MVUE) UCL	25.03
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.853	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	6.934		
MLE of Mean	5.914		
MLE of Standard Deviation	6.404		
nu star	46.05		
Approximate Chi Square Value (.05)	31.48	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	7.981
Adjusted Chi Square Value	30.71	95% Jackknife UCL	8.057
		95% Standard Bootstrap UCL	7.968
Anderson-Darling Test Statistic	0.233	95% Bootstrap-t UCL	8.859
Anderson-Darling 5% Critical Value	0.776	95% Hall's Bootstrap UCL	8.833
Kolmogorov-Smirnov Test Statistic	0.0873	95% Percentile Bootstrap UCL	8.045
Kolmogorov-Smirnov 5% Critical Value	0.174	95% BCA Bootstrap UCL	8.31
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	11.39
		97.5% Chebyshev(Mean, Sd) UCL	13.76
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	18.42
95% Approximate Gamma UCL (Use when n >= 40)	8.65		
95% Adjusted Gamma UCL (Use when n < 40)	8.867		
Potential UCL to Use		Use 95% Approximate Gamma UCL	8.65

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)			
Number of Valid Observations	27	Number of Distinct Observations	27
Raw Statistics		Log-transformed Statistics	
Minimum	15.5	Minimum of Log Data	2.741
Maximum	286	Maximum of Log Data	5.656
Mean	77.58	Mean of log Data	4.157
Geometric Mean	63.86	SD of log Data	0.637
Median	62.4		
SD	54.2		
Std. Error of Mean	10.43		
Coefficient of Variation	0.699		
Skewness	2.258		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.801	Shapiro Wilk Test Statistic	0.982
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	95.37	95% H-UCL	101.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	121.7
95% Adjusted-CLT UCL (Chen-1995)	99.58	97.5% Chebyshev (MVUE) UCL	140.8
95% Modified-t UCL (Johnson-1978)	96.12	99% Chebyshev (MVUE) UCL	178.4
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.447	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	31.7		
MLE of Mean	77.58		
MLE of Standard Deviation	49.59		
nu star	132.2		
Approximate Chi Square Value (.05)	106.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	94.74
Adjusted Chi Square Value	105.1	95% Jackknife UCL	95.37
		95% Standard Bootstrap UCL	94.2
Anderson-Darling Test Statistic	0.335	95% Bootstrap-t UCL	102.3
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	127.1
Kolmogorov-Smirnov Test Statistic	0.116	95% Percentile Bootstrap UCL	95.13
Kolmogorov-Smirnov 5% Critical Value	0.17	95% BCA Bootstrap UCL	101.4
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	123
		97.5% Chebyshev(Mean, Sd) UCL	142.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	181.4
95% Approximate Gamma UCL (Use when n >= 40)	96.18		
95% Adjusted Gamma UCL (Use when n < 40)	97.52		
Potential UCL to Use		Use 95% Approximate Gamma UCL	96.18

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)			
Number of Valid Observations	27	Number of Distinct Observations	27
Raw Statistics		Log-transformed Statistics	
Minimum	94.1	Minimum of Log Data	4.544
Maximum	1960	Maximum of Log Data	7.581
Mean	584.2	Mean of log Data	6.144
Geometric Mean	465.7	SD of log Data	0.74
Median	522		
SD	391		
Std. Error of Mean	75.25		
Coefficient of Variation	0.669		
Skewness	1.707		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.869	Shapiro Wilk Test Statistic	0.928
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	712.5	95% H-UCL	843.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1013
95% Adjusted-CLT UCL (Chen-1995)	734.4	97.5% Chebyshev (MVUE) UCL	1190
95% Modified-t UCL (Johnson-1978)	716.6	99% Chebyshev (MVUE) UCL	1537
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.122	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	275.2		
MLE of Mean	584.2		
MLE of Standard Deviation	401		
nu star	114.6		
Approximate Chi Square Value (.05)	90.9	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	707.9
Adjusted Chi Square Value	89.55	95% Jackknife UCL	712.5
		95% Standard Bootstrap UCL	707.8
Anderson-Darling Test Statistic	0.43	95% Bootstrap-t UCL	762.6
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL	803.8
Kolmogorov-Smirnov Test Statistic	0.101	95% Percentile Bootstrap UCL	705.6
Kolmogorov-Smirnov 5% Critical Value	0.17	95% BCA Bootstrap UCL	734.5
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	912.2
		97.5% Chebyshev(Mean, Sd) UCL	1054
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1333
95% Approximate Gamma UCL (Use when n >= 40)	736.6		
95% Adjusted Gamma UCL (Use when n < 40)	747.7		
Potential UCL to Use		Use 95% Approximate Gamma UCL	736.6

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics (Units in mg/kg)

Number of Valid Data	27	Number of Detected Data	20
Number of Distinct Detected Data	16	Number of Non-Detect Data	7
		Percent Non-Detects	25.93%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.043	Minimum Detected	-3.147
Maximum Detected	0.44	Maximum Detected	-0.821
Mean of Detected	0.185	Mean of Detected	-1.886
SD of Detected	0.11	SD of Detected	0.688
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	20
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	25.93%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.926	Shapiro Wilk Test Statistic	0.923
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.137	Mean	-3.265
SD	0.125	SD	2.469
95% DL/2 (t) UCL	0.178	95% H-Stat (DL/2) UCL	8.324

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.114	Mean in Log Scale	-2.29
SD	0.156	SD in Log Scale	0.924
95% MLE (t) UCL	0.165	Mean in Original Scale	0.146
95% MLE (Tiku) UCL	0.168	SD in Original Scale	0.116
		95% t UCL	0.184
		95% Percentile Bootstrap UCL	0.182
		95% BCA Bootstrap UCL	0.183
		95% H UCL	0.241

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.313	Data appear Normal at 5% Significance Level
Theta Star	0.0799	
nu star	92.53	

		Nonparametric Statistics	
A-D Test Statistic	0.519		
5% A-D Critical Value	0.749	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.749	Mean	0.148
5% K-S Critical Value	0.195	SD	0.111
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0219
		95% KM (t) UCL	0.186
Assuming Gamma Distribution		95% KM (z) UCL	0.184
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.185
Minimum	0.000001	95% KM (bootstrap t) UCL	0.187
Maximum	0.44	95% KM (BCA) UCL	0.187
Mean	0.137	95% KM (Percentile Bootstrap) UCL	0.187
Median	0.14	95% KM (Chebyshev) UCL	0.244
SD	0.125	97.5% KM (Chebyshev) UCL	0.285
k star	0.237	99% KM (Chebyshev) UCL	0.366
Theta star	0.577		
Nu star	12.81	Potential UCLs to Use	
AppChi2	5.769	95% KM (t) UCL	0.186
95% Gamma Approximate UCL (Use when n >= 40)	0.304	95% KM (Percentile Bootstrap) UCL	0.187
95% Adjusted Gamma UCL (Use when n < 40)	0.321		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Selenium

General Statistics (Units in mg/kg)

Number of Valid Data	27	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	13
		Percent Non-Detects	48.15%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.76	Minimum Detected	-0.274
Maximum Detected	4.1	Maximum Detected	1.411
Mean of Detected	1.854	Mean of Detected	0.502
SD of Detected	0.984	SD of Detected	0.487
Minimum Non-Detect	0.034	Minimum Non-Detect	-3.381
Maximum Non-Detect	0.18	Maximum Non-Detect	-1.715

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	14
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	48.15%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.856	Shapiro Wilk Test Statistic	0.949
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.999	Mean	-1.023
SD	1.141	SD	1.702
95% DL/2 (t) UCL	1.373	95% H-Stat (DL/2) UCL	5.018

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.375	Mean in Log Scale	-0.152
SD	1.837	SD in Log Scale	0.825
95% MLE (t) UCL	0.978	Mean in Original Scale	1.182
95% MLE (Tiku) UCL	1.103	SD in Original Scale	1.001
		95% t UCL	1.511
		95% Percentile Bootstrap UCL	1.508
		95% BCA Bootstrap UCL	1.559
		95% H UCL	1.751

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	3.572	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.519	
nu star	100	

A-D Test Statistic	0.561	Nonparametric Statistics	
5% A-D Critical Value	0.739	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.739	Mean	1.327
5% K-S Critical Value	0.23	SD	0.875
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.175
		95% KM (t) UCL	1.625
Assuming Gamma Distribution		95% KM (z) UCL	1.614
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.585
Minimum	0.000001	95% KM (bootstrap t) UCL	1.697
Maximum	4.1	95% KM (BCA) UCL	1.804
Mean	0.961	95% KM (Percentile Bootstrap) UCL	1.708
Median	0.76	95% KM (Chebyshev) UCL	2.088
SD	1.173	97.5% KM (Chebyshev) UCL	2.418
k star	0.135	99% KM (Chebyshev) UCL	3.065
Theta star	7.112		
Nu star	7.297	Potential UCLs to Use	
AppChi2	2.335	95% KM (t) UCL	1.625
95% Gamma Approximate UCL (Use when n >= 40)	3.003		
95% Adjusted Gamma UCL (Use when n < 40)	3.247		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total DDx

General Statistics (Units in mg/kg)

Number of Valid Observations	4	Number of Distinct Observations	4

Warning: This data set only has 4 observations!
Data set is too small to compute reliable and meaningful statistics and estimates
The data set for variable Total DDx was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results

Total PCBs

General Statistics (Units in mg/kg)			
Number of Valid Data	42	Number of Detected Data	37
Number of Distinct Detected Data	34	Number of Non-Detect Data	5
		Percent Non-Detects	11.90%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00785	Minimum Detected	-4.847
Maximum Detected	3.73	Maximum Detected	1.316
Mean of Detected	0.423	Mean of Detected	-1.943
SD of Detected	0.762	SD of Detected	1.452
Minimum Non-Detect	0.011	Minimum Non-Detect	-4.51
Maximum Non-Detect	0.043	Maximum Non-Detect	-3.147
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	30
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	28.57%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.578	Shapiro Wilk Test Statistic	0.958
5% Shapiro Wilk Critical Value	0.936	5% Shapiro Wilk Critical Value	0.936
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.375	Mean	-2.238
SD	0.726	SD	1.599
95% DL/2 (t) UCL	0.563	95% H-Stat (DL/2) UCL	0.829
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.19	Mean in Log Scale	-2.257
SD	0.897	SD in Log Scale	1.619
95% MLE (t) UCL	0.423	Mean in Original Scale	0.374
95% MLE (Tiku) UCL	0.43	SD in Original Scale	0.726
		95% t UCL	0.563
		95% Percentile Bootstrap UCL	0.575
		95% BCA Bootstrap UCL	0.628
		95% H UCL	0.854
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.546	Data appear Lognormal at 5% Significance Level	
Theta Star	0.776		
nu star	40.37		
A-D Test Statistic	2.03	Nonparametric Statistics	
5% A-D Critical Value	0.805	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.805	Mean	0.375
5% K-S Critical Value	0.153	SD	0.718
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.112
		95% KM (t) UCL	0.564
Assuming Gamma Distribution		95% KM (z) UCL	0.559
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.563
Minimum	0.000001	95% KM (bootstrap t) UCL	0.686
Maximum	3.73	95% KM (BCA) UCL	0.58
Mean	0.373	95% KM (Percentile Bootstrap) UCL	0.566
Median	0.0865	95% KM (Chebyshev) UCL	0.864
SD	0.727	97.5% KM (Chebyshev) UCL	1.076
k star	0.287	99% KM (Chebyshev) UCL	1.492
Theta star	1.298		
Nu star	24.13	Potential UCLs to Use	
AppChi2	13.94	95% KM (Chebyshev) UCL	0.864
95% Gamma Approximate UCL (Use when n >= 40)	0.645		
95% Adjusted Gamma UCL (Use when n < 40)	0.658		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)			
Number of Valid Observations	27	Number of Distinct Observations	26
Raw Statistics		Log-transformed Statistics	
Minimum	15.7	Minimum of Log Data	2.754
Maximum	151.5	Maximum of Log Data	5.021
Mean	37.98	Mean of log Data	3.463
Geometric Mean	31.93	SD of log Data	0.551
Median	27.5		
SD	28.62		
Std. Error of Mean	5.508		
Coefficient of Variation	0.754		
Skewness	2.758		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.696	Shapiro Wilk Test Statistic	0.923
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	47.37	95% H-UCL	46.21
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	54.87
95% Adjusted-CLT UCL (Chen-1995)	50.16	97.5% Chebyshev (MVUE) UCL	62.64
95% Modified-t UCL (Johnson-1978)	47.86	99% Chebyshev (MVUE) UCL	77.89
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.724	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	13.94		
MLE of Mean	37.98		
MLE of Standard Deviation	23.01		
nu star	147.1		
Approximate Chi Square Value (.05)	120.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	47.04
Adjusted Chi Square Value	118.5	95% Jackknife UCL	47.37
		95% Standard Bootstrap UCL	46.87
Anderson-Darling Test Statistic	1.058	95% Bootstrap-t UCL	54.57
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL	87.33
Kolmogorov-Smirnov Test Statistic	0.16	95% Percentile Bootstrap UCL	47.17
Kolmogorov-Smirnov 5% Critical Value	0.169	95% BCA Bootstrap UCL	50.66
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	61.99
		97.5% Chebyshev(Mean, Sd) UCL	72.37
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	92.78
95% Approximate Gamma UCL (Use when n >= 40)	46.53		
95% Adjusted Gamma UCL (Use when n < 40)	47.14		
Potential UCL to Use		Use 95% Approximate Gamma UCL	46.53

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Zinc

General Statistics (Units in mg/kg)			
Number of Valid Observations	27	Number of Distinct Observations	27
Raw Statistics		Log-transformed Statistics	
Minimum	24.7	Minimum of Log Data	3.207
Maximum	340	Maximum of Log Data	5.829
Mean	111.1	Mean of log Data	4.497
Geometric Mean	89.78	SD of log Data	0.693
Median	98		
SD	72.68		
Std. Error of Mean	13.99		
Coefficient of Variation	0.654		
Skewness	1.289		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.902	Shapiro Wilk Test Statistic	0.965
Shapiro Wilk Critical Value	0.923	Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	134.9	95% H-UCL	153
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	183.7
95% Adjusted-CLT UCL (Chen-1995)	137.8	97.5% Chebyshev (MVUE) UCL	214.4
95% Modified-t UCL (Johnson-1978)	135.5	99% Chebyshev (MVUE) UCL	274.5
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.251	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	49.34		
MLE of Mean	111.1		
MLE of Standard Deviation	74.03		
nu star	121.5		
Approximate Chi Square Value (.05)	97.09	Nonparametric Statistics	
Adjusted Level of Significance	0.0401	95% CLT UCL	134.1
Adjusted Chi Square Value	95.69	95% Jackknife UCL	134.9
		95% Standard Bootstrap UCL	132.6
Anderson-Darling Test Statistic	0.208	95% Bootstrap-t UCL	137.9
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	142.7
Kolmogorov-Smirnov Test Statistic	0.0921	95% Percentile Bootstrap UCL	133.8
Kolmogorov-Smirnov 5% Critical Value	0.17	95% BCA Bootstrap UCL	136.2
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	172
		97.5% Chebyshev(Mean, Sd) UCL	198.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	250.2
95% Approximate Gamma UCL (Use when n >= 40)	139		
95% Adjusted Gamma UCL (Use when n < 40)	141.1		
Potential UCL to Use		Use 95% Approximate Gamma UCL	139

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aldrin

General Statistics (Units in mg/kg)

Number of Valid Data	9	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	8
		Percent Non-Detects	88.89%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, E

The data set for variable Aldrin was not processed!

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	4100	Minimum of Log Data	8.319
Maximum	21400	Maximum of Log Data	9.971
Mean	9164	Mean of log Data	9.057
Geometric Mean	8580	SD of log Data	0.367
Median	8665		
SD	3606		
Std. Error of Mean	736.1		
Coefficient of Variation	0.394		
Skewness	1.618		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.875	Shapiro Wilk Test Statistic	0.973
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	10426	95% H-UCL	10593
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	12207
95% Adjusted-CLT UCL (Chen-1995)	10635	97.5% Chebyshev (MVUE) UCL	13530
95% Modified-t UCL (Johnson-1978)	10466	99% Chebyshev (MVUE) UCL	16127

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	6.816	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1344		
MLE of Mean	9164		
MLE of Standard Deviation	3510		
nu star	327.2		
Approximate Chi Square Value (.05)	286.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	10375
Adjusted Chi Square Value	283.6	95% Jackknife UCL	10426
		95% Standard Bootstrap UCL	10345
Anderson-Darling Test Statistic	0.319	95% Bootstrap-t UCL	10800
Anderson-Darling 5% Critical Value	0.745	95% Hall's Bootstrap UCL	11424
Kolmogorov-Smirnov Test Statistic	0.1	95% Percentile Bootstrap UCL	10448
Kolmogorov-Smirnov 5% Critical Value	0.178	95% BCA Bootstrap UCL	10741
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	12373
		97.5% Chebyshev(Mean, Sd) UCL	13761
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	16489
95% Approximate Gamma UCL (Use when n >= 40)	10474		
95% Adjusted Gamma UCL (Use when n < 40)	10573		

Potential UCL to Use	Use 95% Approximate Gamma UCL	10474

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Antimony

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	15
		Percent Non-Detects	62.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	11	Minimum Detected	2.398
Maximum Detected	42	Maximum Detected	3.738
Mean of Detected	16.39	Mean of Detected	2.701
SD of Detected	9.735	SD of Detected	0.407
Minimum Non-Detect	0.01	Minimum Non-Detect	-4.605
Maximum Non-Detect	0.059	Maximum Non-Detect	-2.83

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	62.50%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.546	Shapiro Wilk Test Statistic	0.674
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	6.157	Mean	-1.707
SD	9.925	SD	3.569
95% DL/2 (t) UCL	9.629	95% H-Stat (DL/2) UCL	17191

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	17.15	Mean in Log Scale	1.955
SD	9.179	SD in Log Scale	0.713
95% MLE (t) UCL	20.36	Mean in Original Scale	9.186
95% MLE (Tiku) UCL	22.32	SD in Original Scale	8.217
		95% t UCL	12.06
		95% Percentile Bootstrap UCL	12.17
		95% BCA Bootstrap UCL	13.42
		95% H UCL	12.63

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	3.686	Data do not follow a Discernable Distribution (0.05)
Theta Star	4.446	
nu star	66.35	

		Nonparametric Statistics	
A-D Test Statistic	1.489		
5% A-D Critical Value	0.723	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.723	Mean	13.02
5% K-S Critical Value	0.28	SD	6.197
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.342
		95% KM (t) UCL	15.32
Assuming Gamma Distribution		95% KM (z) UCL	15.23
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	15.05
Minimum	0.000001	95% KM (bootstrap t) UCL	21.79
Maximum	42	95% KM (BCA) UCL	16.41
Mean	6.146	95% KM (Percentile Bootstrap) UCL	15.65
Median	0.000001	95% KM (Chebyshev) UCL	18.87
SD	9.933	97.5% KM (Chebyshev) UCL	21.4
k star	0.104	99% KM (Chebyshev) UCL	26.37
Theta star	58.91		
Nu star	5.007	Potential UCLs to Use	
AppChi2	1.156	95% KM (t) UCL	15.32
95% Gamma Approximate UCL (Use when n >= 40)	26.63	95% KM (% Bootstrap) UCL	15.65
95% Adjusted Gamma UCL (Use when n < 40)	29.79		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)			
Number of Valid Observations	24	Number of Distinct Observations	22
Raw Statistics		Log-transformed Statistics	
Minimum	1	Minimum of Log Data	0
Maximum	39.4	Maximum of Log Data	3.674
Mean	10.85	Mean of log Data	1.759
Geometric Mean	5.806	SD of log Data	1.209
Median	4		
SD	11.2		
Std. Error of Mean	2.287		
Coefficient of Variation	1.033		
Skewness	1.078		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.822	Shapiro Wilk Test Statistic	0.902
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	14.77	95% H-UCL	24.63
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	25.99
95% Adjusted-CLT UCL (Chen-1995)	15.15	97.5% Chebyshev (MVUE) UCL	32.27
95% Modified-t UCL (Johnson-1978)	14.85	99% Chebyshev (MVUE) UCL	44.61
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.843	Data do not follow a Discernable Distribution (0.05)	
Theta Star	12.87		
MLE of Mean	10.85		
MLE of Standard Deviation	11.82		
nu star	40.45		
Approximate Chi Square Value (.05)	26.88	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	14.61
Adjusted Chi Square Value	26.1	95% Jackknife UCL	14.77
		95% Standard Bootstrap UCL	14.52
Anderson-Darling Test Statistic	1.058	95% Bootstrap-t UCL	15.53
Anderson-Darling 5% Critical Value	0.775	95% Hall's Bootstrap UCL	15.21
Kolmogorov-Smirnov Test Statistic	0.2	95% Percentile Bootstrap UCL	14.62
Kolmogorov-Smirnov 5% Critical Value	0.184	95% BCA Bootstrap UCL	15.03
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	20.82
		97.5% Chebyshev(Mean, Sd) UCL	25.13
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	33.6
95% Approximate Gamma UCL (Use when n >= 40)	16.33		
95% Adjusted Gamma UCL (Use when n < 40)	16.81		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	20.82

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Barium

General Statistics (Units in mg/kg)			
Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	51.5	Minimum of Log Data	3.942
Maximum	1200	Maximum of Log Data	7.09
Mean	363.1	Mean of log Data	5.434
Geometric Mean	229.1	SD of log Data	1.019
Median	246		
SD	342.3		
Std. Error of Mean	69.87		
Coefficient of Variation	0.943		
Skewness	1.192		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.836	Shapiro Wilk Test Statistic	0.935
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	482.8	95% H-UCL	663.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	757.6
95% Adjusted-CLT UCL (Chen-1995)	496.2	97.5% Chebyshev (MVUE) UCL	924
95% Modified-t UCL (Johnson-1978)	485.6	99% Chebyshev (MVUE) UCL	1251
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.1	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	330		
MLE of Mean	363.1		
MLE of Standard Deviation	346.2		
nu star	52.8		
Approximate Chi Square Value (.05)	37.11	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	478
Adjusted Chi Square Value	36.18	95% Jackknife UCL	482.8
		95% Standard Bootstrap UCL	473.9
Anderson-Darling Test Statistic	0.581	95% Bootstrap-t UCL	502.3
Anderson-Darling 5% Critical Value	0.767	95% Hall's Bootstrap UCL	490.5
Kolmogorov-Smirnov Test Statistic	0.147	95% Percentile Bootstrap UCL	476.3
Kolmogorov-Smirnov 5% Critical Value	0.182	95% BCA Bootstrap UCL	487.5
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	667.6
		97.5% Chebyshev(Mean, Sd) UCL	799.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1058
95% Approximate Gamma UCL (Use when n >= 40)	516.6		
95% Adjusted Gamma UCL (Use when n < 40)	529.8		
Potential UCL to Use		Use 95% Approximate Gamma UCL	516.6

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzyl Butyl Phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	22	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	18
		Percent Non-Detects	81.82%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.064	Minimum Detected	-2.749
Maximum Detected	1.8	Maximum Detected	0.588
Mean of Detected	0.665	Mean of Detected	-1.177
SD of Detected	0.807	SD of Detected	1.547
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	1.7	Maximum Non-Detect	0.531

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	95.45%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.849	Shapiro Wilk Test Statistic	0.935
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.3	Mean	-2.82
SD	0.467	SD	1.943
95% DL/2 (t) UCL	0.471	95% H-Stat (DL/2) UCL	2.229

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.122
		SD in Log Scale	2.103
		Mean in Original Scale	0.123
		SD in Original Scale	0.401
		95% t UCL	0.271
		95% Percentile Bootstrap UCL	0.278
		95% BCA Bootstrap UCL	0.371
		95% H-UCL	0.403

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.36	Data appear Normal at 5% Significance Level	
Theta Star	1.844		
nu star	2.883		

		Nonparametric Statistics	
A-D Test Statistic	0.315		
5% A-D Critical Value	0.67	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.67	Mean	0.183
5% K-S Critical Value	0.405	SD	0.382
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0961
		95% KM (t) UCL	0.348
Assuming Gamma Distribution		95% KM (z) UCL	0.341
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.309
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.403
Maximum	1.8	95% KM (BCA) UCL	1.8
Mean	0.121	95% KM (Percentile Bootstrap) UCL	0.782
Median	1.00E-06	95% KM (Chebyshev) UCL	0.601
SD	0.402	97.5% KM (Chebyshev) UCL	0.783
k star	0.106	99% KM (Chebyshev) UCL	1.139
Theta star	1.139		
Nu star	4.668	Potential UCLs to Use	
AppChi2	1.002	95% KM (t) UCL	0.348
95% Gamma Approximate UCL (Use when n >= 40)	0.563	95% KM (Percentile Bootstrap) UCL	0.782
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Beta BHC

General Statistics (Units in mg/kg)

Number of Valid Data	8	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	7
		Percent Non-Detects	87.50%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, E

The data set for variable Beta BHC was not processed!

Bis(2-Ethylhexyl) Phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	19
		Percent Non-Detects	79.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.47	Minimum Detected	-0.755
Maximum Detected	54	Maximum Detected	3.989
Mean of Detected	13.11	Mean of Detected	1.43
SD of Detected	22.9	SD of Detected	1.687
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	1.7	Maximum Non-Detect	0.531

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	83.33%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.609	Shapiro Wilk Test Statistic	0.899
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.93	Mean	-2.037
SD	10.94	SD	2.616
95% DL/2 (t) UCL	6.758	95% H-Stat (DL/2) UCL	66.16

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.923
		SD in Log Scale	3.069
		Mean in Original Scale	2.739
		SD in Original Scale	10.99
		95% t UCL	6.583
		95% Percentile Bootstrap UCL	7.119
		95% BCA Bootstrap UCL	11.39
		95% H-UCL	98.89

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.352	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	37.22		
nu star	3.524		

A-D Test Statistic	0.649	Nonparametric Statistics	
5% A-D Critical Value	0.709	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.709	Mean	3.104
5% K-S Critical Value	0.371	SD	10.67
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	2.434
		95% KM (t) UCL	7.276
Assuming Gamma Distribution		95% KM (z) UCL	7.108
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.412
Minimum	0.000001	95% KM (bootstrap t) UCL	26.33
Maximum	54	95% KM (BCA) UCL	12.16
Mean	2.732	95% KM (Percentile Bootstrap) UCL	9.658
Median	0.000001	95% KM (Chebyshev) UCL	13.71
SD	10.99	97.5% KM (Chebyshev) UCL	18.31
k star	0.0912	99% KM (Chebyshev) UCL	27.32
Theta star	29.97		
Nu star	4.376	Potential UCLs to Use	
AppChi2	0.875	95% KM (t) UCL	7.276
95% Gamma Approximate UCL (Use when n >= 40)	13.66		
95% Adjusted Gamma UCL (Use when n < 40)	15.44		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	16
Number of Distinct Detected Data	15	Number of Non-Detect Data	8
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1	Minimum Detected	0
Maximum Detected	14	Maximum Detected	2.639
Mean of Detected	5.875	Mean of Detected	1.514
SD of Detected	3.688	SD of Detected	0.825
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.019	Maximum Non-Detect	-3.963

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	16
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.939	Shapiro Wilk Test Statistic	0.892
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.919	Mean	-0.731
SD	4.106	SD	3.36
95% DL/2 (t) UCL	5.355	95% H-Stat (DL/2) UCL	12605

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.721	Mean in Log Scale	0.883
SD	5.588	SD in Log Scale	1.156
95% MLE (t) UCL	4.675	Mean in Original Scale	4.164
95% MLE (Tiku) UCL	4.85	SD in Original Scale	3.874
		95% t UCL	5.52
		95% Percentile Bootstrap UCL	5.423
		95% BCA Bootstrap UCL	5.529
		95% H UCL	9.162

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.745	Data appear Normal at 5% Significance Level
Theta Star	3.368	
nu star	55.83	

		Nonparametric Statistics	
A-D Test Statistic	0.511		
5% A-D Critical Value	0.75	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.75	Mean	4.25
5% K-S Critical Value	0.218	SD	3.713
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.783
		95% KM (t) UCL	5.591
Assuming Gamma Distribution		95% KM (z) UCL	5.537
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.536
Minimum	0.000001	95% KM (bootstrap t) UCL	5.739
Maximum	14	95% KM (BCA) UCL	5.625
Mean	3.917	95% KM (Percentile Bootstrap) UCL	5.613
Median	2.7	95% KM (Chebyshev) UCL	7.662
SD	4.108	97.5% KM (Chebyshev) UCL	9.138
k star	0.163	99% KM (Chebyshev) UCL	12.04
Theta star	24.06		
Nu star	7.813	Potential UCLs to Use	
AppChi2	2.627	95% KM (t) UCL	5.591
95% Gamma Approximate UCL (Use when n >= 40)	11.65	95% KM (Percentile Bootstrap) UCL	5.613
95% Adjusted Gamma UCL (Use when n < 40)	12.64		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chlordane, Total

General Statistics (Units in mg/kg)

Number of Valid Data	9	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	7
		Percent Non-Detects	77.78%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0235	Minimum Detected	-3.751
Maximum Detected	0.035	Maximum Detected	-3.352
Mean of Detected	0.0293	Mean of Detected	-3.552
SD of Detected	0.00813	SD of Detected	0.282
Minimum Non-Detect	4.90E-04	Minimum Non-Detect	-7.621
Maximum Non-Detect	0.085	Maximum Non-Detect	-2.465

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV)

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0312	Mean	-3.914
SD	0.0128	SD	1.659
95% DL/2 (t) UCL	0.0391	95% H-Stat (DL/2) UCL	1.348

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.0273
5% K-S Critical Value	N/A	SD	0.00542
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00443
		95% KM (t) UCL	0.0356
Assuming Gamma Distribution		95% KM (z) UCL	0.0346
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0372
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	0.035
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.035
Median	N/A	95% KM (Chebyshev) UCL	0.0466
SD	N/A	97.5% KM (Chebyshev) UCL	0.055
k star	N/A	99% KM (Chebyshev) UCL	0.0714
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.0356
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.035
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics (Units in mg/kg)			
Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	8.6	Minimum of Log Data	2.152
Maximum	242	Maximum of Log Data	5.489
Mean	50.94	Mean of log Data	3.566
Geometric Mean	35.39	SD of log Data	0.863
Median	36.1		
SD	50.82		
Std. Error of Mean	10.37		
Coefficient of Variation	0.998		
Skewness	2.548		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.735	Shapiro Wilk Test Statistic	0.978
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	68.72	95% H-UCL	78.62
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	93.03
95% Adjusted-CLT UCL (Chen-1995)	73.77	97.5% Chebyshev (MVUE) UCL	111.5
95% Modified-t UCL (Johnson-1978)	69.62	99% Chebyshev (MVUE) UCL	147.8
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.356	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	37.57		
MLE of Mean	50.94		
MLE of Standard Deviation	43.75		
nu star	65.08		
Approximate Chi Square Value (.05)	47.51	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	68
Adjusted Chi Square Value	46.46	95% Jackknife UCL	68.72
		95% Standard Bootstrap UCL	67.18
Anderson-Darling Test Statistic	0.376	95% Bootstrap-t UCL	80.5
Anderson-Darling 5% Critical Value	0.761	95% Hall's Bootstrap UCL	145.9
Kolmogorov-Smirnov Test Statistic	0.117	95% Percentile Bootstrap UCL	68.85
Kolmogorov-Smirnov 5% Critical Value	0.181	95% BCA Bootstrap UCL	76.25
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	96.16
		97.5% Chebyshev(Mean, Sd) UCL	115.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	154.2
95% Approximate Gamma UCL (Use when n >= 40)	69.77		
95% Adjusted Gamma UCL (Use when n < 40)	71.35		
Potential UCL to Use		Use 95% Approximate Gamma UCL	69.77

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)			
Number of Valid Observations	24	Number of Distinct Observations	23
Raw Statistics		Log-transformed Statistics	
Minimum	3	Minimum of Log Data	1.099
Maximum	34.3	Maximum of Log Data	3.535
Mean	9.41	Mean of log Data	2.052
Geometric Mean	7.786	SD of log Data	0.595
Median	7.725		
SD	7.033		
Std. Error of Mean	1.436		
Coefficient of Variation	0.747		
Skewness	2.344		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.745	Shapiro Wilk Test Statistic	0.962
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	11.87	95% H-UCL	12.02
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	14.37
95% Adjusted-CLT UCL (Chen-1995)	12.51	97.5% Chebyshev (MVUE) UCL	16.6
95% Modified-t UCL (Johnson-1978)	11.99	99% Chebyshev (MVUE) UCL	20.98
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.473	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.805		
MLE of Mean	9.41		
MLE of Standard Deviation	5.984		
nu star	118.7		
Approximate Chi Square Value (.05)	94.56	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	11.77
Adjusted Chi Square Value	93.04	95% Jackknife UCL	11.87
		95% Standard Bootstrap UCL	11.74
Anderson-Darling Test Statistic	0.673	95% Bootstrap-t UCL	13.51
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL	16.56
Kolmogorov-Smirnov Test Statistic	0.158	95% Percentile Bootstrap UCL	12.01
Kolmogorov-Smirnov 5% Critical Value	0.179	95% BCA Bootstrap UCL	12.59
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	15.67
		97.5% Chebyshev(Mean, Sd) UCL	18.38
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23.69
95% Approximate Gamma UCL (Use when n >= 40)	11.81		
95% Adjusted Gamma UCL (Use when n < 40)	12.01		
Potential UCL to Use		Use 95% Approximate Gamma UCL	11.81

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg)			
Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	3.9	Minimum of Log Data	1.361
Maximum	12000	Maximum of Log Data	9.393
Mean	658.6	Mean of log Data	4.426
Geometric Mean	83.63	SD of log Data	1.811
Median	46.4		
SD	2424		
Std. Error of Mean	494.7		
Coefficient of Variation	3.68		
Skewness	4.847		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.269	Shapiro Wilk Test Statistic	0.944
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1507	95% H-UCL	1796
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1126
95% Adjusted-CLT UCL (Chen-1995)	1995	97.5% Chebyshev (MVUE) UCL	1453
95% Modified-t UCL (Johnson-1978)	1588	99% Chebyshev (MVUE) UCL	2095
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.316	Data appear Lognormal at 5% Significance Level	
Theta Star	2086		
MLE of Mean	658.6		
MLE of Standard Deviation	1172		
nu star	15.16		
Approximate Chi Square Value (.05)	7.371	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1472
Adjusted Chi Square Value	6.99	95% Jackknife UCL	1507
		95% Standard Bootstrap UCL	1424
Anderson-Darling Test Statistic	2.521	95% Bootstrap-t UCL	8625
Anderson-Darling 5% Critical Value	0.845	95% Hall's Bootstrap UCL	4942
Kolmogorov-Smirnov Test Statistic	0.263	95% Percentile Bootstrap UCL	1623
Kolmogorov-Smirnov 5% Critical Value	0.192	95% BCA Bootstrap UCL	2117
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2815
		97.5% Chebyshev(Mean, Sd) UCL	3748
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5581
95% Approximate Gamma UCL (Use when n >= 40)	1354		
95% Adjusted Gamma UCL (Use when n < 40)	1428		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	2815

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cyanide

General Statistics (Units in mg/kg)

Number of Valid Data	18	Number of Detected Data	17
Number of Distinct Detected Data	14	Number of Non-Detect Data	1
		Percent Non-Detects	5.56%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.067	Minimum Detected	-2.703
Maximum Detected	2.6	Maximum Detected	0.956
Mean of Detected	0.405	Mean of Detected	-1.463
SD of Detected	0.619	SD of Detected	0.949
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.542	Shapiro Wilk Test Statistic	0.887
5% Shapiro Wilk Critical Value	0.892	5% Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.382	Mean	-1.727
SD	0.608	SD	1.45
95% DL/2 (t) UCL	0.632	95% H-Stat (DL/2) UCL	1.651

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.361	Mean in Log Scale	-1.588
SD	0.615	SD in Log Scale	1.062
95% MLE (t) UCL	0.613	Mean in Original Scale	0.384
95% MLE (Tiku) UCL	0.594	SD in Original Scale	0.607
		95% t UCL	0.633
		95% Percentile Bootstrap UCL	0.635
		95% BCA Bootstrap UCL	0.795
		95% H UCL	0.726

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.887	Data do not follow a Discernable Distribution (0.05)
Theta Star	0.456	
nu star	30.16	

A-D Test Statistic	1.421	Nonparametric Statistics	
5% A-D Critical Value	0.765	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.765	Mean	0.386
5% K-S Critical Value	0.215	SD	0.589
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.143
		95% KM (t) UCL	0.635
Assuming Gamma Distribution		95% KM (z) UCL	0.621
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.633
Minimum	0.000001	95% KM (bootstrap t) UCL	1.28
Maximum	2.6	95% KM (BCA) UCL	0.635
Mean	0.382	95% KM (Percentile Bootstrap) UCL	0.644
Median	0.17	95% KM (Chebyshev) UCL	1.009
SD	0.608	97.5% KM (Chebyshev) UCL	1.279
k star	0.479	99% KM (Chebyshev) UCL	1.809
Theta star	0.799		
Nu star	17.23	Potential UCLs to Use	
AppChi2	8.839	95% KM (Chebyshev) UCL	1.009
95% Gamma Approximate UCL (Use when n >= 40)	0.745		
95% Adjusted Gamma UCL (Use when n < 40)	0.797		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics (Units in mg/kg)

Number of Valid Data	8	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	7
		Percent Non-Detects	87.50%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, E

The data set for variable Dieldrin was not processed!

Di-N-Butyl Phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	21
		Percent Non-Detects	87.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.069	Minimum Detected	-2.674
Maximum Detected	1.7	Maximum Detected	0.531
Mean of Detected	0.613	Mean of Detected	-1.596
SD of Detected	0.941	SD of Detected	1.842
Minimum Non-Detect	0.022	Minimum Non-Detect	-3.817
Maximum Non-Detect	1.7	Maximum Non-Detect	0.531

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	95.83%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.751	Shapiro Wilk Test Statistic	0.757
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.273	Mean	-2.864
SD	0.44	SD	1.829
95% DL/2 (t) UCL	0.426	95% H-Stat (DL/2) UCL	1.296

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.674
		SD in Log Scale	2.642
		Mean in Original Scale	0.077
		SD in Original Scale	0.346
		95% t UCL	0.198
		95% Percentile Bootstrap UCL	0.216
		95% BCA Bootstrap UCL	0.29
		95% H-UCL	0.267

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.137
5% K-S Critical Value	N/A	SD	0.326
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0815
		95% KM (t) UCL	0.277
Assuming Gamma Distribution		95% KM (z) UCL	0.271
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.252
Minimum	N/A	95% KM (bootstrap t) UCL	37.52
Maximum	N/A	95% KM (BCA) UCL	1.7
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	0.492
SD	N/A	97.5% KM (Chebyshev) UCL	0.646
k star	N/A	99% KM (Chebyshev) UCL	0.948
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	97.5% KM (Chebyshev) UCL	0.646
95% Gamma Approximate UCL (Use when n >= 40)	N/A		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin Ketone

General Statistics (Units in mg/kg)

Number of Valid Data	9	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	7
		Percent Non-Detects	77.78%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00435	Minimum Detected	-5.438
Maximum Detected	0.0058	Maximum Detected	-5.15
Mean of Detected	0.00508	Mean of Detected	-5.294
SD of Detected	0.00103	SD of Detected	0.203
Minimum Non-Detect	9.00E-04	Minimum Non-Detect	-7.013
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV)

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00612	Mean	-5.305
SD	0.00245	SD	0.922
95% DL/2 (t) UCL	0.00764	95% H-Stat (DL/2) UCL	0.0207

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.00483
5% K-S Critical Value	N/A	SD	6.84E-04
Data not Gamma Distributed at 5% Significance Level		SE of Mean	5.58E-04
		95% KM (t) UCL	0.00587
Assuming Gamma Distribution		95% KM (z) UCL	0.00575
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00608
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.0058
Median	N/A	95% KM (Chebyshev) UCL	0.00727
SD	N/A	97.5% KM (Chebyshev) UCL	0.00832
k star	N/A	99% KM (Chebyshev) UCL	0.0104
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.00587
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.0058
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor

General Statistics (Units in mg/kg)

Number of Valid Data	9	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	7
		Percent Non-Detects	77.78%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0014	Minimum Detected	-6.571
Maximum Detected	0.02	Maximum Detected	-3.912
Mean of Detected	0.0107	Mean of Detected	-5.242
SD of Detected	0.0132	SD of Detected	1.88
Minimum Non-Detect	6.80E-04	Minimum Non-Detect	-7.293
Maximum Non-Detect	0.0085	Maximum Non-Detect	-4.768

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	88.89%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV)

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00454	Mean	-6.027
SD	0.00599	SD	1.262
95% DL/2 (t) UCL	0.00825	95% H-Stat (DL/2) UCL	0.0298

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.00347
5% K-S Critical Value	N/A	SD	0.00585
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00276
		95% KM (t) UCL	0.00859
Assuming Gamma Distribution		95% KM (z) UCL	0.008
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0166
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.02
Median	N/A	95% KM (Chebyshev) UCL	0.0155
SD	N/A	97.5% KM (Chebyshev) UCL	0.0207
k star	N/A	99% KM (Chebyshev) UCL	0.0309
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	97.5% KM (Chebyshev) UCL	0.0207
95% Gamma Approximate UCL (Use when n >= 40)	N/A		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

HMW PAHs

General Statistics (Units in mg/kg)			
Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	0.0207	Minimum of Log Data	-3.876
Maximum	46	Maximum of Log Data	3.829
Mean	13.3	Mean of log Data	1.959
Geometric Mean	7.094	SD of log Data	1.629
Median	8.753		
SD	12.37		
Std. Error of Mean	2.526		
Coefficient of Variation	0.931		
Skewness	1.436		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.839	Shapiro Wilk Test Statistic	0.774
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	17.63	95% H-UCL	87.06
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	66.97
95% Adjusted-CLT UCL (Chen-1995)	18.24	97.5% Chebyshev (MVUE) UCL	85.62
95% Modified-t UCL (Johnson-1978)	17.75	99% Chebyshev (MVUE) UCL	122.3
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.839	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	15.85		
MLE of Mean	13.3		
MLE of Standard Deviation	14.52		
nu star	40.27		
Approximate Chi Square Value (.05)	26.73	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	17.45
Adjusted Chi Square Value	25.95	95% Jackknife UCL	17.63
		95% Standard Bootstrap UCL	17.38
Anderson-Darling Test Statistic	0.462	95% Bootstrap-t UCL	18.93
Anderson-Darling 5% Critical Value	0.775	95% Hall's Bootstrap UCL	19.38
Kolmogorov-Smirnov Test Statistic	0.14	95% Percentile Bootstrap UCL	17.63
Kolmogorov-Smirnov 5% Critical Value	0.184	95% BCA Bootstrap UCL	18.19
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	24.31
		97.5% Chebyshev(Mean, Sd) UCL	29.07
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	38.43
95% Approximate Gamma UCL (Use when n >= 40)	20.03		
95% Adjusted Gamma UCL (Use when n < 40)	20.63		
Potential UCL to Use		Use 95% Approximate Gamma UCL	20.03

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	24

Raw Statistics		Log-transformed Statistics	
Minimum	10	Minimum of Log Data	2.303
Maximum	9950	Maximum of Log Data	9.205
Mean	1180	Mean of log Data	5.916
Geometric Mean	371	SD of log Data	1.717
Median	339		
SD	2075		
Std. Error of Mean	423.6		
Coefficient of Variation	1.759		
Skewness	3.583		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.556	Shapiro Wilk Test Statistic	0.964
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1906	95% H-UCL	5923
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4148
95% Adjusted-CLT UCL (Chen-1995)	2208	97.5% Chebyshev (MVUE) UCL	5329
95% Modified-t UCL (Johnson-1978)	1957	99% Chebyshev (MVUE) UCL	7648

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.502	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2349		
MLE of Mean	1180		
MLE of Standard Deviation	1665		
nu star	24.11		
Approximate Chi Square Value (.05)	13.93	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1877
Adjusted Chi Square Value	13.39	95% Jackknife UCL	1906
		95% Standard Bootstrap UCL	1879
Anderson-Darling Test Statistic	0.637	95% Bootstrap-t UCL	2882
Anderson-Darling 5% Critical Value	0.802	95% Hall's Bootstrap UCL	4783
Kolmogorov-Smirnov Test Statistic	0.178	95% Percentile Bootstrap UCL	1954
Kolmogorov-Smirnov 5% Critical Value	0.188	95% BCA Bootstrap UCL	2272
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3026
		97.5% Chebyshev(Mean, Sd) UCL	3825
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5395
95% Approximate Gamma UCL (Use when n >= 40)	2042		
95% Adjusted Gamma UCL (Use when n < 40)	2124		

Potential UCL to Use	Use 95% Approximate Gamma UCL	2042

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	55.8	Minimum of Log Data	4.022
Maximum	1390	Maximum of Log Data	7.237
Mean	528.8	Mean of log Data	5.982
Geometric Mean	396.2	SD of log Data	0.836
Median	437		
SD	393.3		
Std. Error of Mean	80.27		
Coefficient of Variation	0.744		
Skewness	1.127		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.865	Shapiro Wilk Test Statistic	0.953
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	666.4	95% H-UCL	844
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1003
95% Adjusted-CLT UCL (Chen-1995)	680.5	97.5% Chebyshev (MVUE) UCL	1198
95% Modified-t UCL (Johnson-1978)	669.4	99% Chebyshev (MVUE) UCL	1581
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.674	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	315.9		
MLE of Mean	528.8		
MLE of Standard Deviation	408.7		
nu star	80.34		
Approximate Chi Square Value (.05)	60.68	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	660.8
Adjusted Chi Square Value	59.48	95% Jackknife UCL	666.4
		95% Standard Bootstrap UCL	658.6
Anderson-Darling Test Statistic	0.271	95% Bootstrap-t UCL	695.7
Anderson-Darling 5% Critical Value	0.757	95% Hall's Bootstrap UCL	678.9
Kolmogorov-Smirnov Test Statistic	0.1	95% Percentile Bootstrap UCL	660
Kolmogorov-Smirnov 5% Critical Value	0.18	95% BCA Bootstrap UCL	673.5
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	878.7
		97.5% Chebyshev(Mean, Sd) UCL	1030
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1327
95% Approximate Gamma UCL (Use when n >= 40)	700		
95% Adjusted Gamma UCL (Use when n < 40)	714.1		
Potential UCL to Use		Use 95% Approximate Gamma UCL	700

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics (Units in mg/kg)

Number of Valid Observations	24	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	0.02	Minimum of Log Data	-3.912
Maximum	5.7	Maximum of Log Data	1.74
Mean	1.282	Mean of log Data	-0.761
Geometric Mean	0.467	SD of log Data	1.629
Median	0.365		
SD	1.624		
Std. Error of Mean	0.331		
Coefficient of Variation	1.267		
Skewness	1.517		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.772	Shapiro Wilk Test Statistic	0.952
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.85	95% H-UCL	5.743
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4.415
95% Adjusted-CLT UCL (Chen-1995)	1.937	97.5% Chebyshev (MVUE) UCL	5.644
95% Modified-t UCL (Johnson-1978)	1.867	99% Chebyshev (MVUE) UCL	8.06

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.562	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.281		
MLE of Mean	1.282		
MLE of Standard Deviation	1.71		
nu star	26.97		
Approximate Chi Square Value (.05)	16.13	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	1.827
Adjusted Chi Square Value	15.54	95% Jackknife UCL	1.85
		95% Standard Bootstrap UCL	1.804
Anderson-Darling Test Statistic	0.645	95% Bootstrap-t UCL	2.012
Anderson-Darling 5% Critical Value	0.796	95% Hall's Bootstrap UCL	1.958
Kolmogorov-Smirnov Test Statistic	0.183	95% Percentile Bootstrap UCL	1.841
Kolmogorov-Smirnov 5% Critical Value	0.187	95% BCA Bootstrap UCL	1.919
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.727
		97.5% Chebyshev(Mean, Sd) UCL	3.352
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4.58
95% Approximate Gamma UCL (Use when n >= 40)	2.143		
95% Adjusted Gamma UCL (Use when n < 40)	2.225		

Potential UCL to Use	Use 95% Approximate Gamma UCL	2.143

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Nickel

General Statistics (Units in mg/kg)			
Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	6.7	Minimum of Log Data	1.902
Maximum	235	Maximum of Log Data	5.46
Mean	43.42	Mean of log Data	3.256
Geometric Mean	25.94	SD of log Data	0.962
Median	22.1		
SD	54.96		
Std. Error of Mean	11.22		
Coefficient of Variation	1.266		
Skewness	2.401		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.659	Shapiro Wilk Test Statistic	0.93
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	62.64	95% H-UCL	67.96
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	78.8
95% Adjusted-CLT UCL (Chen-1995)	67.74	97.5% Chebyshev (MVUE) UCL	95.53
95% Modified-t UCL (Johnson-1978)	63.56	99% Chebyshev (MVUE) UCL	128.4
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.997	Data appear Lognormal at 5% Significance Level	
Theta Star	43.55		
MLE of Mean	43.42		
MLE of Standard Deviation	43.48		
nu star	47.86		
Approximate Chi Square Value (.05)	32.98	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	61.87
Adjusted Chi Square Value	32.11	95% Jackknife UCL	62.64
		95% Standard Bootstrap UCL	61.72
Anderson-Darling Test Statistic	1.415	95% Bootstrap-t UCL	76.65
Anderson-Darling 5% Critical Value	0.77	95% Hall's Bootstrap UCL	73.66
Kolmogorov-Smirnov Test Statistic	0.238	95% Percentile Bootstrap UCL	63.86
Kolmogorov-Smirnov 5% Critical Value	0.183	95% BCA Bootstrap UCL	69.81
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	92.32
		97.5% Chebyshev(Mean, Sd) UCL	113.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	155
95% Approximate Gamma UCL (Use when n >= 40)	63		
95% Adjusted Gamma UCL (Use when n < 40)	64.71		
Potential UCL to Use		Use 95% H-UCL	67.96

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Selenium

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	10
		Percent Non-Detects	41.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.071	Minimum Detected	-2.645
Maximum Detected	9.2	Maximum Detected	2.219
Mean of Detected	4.643	Mean of Detected	0.988
SD of Detected	3.035	SD of Detected	1.524
Minimum Non-Detect	0.034	Minimum Non-Detect	-3.381
Maximum Non-Detect	0.18	Maximum Non-Detect	-1.715

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	50.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.935	Shapiro Wilk Test Statistic	0.741
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.734	Mean	-0.705
SD	3.245	SD	2.406
95% DL/2 (t) UCL	3.869	95% H-Stat (DL/2) UCL	98.33

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.666	Mean in Log Scale	-0.297
SD	5.539	SD in Log Scale	2.014
95% MLE (t) UCL	2.604	Mean in Original Scale	2.781
95% MLE (Tiku) UCL	3.05	SD in Original Scale	3.206
		95% t UCL	3.903
		95% Percentile Bootstrap UCL	3.805
		95% BCA Bootstrap UCL	3.965
		95% H UCL	31.75

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.871	Data appear Normal at 5% Significance Level
Theta Star	5.328	
nu star	24.4	

		Nonparametric Statistics	
A-D Test Statistic	1.007		
5% A-D Critical Value	0.759	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.759	Mean	2.74
5% K-S Critical Value	0.235	SD	3.171
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.672
		95% KM (t) UCL	3.892
Assuming Gamma Distribution		95% KM (z) UCL	3.845
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.859
Minimum	0.000001	95% KM (bootstrap t) UCL	4.02
Maximum	9.2	95% KM (BCA) UCL	4.092
Mean	2.711	95% KM (Percentile Bootstrap) UCL	4.042
Median	0.865	95% KM (Chebyshev) UCL	5.669
SD	3.265	97.5% KM (Chebyshev) UCL	6.936
k star	0.147	99% KM (Chebyshev) UCL	9.425
Theta star	18.44		
Nu star	7.058	Potential UCLs to Use	
AppChi2	2.203	95% KM (t) UCL	3.892
95% Gamma Approximate UCL (Use when n >= 40)	8.688	95% KM (Percentile Bootstrap) UCL	4.042
95% Adjusted Gamma UCL (Use when n < 40)	9.488		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Silver

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	21
Number of Distinct Detected Data	19	Number of Non-Detect Data	3
		Percent Non-Detects	12.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.48	Minimum Detected	-0.734
Maximum Detected	27.6	Maximum Detected	3.318
Mean of Detected	5.916	Mean of Detected	1.175
SD of Detected	7.592	SD of Detected	1.081
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.001	Maximum Non-Detect	-6.908

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.669	Shapiro Wilk Test Statistic	0.946
5% Shapiro Wilk Critical Value	0.908	5% Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.177	Mean	0.0782
SD	7.356	SD	3.132
95% DL/2 (t) UCL	7.75	95% H-Stat (DL/2) UCL	7614

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.561	Mean in Log Scale	0.862
SD	7.932	SD in Log Scale	1.321
95% MLE (t) UCL	7.336	Mean in Original Scale	5.211
95% MLE (Tiku) UCL	7.222	SD in Original Scale	7.331
		95% t UCL	7.776
		95% Percentile Bootstrap UCL	7.679
		95% BCA Bootstrap UCL	8.755
		95% H UCL	12.96

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.857	Data appear Lognormal at 5% Significance Level
Theta Star	6.906	
nu star	35.98	

A-D Test Statistic	1.243	Nonparametric Statistics	
5% A-D Critical Value	0.772	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.772	Mean	5.237
5% K-S Critical Value	0.195	SD	7.16
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.498
		95% KM (t) UCL	7.803
Assuming Gamma Distribution		95% KM (z) UCL	7.7
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	7.769
Minimum	0.000001	95% KM (bootstrap t) UCL	9.394
Maximum	27.6	95% KM (BCA) UCL	7.979
Mean	5.177	95% KM (Percentile Bootstrap) UCL	7.779
Median	2.55	95% KM (Chebyshev) UCL	11.76
SD	7.356	97.5% KM (Chebyshev) UCL	14.59
k star	0.286	99% KM (Chebyshev) UCL	20.14
Theta star	18.1		
Nu star	13.73	Potential UCLs to Use	
AppChi2	6.386	97.5% KM (Chebyshev) UCL	14.59
95% Gamma Approximate UCL (Use when n >= 40)	11.13		
95% Adjusted Gamma UCL (Use when n < 40)	11.78		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Thallium

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	20
		Percent Non-Detects	83.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.2	Minimum Detected	0.182
Maximum Detected	4	Maximum Detected	1.386
Mean of Detected	2.15	Mean of Detected	0.657
SD of Detected	1.258	SD of Detected	0.515
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	83.33%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.807	Shapiro Wilk Test Statistic	0.9
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.422	Mean	-2.991
SD	0.913	SD	2.599
95% DL/2 (t) UCL	0.742	95% H-Stat (DL/2) UCL	23.56

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.587
		SD in Log Scale	1.311
		Mean in Original Scale	0.509
		SD in Original Scale	0.887
		95% t UCL	0.819
		95% Percentile Bootstrap UCL	0.821
		95% BCA Bootstrap UCL	0.919
		95% H-UCL	1.091

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.355	Data appear Normal at 5% Significance Level	
Theta Star	1.587		
nu star	10.84		

A-D Test Statistic	0.445	Nonparametric Statistics	
5% A-D Critical Value	0.659	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.659	Mean	1.358
5% K-S Critical Value	0.396	SD	0.569
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.134
		95% KM (t) UCL	1.588
Assuming Gamma Distribution		95% KM (z) UCL	1.579
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.642
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.828
Maximum	4	95% KM (BCA) UCL	4
Mean	0.358	95% KM (Percentile Bootstrap) UCL	1.983
Median	1.00E-06	95% KM (Chebyshev) UCL	1.942
SD	0.936	97.5% KM (Chebyshev) UCL	2.195
k star	0.0981	99% KM (Chebyshev) UCL	2.692
Theta star	3.654		
Nu star	4.708	Potential UCLs to Use	
AppChi2	1.02	95% KM (t) UCL	1.588
95% Gamma Approximate UCL (Use when n >= 40)	1.654	95% KM (Percentile Bootstrap) UCL	1.983
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total DDx

General Statistics (Units in mg/kg)

Number of Valid Data	9	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	5
		Percent Non-Detects	55.56%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.031	Minimum Detected	-3.474
Maximum Detected	0.102	Maximum Detected	-2.28
Mean of Detected	0.0518	Mean of Detected	-3.088
SD of Detected	0.0339	SD of Detected	0.549
Minimum Non-Detect	0.0014	Minimum Non-Detect	-6.571
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	5
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	55.56%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.727	Shapiro Wilk Test Statistic	0.794
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0266	Mean	-4.341
SD	0.0318	SD	1.451
95% DL/2 (t) UCL	0.0463	95% H-Stat (DL/2) UCL	0.341

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.00946	Mean in Log Scale	-4.037
SD	0.0483	SD in Log Scale	0.961
95% MLE (t) UCL	0.0394	Mean in Original Scale	0.0276
95% MLE (Tiku) UCL	0.049	SD in Original Scale	0.0309
		95% t UCL	0.0468
		95% Percentile Bootstrap UCL	0.0457
		95% BCA Bootstrap UCL	0.0517
		95% H UCL	0.0817

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.179	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.044	
nu star	9.428	

		Nonparametric Statistics	
A-D Test Statistic	0.634		
5% A-D Critical Value	0.659	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.659	Mean	0.0403
5% K-S Critical Value	0.396	SD	0.0221
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00851
		95% KM (t) UCL	0.0561
Assuming Gamma Distribution		95% KM (z) UCL	0.0543
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0539
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.105
Maximum	0.102	95% KM (BCA) UCL	0.0644
Mean	0.023	95% KM (Percentile Bootstrap) UCL	0.0568
Median	1.00E-06	95% KM (Chebyshev) UCL	0.0774
SD	0.0343	97.5% KM (Chebyshev) UCL	0.0934
k star	0.172	99% KM (Chebyshev) UCL	0.125
Theta star	0.134		
Nu star	3.088	Potential UCLs to Use	
AppChi2	0.399	95% KM (t) UCL	0.0561
95% Gamma Approximate UCL (Use when n >= 40)	0.178		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics (Units in mg/kg)

Number of Valid Data	132	Number of Detected Data	115
Number of Distinct Detected Data	89	Number of Non-Detect Data	17
		Percent Non-Detects	12.88%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0062	Minimum Detected	-5.083
Maximum Detected	14	Maximum Detected	2.639
Mean of Detected	2.958	Mean of Detected	0.449
SD of Detected	2.703	SD of Detected	1.42
Minimum Non-Detect	0.0054	Minimum Non-Detect	-5.221
Maximum Non-Detect	0.17	Maximum Non-Detect	-1.772

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	27
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	105
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	20.45%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.15	Lilliefors Test Statistic	0.155
5% Lilliefors Critical Value	0.0826	5% Lilliefors Critical Value	0.0826
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.582	Mean	-0.0969
SD	2.706	SD	1.984
95% DL/2 (t) UCL	2.972	95% H-Stat (DL/2) UCL	11.41

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	2.209	Mean in Log Scale	0.0921
SD	3.195	SD in Log Scale	1.623
95% MLE (t) UCL	2.669	Mean in Original Scale	2.59
95% MLE (Tiku) UCL	2.675	SD in Original Scale	2.698
		95% t UCL	2.979
		95% Percentile Bootstrap UCL	3.004
		95% BCA Bootstrap UCL	3.02
		95% H UCL	6.116

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.9	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	3.288	
nu star	206.9	

		Nonparametric Statistics	
A-D Test Statistic	0.852		
5% A-D Critical Value	0.787	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.787	Mean	2.579
5% K-S Critical Value	0.0884	SD	2.698
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.236
		95% KM (t) UCL	2.97
Assuming Gamma Distribution		95% KM (z) UCL	2.967
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.968
Minimum	0.000001	95% KM (bootstrap t) UCL	2.998
Maximum	14	95% KM (BCA) UCL	3.009
Mean	2.577	95% KM (Percentile Bootstrap) UCL	2.972
Median	1.708	95% KM (Chebyshev) UCL	3.608
SD	2.711	97.5% KM (Chebyshev) UCL	4.052
k star	0.294	99% KM (Chebyshev) UCL	4.926
Theta star	8.755		
Nu star	77.7	Potential UCLs to Use	
AppChi2	58.4	95% KM (Chebyshev) UCL	3.608
95% Gamma Approximate UCL (Use when n >= 40)	3.429		
95% Adjusted Gamma UCL (Use when n < 40)	3.44		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Data	24	Number of Detected Data	23
Number of Distinct Detected Data	22	Number of Non-Detect Data	1
		Percent Non-Detects	4.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	13.3	Minimum Detected	2.588
Maximum Detected	40	Maximum Detected	3.689
Mean of Detected	25.83	Mean of Detected	3.213
SD of Detected	7.188	SD of Detected	0.29
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.005	Maximum Non-Detect	-5.298

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.978	Shapiro Wilk Test Statistic	0.977
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	24.75	Mean	2.829
SD	8.787	SD	1.9
95% DL/2 (t) UCL	27.82	95% H-Stat (DL/2) UCL	486.8

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	24.64	Mean in Log Scale	3.183
SD	8.95	SD in Log Scale	0.319
95% MLE (t) UCL	27.77	Mean in Original Scale	25.25
95% MLE (Tiku) UCL	27.83	SD in Original Scale	7.569
		95% t UCL	27.9
		95% Percentile Bootstrap UCL	27.75
		95% BCA Bootstrap UCL	27.95
		95% H UCL	28.67

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	11.38	Data appear Normal at 5% Significance Level
Theta Star	2.27	
nu star	523.4	

A-D Test Statistic	0.184	Nonparametric Statistics	
5% A-D Critical Value	0.743	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.743	Mean	25.3
5% K-S Critical Value	0.181	SD	7.323
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.528
		95% KM (t) UCL	27.92
Assuming Gamma Distribution		95% KM (z) UCL	27.82
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	27.88
Minimum	1.719	95% KM (bootstrap t) UCL	28.09
Maximum	40	95% KM (BCA) UCL	27.96
Mean	24.82	95% KM (Percentile Bootstrap) UCL	27.88
Median	25.65	95% KM (Chebyshev) UCL	31.97
SD	8.581	97.5% KM (Chebyshev) UCL	34.85
k star	4.13	99% KM (Chebyshev) UCL	40.51
Theta star	6.01		
Nu star	198.2	Potential UCLs to Use	
AppChi2	166.7	95% KM (t) UCL	27.92
95% Gamma Approximate UCL (Use when n >= 40)	29.52	95% KM (Percentile Bootstrap) UCL	27.88
95% Adjusted Gamma UCL (Use when n < 40)	29.89		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc

General Statistics (Units in mg/kg)			
Number of Valid Observations	24	Number of Distinct Observations	24
Raw Statistics		Log-transformed Statistics	
Minimum	20.1	Minimum of Log Data	3.001
Maximum	3680	Maximum of Log Data	8.211
Mean	670.2	Mean of log Data	5.522
Geometric Mean	250.1	SD of log Data	1.549
Median	158		
SD	888.2		
Std. Error of Mean	181.3		
Coefficient of Variation	1.325		
Skewness	1.949		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.738	Shapiro Wilk Test Statistic	0.924
Shapiro Wilk Critical Value	0.916	Shapiro Wilk Critical Value	0.916
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	980.9	95% H-UCL	2449
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2033
95% Adjusted-CLT UCL (Chen-1995)	1045	97.5% Chebyshev (MVUE) UCL	2587
95% Modified-t UCL (Johnson-1978)	992.9	99% Chebyshev (MVUE) UCL	3675
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.573	Data appear Lognormal at 5% Significance Level	
Theta Star	1169		
MLE of Mean	670.2		
MLE of Standard Deviation	885.2		
nu star	27.51		
Approximate Chi Square Value (.05)	16.55	Nonparametric Statistics	
Adjusted Level of Significance	0.0392	95% CLT UCL	968.4
Adjusted Chi Square Value	15.95	95% Jackknife UCL	980.9
		95% Standard Bootstrap UCL	966.5
Anderson-Darling Test Statistic	1.087	95% Bootstrap-t UCL	1115
Anderson-Darling 5% Critical Value	0.795	95% Hall's Bootstrap UCL	1188
Kolmogorov-Smirnov Test Statistic	0.214	95% Percentile Bootstrap UCL	973.3
Kolmogorov-Smirnov 5% Critical Value	0.187	95% BCA Bootstrap UCL	1039
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1460
		97.5% Chebyshev(Mean, Sd) UCL	1802
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2474
95% Approximate Gamma UCL (Use when n >= 40)	1114		
95% Adjusted Gamma UCL (Use when n < 40)	1156		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	1460

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aldrin

General Statistics (Units in mg/kg)			
Number of Valid Data	46	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	36
		Percent Non-Detects	78.26%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	4.20E-05	Minimum Detected	-10.08
Maximum Detected	0.041	Maximum Detected	-3.194
Mean of Detected	0.00546	Mean of Detected	-7.214
SD of Detected	0.0126	SD of Detected	2.241
Minimum Non-Detect	0.0017	Minimum Non-Detect	-6.377
Maximum Non-Detect	0.013	Maximum Non-Detect	-4.343
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	45
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	97.83%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.482	Shapiro Wilk Test Statistic	0.937
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00313	Mean	-6.435
SD	0.00595	SD	1.237
95% DL/2 (t) UCL	0.0046	95% H-Stat (DL/2) UCL	0.00556
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.23
		SD in Log Scale	1.302
		Mean in Original Scale	0.00138
		SD in Original Scale	0.00605
		95% t UCL	0.00288
		95% Percentile Bootstrap UCL	0.00314
		95% BCA Bootstrap UCL	0.00442
		95% H-UCL	0.00104
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.303	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.018		
nu star	6.058		
A-D Test Statistic	0.66	Nonparametric Statistics	
5% A-D Critical Value	0.807	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.807	Mean	0.00161
5% K-S Critical Value	0.287	SD	0.00599
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	9.57E-04
		95% KM (t) UCL	0.00322
Assuming Gamma Distribution		95% KM (z) UCL	0.00318
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00316
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.00719
Maximum	0.041	95% KM (BCA) UCL	0.00359
Mean	0.00152	95% KM (Percentile Bootstrap) UCL	0.00334
Median	1.00E-06	95% KM (Chebyshev) UCL	0.00578
SD	0.00609	97.5% KM (Chebyshev) UCL	0.00759
k star	0.161	99% KM (Chebyshev) UCL	0.0111
Theta star	0.00947		
Nu star	14.78	Potential UCLs to Use	
AppChi2	7.107	95% KM (t) UCL	0.00322
95% Gamma Approximate UCL (Use when n >= 40)	0.00316		
95% Adjusted Gamma UCL (Use when n < 40)	0.00324		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	59	Number of Distinct Observations	57

Raw Statistics		Log-transformed Statistics	
Minimum	1430	Minimum of Log Data	7.265
Maximum	30000	Maximum of Log Data	10.31
Mean	9760	Mean of log Data	9.017
Geometric Mean	8238	SD of log Data	0.62
Median	8580		
SD	5582		
Std. Error of Mean	726.8		
Coefficient of Variation	0.572		
Skewness	1.147		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.106	Lilliefors Test Statistic	0.0878
Lilliefors Critical Value	0.115	Lilliefors Critical Value	0.115
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	10974	95% H-UCL	11730
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	13723
95% Adjusted-CLT UCL (Chen-1995)	11071	97.5% Chebyshev (MVUE) UCL	15356
95% Modified-t UCL (Johnson-1978)	10992	99% Chebyshev (MVUE) UCL	18565

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.96	Data appear Normal at 5% Significance Level	
Theta Star	3297		
MLE of Mean	9760		
MLE of Standard Deviation	5673		
nu star	349.3		
Approximate Chi Square Value (.05)	307	Nonparametric Statistics	
Adjusted Level of Significance	0.0459	95% CLT UCL	10955
Adjusted Chi Square Value	306	95% Jackknife UCL	10974
		95% Standard Bootstrap UCL	10927
Anderson-Darling Test Statistic	0.156	95% Bootstrap-t UCL	11186
Anderson-Darling 5% Critical Value	0.757	95% Hall's Bootstrap UCL	11194
Kolmogorov-Smirnov Test Statistic	0.0522	95% Percentile Bootstrap UCL	10924
Kolmogorov-Smirnov 5% Critical Value	0.117	95% BCA Bootstrap UCL	11083
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	12927
		97.5% Chebyshev(Mean, Sd) UCL	14298
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	16991
95% Approximate Gamma UCL (Use when n >= 40)	11105		
95% Adjusted Gamma UCL (Use when n < 40)	11141		

Potential UCL to Use	Use 95% Student's-t UCL	10974

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Antimony

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	13
Number of Distinct Detected Data	12	Number of Non-Detect Data	46
		Percent Non-Detects	77.97%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.2	Minimum Detected	0.182
Maximum Detected	4	Maximum Detected	1.386
Mean of Detected	2.185	Mean of Detected	0.724
SD of Detected	0.803	SD of Detected	0.349
Minimum Non-Detect	0.01	Minimum Non-Detect	-4.605
Maximum Non-Detect	0.39	Maximum Non-Detect	-0.942

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	46
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	13
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	77.97%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.919	Shapiro Wilk Test Statistic	0.975
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.611	Mean	-1.462
SD	0.921	SD	1.551
95% DL/2 (t) UCL	0.811	95% H-Stat (DL/2) UCL	1.488

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.384
		SD in Log Scale	0.792
		Mean in Original Scale	0.929
		SD in Original Scale	0.807
		95% t UCL	1.105
		95% Percentile Bootstrap UCL	1.106
		95% BCA Bootstrap UCL	1.135
		95% H-UCL	1.162

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	6.847	Data appear Normal at 5% Significance Level	
Theta Star	0.319		
nu star	178		

		Nonparametric Statistics	
A-D Test Statistic	0.248		
5% A-D Critical Value	0.734	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.734	Mean	1.417
5% K-S Critical Value	0.237	SD	0.546
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0739
		95% KM (t) UCL	1.541
Assuming Gamma Distribution		95% KM (z) UCL	1.539
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.521
Minimum	1.00E-06	95% KM (bootstrap t) UCL	1.568
Maximum	4	95% KM (BCA) UCL	1.897
Mean	0.49	95% KM (Percentile Bootstrap) UCL	1.792
Median	1.00E-06	95% KM (Chebyshev) UCL	1.739
SD	0.981	97.5% KM (Chebyshev) UCL	1.879
k star	0.094	99% KM (Chebyshev) UCL	2.153
Theta star	5.22		
Nu star	11.09	Potential UCLs to Use	
AppChi2	4.632	95% KM (t) UCL	1.541
95% Gamma Approximate UCL (Use when n >= 40)	1.174	95% KM (Percentile Bootstrap) UCL	1.792
95% Adjusted Gamma UCL (Use when n < 40)	1.201		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	54
Number of Distinct Detected Data	42	Number of Non-Detect Data	5
		Percent Non-Detects	8.47%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.4	Minimum Detected	0.336
Maximum Detected	33	Maximum Detected	3.497
Mean of Detected	9.573	Mean of Detected	1.976
SD of Detected	6.672	SD of Detected	0.829
Minimum Non-Detect	0.2	Minimum Non-Detect	-1.609
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.11	Lilliefors Test Statistic	0.148
5% Lilliefors Critical Value	0.121	5% Lilliefors Critical Value	0.121
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	8.77	Mean	1.613
SD	6.91	SD	1.44
95% DL/2 (t) UCL	10.27	95% H-Stat (DL/2) UCL	25.36

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	8.466	Mean in Log Scale	1.818
SD	7.353	SD in Log Scale	0.952
95% MLE (t) UCL	10.07	Mean in Original Scale	8.86
95% MLE (Tiku) UCL	10.05	SD in Original Scale	6.802
		95% t UCL	10.34
		95% Percentile Bootstrap UCL	10.28
		95% BCA Bootstrap UCL	10.47
		95% H UCL	12.9

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.822	Data appear Normal at 5% Significance Level
Theta Star	5.255	
nu star	196.8	

		Nonparametric Statistics	
A-D Test Statistic	0.838		
5% A-D Critical Value	0.764	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.764	Mean	8.881
5% K-S Critical Value	0.123	SD	6.721
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.883
		95% KM (t) UCL	10.36
Assuming Gamma Distribution		95% KM (z) UCL	10.33
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	10.36
Minimum	0.000001	95% KM (bootstrap t) UCL	10.6
Maximum	33	95% KM (BCA) UCL	10.31
Mean	8.762	95% KM (Percentile Bootstrap) UCL	10.32
Median	8.3	95% KM (Chebyshev) UCL	12.73
SD	6.921	97.5% KM (Chebyshev) UCL	14.4
k star	0.415	99% KM (Chebyshev) UCL	17.67
Theta star	21.12		
Nu star	48.95	Potential UCLs to Use	
AppChi2	33.89	95% KM (t) UCL	10.36
95% Gamma Approximate UCL (Use when n >= 40)	12.66	95% KM (Percentile Bootstrap) UCL	10.32
95% Adjusted Gamma UCL (Use when n < 40)	12.77		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Barium

General Statistics (Units in mg/kg)

Number of Valid Observations	59	Number of Distinct Observations	53

Raw Statistics		Log-transformed Statistics	
Minimum	10.7	Minimum of Log Data	2.37
Maximum	1210	Maximum of Log Data	7.098
Mean	244.4	Mean of log Data	5.145
Geometric Mean	171.6	SD of log Data	0.943
Median	208		
SD	202.6		
Std. Error of Mean	26.38		
Coefficient of Variation	0.829		
Skewness	2.144		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.124	Lilliefors Test Statistic	0.13
Lilliefors Critical Value	0.115	Lilliefors Critical Value	0.115
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	288.5	95% H-UCL	354.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	429.8
95% Adjusted-CLT UCL (Chen-1995)	295.7	97.5% Chebyshev (MVUE) UCL	501.3
95% Modified-t UCL (Johnson-1978)	289.7	99% Chebyshev (MVUE) UCL	641.6

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.491	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	163.9		
MLE of Mean	244.4		
MLE of Standard Deviation	200.2		
nu star	175.9		
Approximate Chi Square Value (.05)	146.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0459	95% CLT UCL	287.8
Adjusted Chi Square Value	145.6	95% Jackknife UCL	288.5
		95% Standard Bootstrap UCL	287.7
Anderson-Darling Test Statistic	0.316	95% Bootstrap-t UCL	299.6
Anderson-Darling 5% Critical Value	0.768	95% Hall's Bootstrap UCL	311.9
Kolmogorov-Smirnov Test Statistic	0.0931	95% Percentile Bootstrap UCL	287.7
Kolmogorov-Smirnov 5% Critical Value	0.118	95% BCA Bootstrap UCL	297.9
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	359.4
		97.5% Chebyshev(Mean, Sd) UCL	409.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	506.9
95% Approximate Gamma UCL (Use when n >= 40)	294		
95% Adjusted Gamma UCL (Use when n < 40)	295.4		

Potential UCL to Use	Use 95% Approximate Gamma UCL	294

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Benzyl Butyl Phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	33
Number of Distinct Detected Data	30	Number of Non-Detect Data	26
		Percent Non-Detects	44.07%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.063	Minimum Detected	-2.765
Maximum Detected	36	Maximum Detected	3.584
Mean of Detected	2.189	Mean of Detected	-0.115
SD of Detected	6.142	SD of Detected	1.129
Minimum Non-Detect	0.035	Minimum Non-Detect	-3.352
Maximum Non-Detect	0.7	Maximum Non-Detect	-0.357

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	38
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	21
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	64.41%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.292	Shapiro Wilk Test Statistic	0.939
5% Shapiro Wilk Critical Value	0.931	5% Shapiro Wilk Critical Value	0.931
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.27	Mean	-1.219
SD	4.681	SD	1.623
95% DL/2 (t) UCL	2.288	95% H-Stat (DL/2) UCL	2.238

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.241
		SD in Log Scale	1.55
		Mean in Original Scale	1.257
		SD in Original Scale	4.684
		95% t UCL	2.276
		95% Percentile Bootstrap UCL	2.471
		95% BCA Bootstrap UCL	3.165
		95% H-UCL	1.849

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.635	Data appear Lognormal at 5% Significance Level
Theta Star	3.448	
nu star	41.91	

		Nonparametric Statistics	
A-D Test Statistic	2.818		
5% A-D Critical Value	0.795	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.795	Mean	1.257
5% K-S Critical Value	0.16	SD	4.644
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.614
		95% KM (t) UCL	2.283
Assuming Gamma Distribution		95% KM (z) UCL	2.267
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.265
Minimum	0.000001	95% KM (bootstrap t) UCL	5.752
Maximum	36	95% KM (BCA) UCL	2.686
Mean	1.224	95% KM (Percentile Bootstrap) UCL	2.436
Median	0.3	95% KM (Chebyshev) UCL	3.933
SD	4.692	97.5% KM (Chebyshev) UCL	5.091
k star	0.129	99% KM (Chebyshev) UCL	7.366
Theta star	9.477		
Nu star	15.24	Potential UCLs to Use	
AppChi2	7.432	95% KM (Chebyshev) UCL	3.933
95% Gamma Approximate UCL (Use when n >= 40)	2.511		
95% Adjusted Gamma UCL (Use when n < 40)	2.559		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Biphenyl (Diphenyl)

General Statistics (Units in mg/kg)

Number of Valid Data	47	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	46
		Percent Non-Detects	97.87%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, B

The data set for variable Biphenyl (Diphenyl) was not processed!

Bis(2-Ethylhexyl) Phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	36
Number of Distinct Detected Data	32	Number of Non-Detect Data	23
		Percent Non-Detects	38.98%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.035	Minimum Detected	-3.352
Maximum Detected	25	Maximum Detected	3.219
Mean of Detected	2.193	Mean of Detected	-0.438
SD of Detected	4.477	SD of Detected	1.684
Minimum Non-Detect	0.032	Minimum Non-Detect	-3.442
Maximum Non-Detect	1.8	Maximum Non-Detect	0.588

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	48
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	81.36%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.493	Shapiro Wilk Test Statistic	0.966
5% Shapiro Wilk Critical Value	0.935	5% Shapiro Wilk Critical Value	0.935
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.478	Mean	-0.909
SD	3.598	SD	1.643
95% DL/2 (t) UCL	2.261	95% H-Stat (DL/2) UCL	3.2
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.302
		SD in Log Scale	1.8
		Mean in Original Scale	1.377
		SD in Original Scale	3.627
		95% t UCL	2.166
		95% Percentile Bootstrap UCL	2.227
		95% BCA Bootstrap UCL	2.906
		95% H-UCL	3.192
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.492	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4.454		
nu star	35.44		
A-D Test Statistic	0.81	Nonparametric Statistics	
5% A-D Critical Value	0.811	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.811	Mean	1.4
5% K-S Critical Value	0.155	SD	3.591
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.475
		95% KM (t) UCL	2.193
Assuming Gamma Distribution		95% KM (z) UCL	2.181
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.188
Minimum	0.000001	95% KM (bootstrap t) UCL	3.286
Maximum	25	95% KM (BCA) UCL	2.469
Mean	1.349	95% KM (Percentile Bootstrap) UCL	2.248
Median	0.18	95% KM (Chebyshev) UCL	3.469
SD	3.637	97.5% KM (Chebyshev) UCL	4.364
k star	0.149	99% KM (Chebyshev) UCL	6.123
Theta star	9.067		
Nu star	17.55	Potential UCLs to Use	
AppChi2	9.068	95% KM (BCA) UCL	2.469
95% Gamma Approximate UCL (Use when n >= 40)	2.61		
95% Adjusted Gamma UCL (Use when n < 40)	2.655		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Gamma BHC (Lindane)

General Statistics (Units in mg/kg)

Number of Valid Data	55	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	47
		Percent Non-Detects	85.45%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00011	Minimum Detected	-9.115
Maximum Detected	0.013	Maximum Detected	-4.343
Mean of Detected	0.00235	Mean of Detected	-7.362
SD of Detected	0.00442	SD of Detected	1.7
Minimum Non-Detect	0.00042	Minimum Non-Detect	-7.775
Maximum Non-Detect	0.013	Maximum Non-Detect	-4.343

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	54
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	98.18%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.584	Shapiro Wilk Test Statistic	0.914
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00216	Mean	-6.507
SD	0.00205	SD	0.938
95% DL/2 (t) UCL	0.00262	95% H-Stat (DL/2) UCL	0.00309

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.083
		SD in Log Scale	0.863
		Mean in Original Scale	0.000614
		SD in Original Scale	0.00176
		95% t UCL	0.00101
		95% Percentile Bootstrap UCL	0.00106
		95% BCA Bootstrap UCL	0.00139
		95% H-UCL	0.000579

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.388	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.00604	
nu star	6.214	

		Nonparametric Statistics	
A-D Test Statistic	0.613		
5% A-D Critical Value	0.764	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.764	Mean	0.000707
5% K-S Critical Value	0.309	SD	0.00177
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.000294
		95% KM (t) UCL	0.0012
Assuming Gamma Distribution		95% KM (z) UCL	0.00119
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00119
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0018
Maximum	0.013	95% KM (BCA) UCL	0.00117
Mean	0.000744	95% KM (Percentile Bootstrap) UCL	0.0012
Median	7.29E-05	95% KM (Chebyshev) UCL	0.00199
SD	0.0019	97.5% KM (Chebyshev) UCL	0.00254
k star	0.244	99% KM (Chebyshev) UCL	0.00363
Theta star	0.00305		
Nu star	26.87	Potential UCLs to Use	
AppChi2	16.05	95% KM (t) UCL	0.0012
95% Gamma Approximate UCL (Use when n >= 40)	0.00125		
95% Adjusted Gamma UCL (Use when n < 40)	0.00126		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	45
Number of Distinct Detected Data	39	Number of Non-Detect Data	14
		Percent Non-Detects	23.73%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.1	Minimum Detected	0.0953
Maximum Detected	38	Maximum Detected	3.638
Mean of Detected	9.089	Mean of Detected	1.805
SD of Detected	8.302	SD of Detected	0.939
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.19	Maximum Non-Detect	-1.661

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	45
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	23.73%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.834	Shapiro Wilk Test Statistic	0.963
5% Shapiro Wilk Critical Value	0.945	5% Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	6.952	Mean	0.664
SD	8.199	SD	2.354
95% DL/2 (t) UCL	8.736	95% H-Stat (DL/2) UCL	125.2

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	5.479	Mean in Log Scale	1.291
SD	9.976	SD in Log Scale	1.261
95% MLE (t) UCL	7.65	Mean in Original Scale	7.115
95% MLE (Tiku) UCL	7.699	SD in Original Scale	8.065
		95% t UCL	8.87
		95% Percentile Bootstrap UCL	8.879
		95% BCA Bootstrap UCL	9.235
		95% H UCL	12.9

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.31	Data appear Gamma Distributed at 5% Significance Level
Theta Star	6.937	
nu star	117.9	

A-D Test Statistic	0.477	Nonparametric Statistics	
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	7.193
5% K-S Critical Value	0.134	SD	7.934
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.045
		95% KM (t) UCL	8.939
Assuming Gamma Distribution		95% KM (z) UCL	8.911
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	8.879
Minimum	0.000001	95% KM (bootstrap t) UCL	9.351
Maximum	38	95% KM (BCA) UCL	9.141
Mean	6.932	95% KM (Percentile Bootstrap) UCL	8.97
Median	3.7	95% KM (Chebyshev) UCL	11.75
SD	8.215	97.5% KM (Chebyshev) UCL	13.72
k star	0.194	99% KM (Chebyshev) UCL	17.59
Theta star	35.67		
Nu star	22.93	Potential UCLs to Use	
AppChi2	13.04	95% KM (BCA) UCL	9.141
95% Gamma Approximate UCL (Use when n >= 40)	12.19		
95% Adjusted Gamma UCL (Use when n < 40)	12.37		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbazole

General Statistics (Units in mg/kg)

Number of Valid Data	47	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	44
		Percent Non-Detects	93.62%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.06	Minimum Detected	-2.813
Maximum Detected	0.25	Maximum Detected	-1.386
Mean of Detected	0.124	Mean of Detected	-2.327
SD of Detected	0.109	SD of Detected	0.815
Minimum Non-Detect	0.045	Minimum Non-Detect	-3.101
Maximum Non-Detect	1.7	Maximum Non-Detect	0.531

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	47
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.758	Shapiro Wilk Test Statistic	0.767
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.192	Mean	-2.122
SD	0.198	SD	1.009
95% DL/2 (t) UCL	0.24	95% H-Stat (DL/2) UCL	0.282

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.996
		SD in Log Scale	0.623
		Mean in Original Scale	0.0247
		SD in Original Scale	0.0357
		95% t UCL	0.0335
		95% Percentile Bootstrap UCL	0.0347
		95% BCA Bootstrap UCL	0.0391
		95% H-UCL	0.0268

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Lognormal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.0693
5% K-S Critical Value	N/A	SD	0.0404
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0108
		95% KM (t) UCL	0.0874
Assuming Gamma Distribution		95% KM (z) UCL	0.087
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0834
Minimum	N/A	95% KM (bootstrap t) UCL	0.516
Maximum	N/A	95% KM (BCA) UCL	0.25
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.25
Median	N/A	95% KM (Chebyshev) UCL	0.116
SD	N/A	97.5% KM (Chebyshev) UCL	0.137
k star	N/A	99% KM (Chebyshev) UCL	0.177
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.0874
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.25
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	55
Number of Distinct Detected Data	54	Number of Non-Detect Data	4
		Percent Non-Detects	6.78%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.5	Minimum Detected	0.916
Maximum Detected	304	Maximum Detected	5.717
Mean of Detected	64.36	Mean of Detected	3.636
SD of Detected	67.85	SD of Detected	1.124
Minimum Non-Detect	0.29	Minimum Non-Detect	-1.238
Maximum Non-Detect	0.29	Maximum Non-Detect	-1.238

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.181	Lilliefors Test Statistic	0.0848
5% Lilliefors Critical Value	0.119	5% Lilliefors Critical Value	0.119
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	60	Mean	3.258
SD	67.46	SD	1.78
95% DL/2 (t) UCL	74.68	95% H-Stat (DL/2) UCL	290

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	57.31	Mean in Log Scale	3.458
SD	70.51	SD in Log Scale	1.274
95% MLE (t) UCL	72.65	Mean in Original Scale	60.19
95% MLE (Tiku) UCL	71.91	SD in Original Scale	67.3
		95% t UCL	74.83
		95% Percentile Bootstrap UCL	74.09
		95% BCA Bootstrap UCL	77.1
		95% H UCL	115.5

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.035	Data appear Gamma Distributed at 5% Significance Level
Theta Star	62.2	
nu star	113.8	

		Nonparametric Statistics	
A-D Test Statistic	0.267		
5% A-D Critical Value	0.778	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.778	Mean	60.16
5% K-S Critical Value	0.123	SD	66.75
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	8.77
		95% KM (t) UCL	74.82
Assuming Gamma Distribution		95% KM (z) UCL	74.59
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	74.8
Minimum	0.000001	95% KM (bootstrap t) UCL	79.18
Maximum	304	95% KM (BCA) UCL	76.09
Mean	59.99	95% KM (Percentile Bootstrap) UCL	75.36
Median	39	95% KM (Chebyshev) UCL	98.39
SD	67.47	97.5% KM (Chebyshev) UCL	114.9
k star	0.392	99% KM (Chebyshev) UCL	147.4
Theta star	153.2		
Nu star	46.21	Potential UCLs to Use	
AppChi2	31.61	95% KM (Chebyshev) UCL	98.39
95% Gamma Approximate UCL (Use when n >= 40)	87.69		
95% Adjusted Gamma UCL (Use when n < 40)	88.54		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	54
Number of Distinct Detected Data	49	Number of Non-Detect Data	5
		Percent Non-Detects	8.47%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.2	Minimum Detected	0.182
Maximum Detected	24	Maximum Detected	3.178
Mean of Detected	7.892	Mean of Detected	1.83
SD of Detected	5.636	SD of Detected	0.706
Minimum Non-Detect	0.17	Minimum Non-Detect	-1.772
Maximum Non-Detect	0.17	Maximum Non-Detect	-1.772

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.195	Lilliefors Test Statistic	0.0706
5% Lilliefors Critical Value	0.121	5% Lilliefors Critical Value	0.121
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	7.23	Mean	1.466
SD	5.817	SD	1.382
95% DL/2 (t) UCL	8.496	95% H-Stat (DL/2) UCL	19.48

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	6.972	Mean in Log Scale	1.692
SD	6.187	SD in Log Scale	0.819
95% MLE (t) UCL	8.318	Mean in Original Scale	7.328
95% MLE (Tiku) UCL	8.301	SD in Original Scale	5.703
		95% t UCL	8.569
		95% Percentile Bootstrap UCL	8.615
		95% BCA Bootstrap UCL	8.669
		95% H UCL	9.564

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.161	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.651	
nu star	233.4	

		Nonparametric Statistics	
A-D Test Statistic	0.553		
5% A-D Critical Value	0.761	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.761	Mean	7.325
5% K-S Critical Value	0.122	SD	5.658
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.744
		95% KM (t) UCL	8.567
Assuming Gamma Distribution		95% KM (z) UCL	8.548
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	8.536
Minimum	0.000001	95% KM (bootstrap t) UCL	8.736
Maximum	24	95% KM (BCA) UCL	8.571
Mean	7.223	95% KM (Percentile Bootstrap) UCL	8.605
Median	5.7	95% KM (Chebyshev) UCL	10.57
SD	5.826	97.5% KM (Chebyshev) UCL	11.97
k star	0.429	99% KM (Chebyshev) UCL	14.72
Theta star	16.84		
Nu star	50.61	Potential UCLs to Use	
AppChi2	35.28	95% KM (BCA) UCL	8.571
95% Gamma Approximate UCL (Use when n >= 40)	10.36		
95% Adjusted Gamma UCL (Use when n < 40)	10.46		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	58
Number of Distinct Detected Data	56	Number of Non-Detect Data	1
		Percent Non-Detects	1.69%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3.2	Minimum Detected	1.163
Maximum Detected	520	Maximum Detected	6.254
Mean of Detected	86.38	Mean of Detected	3.945
SD of Detected	86.53	SD of Detected	1.156
Minimum Non-Detect	0.36	Minimum Non-Detect	-1.022
Maximum Non-Detect	0.36	Maximum Non-Detect	-1.022

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.168	Lilliefors Test Statistic	0.126
5% Lilliefors Critical Value	0.116	5% Lilliefors Critical Value	0.116
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	84.91	Mean	3.849
SD	86.51	SD	1.362
95% DL/2 (t) UCL	103.7	95% H-Stat (DL/2) UCL	202.7

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	84.13	Mean in Log Scale	3.894
SD	86.89	SD in Log Scale	1.21
95% MLE (t) UCL	103	Mean in Original Scale	84.96
95% MLE (Tiku) UCL	101.9	SD in Original Scale	86.47
		95% t UCL	103.8
		95% Percentile Bootstrap UCL	102.9
		95% BCA Bootstrap UCL	107.3
		95% H UCL	157.6

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.064	Data appear Gamma Distributed at 5% Significance Level
Theta Star	81.2	
nu star	123.4	

		Nonparametric Statistics	
A-D Test Statistic	0.247		
5% A-D Critical Value	0.777	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.777	Mean	84.97
5% K-S Critical Value	0.12	SD	85.72
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	11.26
		95% KM (t) UCL	103.8
Assuming Gamma Distribution		95% KM (z) UCL	103.5
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	103.8
Minimum	0.000001	95% KM (bootstrap t) UCL	108.7
Maximum	520	95% KM (BCA) UCL	107
Mean	84.91	95% KM (Percentile Bootstrap) UCL	105.9
Median	65.2	95% KM (Chebyshev) UCL	134
SD	86.51	97.5% KM (Chebyshev) UCL	155.3
k star	0.723	99% KM (Chebyshev) UCL	197
Theta star	117.4		
Nu star	85.35	Potential UCLs to Use	
AppChi2	65.06	95% KM (Chebyshev) UCL	134
95% Gamma Approximate UCL (Use when n >= 40)	111.4		
95% Adjusted Gamma UCL (Use when n < 40)	112.2		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total Chlordane

General Statistics (Units in mg/kg)			
Number of Valid Data	55	Number of Detected Data	34
Number of Distinct Detected Data	32	Number of Non-Detect Data	21
		Percent Non-Detects	38.18%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00049	Minimum Detected	-7.621
Maximum Detected	1.07	Maximum Detected	0.0677
Mean of Detected	0.15	Mean of Detected	-3.134
SD of Detected	0.231	SD of Detected	1.878
Minimum Non-Detect	0.0019	Minimum Non-Detect	-6.266
Maximum Non-Detect	0.086	Maximum Non-Detect	-2.453
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	13
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	76.36%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.672	Shapiro Wilk Test Statistic	0.969
5% Shapiro Wilk Critical Value	0.933	5% Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.101	Mean	-3.756
SD	0.192	SD	1.991
95% DL/2 (t) UCL	0.145	95% H-Stat (DL/2) UCL	0.46
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.118
		SD in Log Scale	2.034
		Mean in Original Scale	0.0947
		SD in Original Scale	0.194
		95% t UCL	0.139
		95% Percentile Bootstrap UCL	0.142
		95% BCA Bootstrap UCL	0.153
		95% H-UCL	0.363
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.486	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.309		
nu star	33.04		
A-D Test Statistic	0.416	Nonparametric Statistics	
5% A-D Critical Value	0.811	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.811	Mean	0.0968
5% K-S Critical Value	0.159	SD	0.192
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0263
		95% KM (t) UCL	0.141
Assuming Gamma Distribution		95% KM (z) UCL	0.14
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.141
Minimum	0.000001	95% KM (bootstrap t) UCL	0.165
Maximum	1.07	95% KM (BCA) UCL	0.148
Mean	0.0934	95% KM (Percentile Bootstrap) UCL	0.139
Median	0.0105	95% KM (Chebyshev) UCL	0.212
SD	0.195	97.5% KM (Chebyshev) UCL	0.261
k star	0.171	99% KM (Chebyshev) UCL	0.359
Theta star	0.545		
Nu star	18.83	Potential UCLs to Use	
AppChi2	9.995	95% KM (BCA) UCL	0.148
95% Gamma Approximate UCL (Use when n >= 40)	0.176		
95% Adjusted Gamma UCL (Use when n < 40)	0.179		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenzofuran

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	57
		Percent Non-Detects	96.61%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.083	Minimum Detected	-2.489
Maximum Detected	0.22	Maximum Detected	-1.514
Mean of Detected	0.152	Mean of Detected	-2.002
SD of Detected	0.0969	SD of Detected	0.689
Minimum Non-Detect	0.04	Minimum Non-Detect	-3.219
Maximum Non-Detect	1.8	Maximum Non-Detect	0.588

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	59
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).
Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.285	Mean	-1.776
SD	0.277	SD	1.091
95% DL/2 (t) UCL	0.345	95% H-Stat (DL/2) UCL	0.439

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A	Kaplan-Meier (KM) Method	
5% A-D Critical Value	N/A		
K-S Test Statistic	N/A	Mean	0.0906
5% K-S Critical Value	N/A	SD	0.0314
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0105
		95% KM (t) UCL	0.108
Assuming Gamma Distribution		95% KM (z) UCL	0.108
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.177
Minimum	N/A	95% KM (bootstrap t) UCL	0.0954
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.22
Median	N/A	95% KM (Chebyshev) UCL	0.136
SD	N/A	97.5% KM (Chebyshev) UCL	0.156
k star	N/A	99% KM (Chebyshev) UCL	0.195
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.108
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	0.22
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics (Units in mg/kg)			
Number of Valid Data	55	Number of Detected Data	34
Number of Distinct Detected Data	31	Number of Non-Detect Data	21
		Percent Non-Detects	38.18%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.002	Minimum Detected	-6.215
Maximum Detected	2.4	Maximum Detected	0.875
Mean of Detected	0.379	Mean of Detected	-2.332
SD of Detected	0.559	SD of Detected	2.037
Minimum Non-Detect	0.0036	Minimum Non-Detect	-5.627
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	29
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	26
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	52.73%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.699	Shapiro Wilk Test Statistic	0.941
5% Shapiro Wilk Critical Value	0.933	5% Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.236	Mean	-3.5
SD	0.474	SD	2.22
95% DL/2 (t) UCL	0.343	95% H-Stat (DL/2) UCL	1.203
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.594
		SD in Log Scale	2.318
		Mean in Original Scale	0.236
		SD in Original Scale	0.474
		95% t UCL	0.343
		95% Percentile Bootstrap UCL	0.352
		95% BCA Bootstrap UCL	0.366
		95% H-UCL	1.518
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.449	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.845		
nu star	30.51		
A-D Test Statistic	0.457	Nonparametric Statistics	
5% A-D Critical Value	0.818	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.818	Mean	0.236
5% K-S Critical Value	0.16	SD	0.47
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0643
		95% KM (t) UCL	0.343
Assuming Gamma Distribution		95% KM (z) UCL	0.342
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.343
Minimum	0.000001	95% KM (bootstrap t) UCL	0.402
Maximum	2.4	95% KM (BCA) UCL	0.353
Mean	0.234	95% KM (Percentile Bootstrap) UCL	0.346
Median	0.0098	95% KM (Chebyshev) UCL	0.516
SD	0.475	97.5% KM (Chebyshev) UCL	0.637
k star	0.151	99% KM (Chebyshev) UCL	0.876
Theta star	1.557		
Nu star	16.56	Potential UCLs to Use	
AppChi2	8.362	95% KM (BCA) UCL	0.353
95% Gamma Approximate UCL (Use when n >= 40)	0.464		
95% Adjusted Gamma UCL (Use when n < 40)	0.473		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Di-N-Butyl Phthalate

General Statistics (Units in mg/kg)			
Number of Valid Data	59	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	48
		Percent Non-Detects	81.36%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.02	Minimum Detected	-3.912
Maximum Detected	2.3	Maximum Detected	0.833
Mean of Detected	0.355	Mean of Detected	-1.982
SD of Detected	0.667	SD of Detected	1.31
Minimum Non-Detect	0.04	Minimum Non-Detect	-3.219
Maximum Non-Detect	1.8	Maximum Non-Detect	0.588
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	58
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	98.31%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.53	Shapiro Wilk Test Statistic	0.942
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.335	Mean	-1.709
SD	0.386	SD	1.191
95% DL/2 (t) UCL	0.419	95% H-Stat (DL/2) UCL	0.561
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.123
		SD in Log Scale	0.941
		Mean in Original Scale	0.0991
		SD in Original Scale	0.304
		95% t UCL	0.165
		95% Percentile Bootstrap UCL	0.176
		95% BCA Bootstrap UCL	0.221
		95% H-UCL	0.0908
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.53	Data appear Lognormal at 5% Significance Level	
Theta Star	0.67		
nu star	11.66		
A-D Test Statistic	0.944	Nonparametric Statistics	
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	0.114
5% K-S Critical Value	0.267	SD	0.305
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0436
		95% KM (t) UCL	0.187
Assuming Gamma Distribution		95% KM (z) UCL	0.186
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.179
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.303
Maximum	2.3	95% KM (BCA) UCL	0.211
Mean	0.101	95% KM (Percentile Bootstrap) UCL	0.196
Median	1.00E-06	95% KM (Chebyshev) UCL	0.304
SD	0.313	97.5% KM (Chebyshev) UCL	0.387
k star	0.121	99% KM (Chebyshev) UCL	0.548
Theta star	0.831		
Nu star	14.28	Potential UCLs to Use	
AppChi2	6.762	95% KM (BCA) UCL	0.211
95% Gamma Approximate UCL (Use when n >= 40)	0.212		
95% Adjusted Gamma UCL (Use when n < 40)	0.216		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Beta Endosulfan

General Statistics (Units in mg/kg)

Number of Valid Data	44	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	36
		Percent Non-Detects	81.82%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00865	Minimum Detected	-4.75
Maximum Detected	0.59	Maximum Detected	-0.528
Mean of Detected	0.111	Mean of Detected	-3.246
SD of Detected	0.198	SD of Detected	1.463
Minimum Non-Detect	0.0033	Minimum Non-Detect	-5.714
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	39
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	5
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	88.64%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.579	Shapiro Wilk Test Statistic	0.898
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0235	Mean	-5.236
SD	0.0902	SD	1.245
95% DL/2 (t) UCL	0.0463	95% H-Stat (DL/2) UCL	0.0191

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-7.877
		SD in Log Scale	2.565
		Mean in Original Scale	0.0203
		SD in Original Scale	0.0909
		95% t UCL	0.0434
		95% Percentile Bootstrap UCL	0.0471
		95% BCA Bootstrap UCL	0.0656
		95% H-UCL	0.0593

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.454	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.243		
nu star	7.266		
A-D Test Statistic	0.707	Nonparametric Statistics	
5% A-D Critical Value	0.756	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.756	Mean	0.0272
5% K-S Critical Value	0.307	SD	0.0883
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0142
		95% KM (t) UCL	0.0511
Assuming Gamma Distribution		95% KM (z) UCL	0.0506
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0494
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.195
Maximum	0.59	95% KM (BCA) UCL	0.0642
Mean	0.0201	95% KM (Percentile Bootstrap) UCL	0.0574
Median	1.00E-06	95% KM (Chebyshev) UCL	0.0893
SD	0.0909	97.5% KM (Chebyshev) UCL	0.116
k star	0.11	99% KM (Chebyshev) UCL	0.169
Theta star	0.183		
Nu star	9.656	Potential UCLs to Use	
AppChi2	3.728	95% KM (t) UCL	0.0511
95% Gamma Approximate UCL (Use when n >= 40)	0.0521		
95% Adjusted Gamma UCL (Use when n < 40)	0.0539		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin Aldehyde

General Statistics (Units in mg/kg)

Number of Valid Data	54	Number of Detected Data	18
Number of Distinct Detected Data	17	Number of Non-Detect Data	36
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00027	Minimum Detected	-8.217
Maximum Detected	0.13	Maximum Detected	-2.04
Mean of Detected	0.0241	Mean of Detected	-4.744
SD of Detected	0.0369	SD of Detected	1.618
Minimum Non-Detect	0.0033	Minimum Non-Detect	-5.714
Maximum Non-Detect	0.026	Maximum Non-Detect	-3.65

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	49
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	90.74%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.638	Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0111	Mean	-5.311
SD	0.023	SD	1.135
95% DL/2 (t) UCL	0.0163	95% H-Stat (DL/2) UCL	0.0139

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.045
		SD in Log Scale	1.423
		Mean in Original Scale	0.00907
		SD in Original Scale	0.0235
		95% t UCL	0.0144
		95% Percentile Bootstrap UCL	0.0146
		95% BCA Bootstrap UCL	0.0172
		95% H-UCL	0.0115

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.543	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.0443	
nu star	19.53	

		Nonparametric Statistics	
A-D Test Statistic	0.479		
5% A-D Critical Value	0.791	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.791	Mean	0.00956
5% K-S Critical Value	0.214	SD	0.0232
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00328
		95% KM (t) UCL	0.015
Assuming Gamma Distribution		95% KM (z) UCL	0.0149
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.015
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0218
Maximum	0.13	95% KM (BCA) UCL	0.0155
Mean	0.00913	95% KM (Percentile Bootstrap) UCL	0.0153
Median	0.000001	95% KM (Chebyshev) UCL	0.0238
SD	0.0237	97.5% KM (Chebyshev) UCL	0.03
k star	0.161	99% KM (Chebyshev) UCL	0.0422
Theta star	0.0566		
Nu star	17.44	Potential UCLs to Use	
AppChi2	8.984	95% KM (t) UCL	0.015
95% Gamma Approximate UCL (Use when n >= 40)	0.0177		
95% Adjusted Gamma UCL (Use when n < 40)	0.0181		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor

General Statistics (Units in mg/kg)

Number of Valid Data	55	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	54
		Percent Non-Detects	98.18%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BT

The data set for variable Heptachlor was not processed!

HMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	52
Number of Distinct Detected Data	51	Number of Non-Detect Data	7
		Percent Non-Detects	11.86%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.076	Minimum Detected	-2.577
Maximum Detected	62.4	Maximum Detected	4.134
Mean of Detected	8.761	Mean of Detected	1.499
SD of Detected	11.15	SD of Detected	1.336
Minimum Non-Detect	0.051	Minimum Non-Detect	-2.976
Maximum Non-Detect	1.6	Maximum Non-Detect	0.47

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	42
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	28.81%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.218	Lilliefors Test Statistic	0.101
5% Lilliefors Critical Value	0.123	5% Lilliefors Critical Value	0.123
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	7.749	Mean	1.091
SD	10.82	SD	1.719
95% DL/2 (t) UCL	10.1	95% H-Stat (DL/2) UCL	28.47

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	5.341	Mean in Log Scale	1.183
SD	13.43	SD in Log Scale	1.53
95% MLE (t) UCL	8.263	Mean in Original Scale	7.761
95% MLE (Tiku) UCL	8.371	SD in Original Scale	10.81
		95% t UCL	10.11
		95% Percentile Bootstrap UCL	10.31
		95% BCA Bootstrap UCL	10.68
		95% H UCL	20.02

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.837	Data appear Gamma Distributed at 5% Significance Level
Theta Star	10.47	
nu star	87.04	

		Nonparametric Statistics	
A-D Test Statistic	0.408		
5% A-D Critical Value	0.786	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.786	Mean	7.738
5% K-S Critical Value	0.127	SD	10.74
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.411
		95% KM (t) UCL	10.1
Assuming Gamma Distribution		95% KM (z) UCL	10.06
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	10.09
Minimum	0.000001	95% KM (bootstrap t) UCL	11.35
Maximum	62.4	95% KM (BCA) UCL	10.52
Mean	7.721	95% KM (Percentile Bootstrap) UCL	10.31
Median	4.786	95% KM (Chebyshev) UCL	13.89
SD	10.84	97.5% KM (Chebyshev) UCL	16.55
k star	0.289	99% KM (Chebyshev) UCL	21.78
Theta star	26.67		
Nu star	34.16	Potential UCLs to Use	
AppChi2	21.79	95% KM (Chebyshev) UCL	13.89
95% Gamma Approximate UCL (Use when n >= 40)	12.1		
95% Adjusted Gamma UCL (Use when n < 40)	12.24		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	59	Number of Distinct Observations	57

Raw Statistics		Log-transformed Statistics	
Minimum	1.9	Minimum of Log Data	0.642
Maximum	1245	Maximum of Log Data	7.127
Mean	198.2	Mean of log Data	4.88
Geometric Mean	131.6	SD of log Data	1.019
Median	139		
SD	200.9		
Std. Error of Mean	26.16		
Coefficient of Variation	1.014		
Skewness	3.052		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.168	Lilliefors Test Statistic	0.108
Lilliefors Critical Value	0.115	Lilliefors Critical Value	0.115
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	241.9	95% H-UCL	303.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	368.3
95% Adjusted-CLT UCL (Chen-1995)	252.3	97.5% Chebyshev (MVUE) UCL	433.3
95% Modified-t UCL (Johnson-1978)	243.6	99% Chebyshev (MVUE) UCL	560.8

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.307	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	151.7		
MLE of Mean	198.2		
MLE of Standard Deviation	173.4		
nu star	154.2		
Approximate Chi Square Value (.05)	126.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0459	95% CLT UCL	241.2
Adjusted Chi Square Value	125.8	95% Jackknife UCL	241.9
		95% Standard Bootstrap UCL	240
Anderson-Darling Test Statistic	0.46	95% Bootstrap-t UCL	263.4
Anderson-Darling 5% Critical Value	0.772	95% Hall's Bootstrap UCL	275.6
Kolmogorov-Smirnov Test Statistic	0.078	95% Percentile Bootstrap UCL	241.4
Kolmogorov-Smirnov 5% Critical Value	0.118	95% BCA Bootstrap UCL	254.6
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	312.2
		97.5% Chebyshev(Mean, Sd) UCL	361.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	458.4
95% Approximate Gamma UCL (Use when n >= 40)	241.6		
95% Adjusted Gamma UCL (Use when n < 40)	242.8		

Potential UCL to Use	Use 95% Approximate Gamma UCL	241.6

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	59	Number of Distinct Observations	56

Raw Statistics		Log-transformed Statistics	
Minimum	12	Minimum of Log Data	2.485
Maximum	1800	Maximum of Log Data	7.496
Mean	480.8	Mean of log Data	5.666
Geometric Mean	288.9	SD of log Data	1.084
Median	301		
SD	492.4		
Std. Error of Mean	64.11		
Coefficient of Variation	1.024		
Skewness	1.518		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.222	Lilliefors Test Statistic	0.0643
Lilliefors Critical Value	0.115	Lilliefors Critical Value	0.115
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	588	95% H-UCL	739.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	892.4
95% Adjusted-CLT UCL (Chen-1995)	599.8	97.5% Chebyshev (MVUE) UCL	1057
95% Modified-t UCL (Johnson-1978)	590.1	99% Chebyshev (MVUE) UCL	1381

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.073	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	447.9		
MLE of Mean	480.8		
MLE of Standard Deviation	464.1		
nu star	126.7		
Approximate Chi Square Value (.05)	101.7	Nonparametric Statistics	
Adjusted Level of Significance	0.0459	95% CLT UCL	586.3
Adjusted Chi Square Value	101.1	95% Jackknife UCL	588
		95% Standard Bootstrap UCL	587.8
Anderson-Darling Test Statistic	0.859	95% Bootstrap-t UCL	610
Anderson-Darling 5% Critical Value	0.777	95% Hall's Bootstrap UCL	602.3
Kolmogorov-Smirnov Test Statistic	0.103	95% Percentile Bootstrap UCL	590
Kolmogorov-Smirnov 5% Critical Value	0.119	95% BCA Bootstrap UCL	597.6
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	760.3
		97.5% Chebyshev(Mean, Sd) UCL	881.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1119
95% Approximate Gamma UCL (Use when n >= 40)	599		
95% Adjusted Gamma UCL (Use when n < 40)	602.3		

Potential UCL to Use	Use 95% Approximate Gamma UCL	599

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	54
Number of Distinct Detected Data	45	Number of Non-Detect Data	5
		Percent Non-Detects	8.47%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.028	Minimum Detected	-3.576
Maximum Detected	1.1	Maximum Detected	0.0953
Mean of Detected	0.317	Mean of Detected	-1.559
SD of Detected	0.269	SD of Detected	0.975
Minimum Non-Detect	0.018	Minimum Non-Detect	-4.017
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.183	Lilliefors Test Statistic	0.0901
5% Lilliefors Critical Value	0.121	5% Lilliefors Critical Value	0.121
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.291	Mean	-1.826
SD	0.271	SD	1.286
95% DL/2 (t) UCL	0.35	95% H-Stat (DL/2) UCL	0.599

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.279	Mean in Log Scale	-1.749
SD	0.287	SD in Log Scale	1.129
95% MLE (t) UCL	0.341	Mean in Original Scale	0.293
95% MLE (Tiku) UCL	0.34	SD in Original Scale	0.27
		95% t UCL	0.351
		95% Percentile Bootstrap UCL	0.352
		95% BCA Bootstrap UCL	0.359
		95% H UCL	0.481

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.295	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	0.245	
nu star	139.8	

A-D Test Statistic	0.826	Nonparametric Statistics	
5% A-D Critical Value	0.771	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.771	Mean	0.293
5% K-S Critical Value	0.124	SD	0.267
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0351
		95% KM (t) UCL	0.352
Assuming Gamma Distribution		95% KM (z) UCL	0.351
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.351
Minimum	0.000001	95% KM (bootstrap t) UCL	0.357
Maximum	1.1	95% KM (BCA) UCL	0.356
Mean	0.291	95% KM (Percentile Bootstrap) UCL	0.353
Median	0.19	95% KM (Chebyshev) UCL	0.446
SD	0.272	97.5% KM (Chebyshev) UCL	0.512
k star	0.458	99% KM (Chebyshev) UCL	0.643
Theta star	0.634		
Nu star	54.08	Potential UCLs to Use	
AppChi2	38.18	95% KM (Chebyshev) UCL	0.446
95% Gamma Approximate UCL (Use when n >= 40)	0.412		
95% Adjusted Gamma UCL (Use when n < 40)	0.415		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Methoxychlor

General Statistics (Units in mg/kg)

Number of Valid Data	55	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	47
		Percent Non-Detects	85.45%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0023	Minimum Detected	-6.075
Maximum Detected	0.043	Maximum Detected	-3.147
Mean of Detected	0.0138	Mean of Detected	-4.781
SD of Detected	0.0142	SD of Detected	1.097
Minimum Non-Detect	0.0038	Minimum Non-Detect	-5.573
Maximum Non-Detect	0.13	Maximum Non-Detect	-2.04

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	55
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.826	Shapiro Wilk Test Statistic	0.93
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0216	Mean	-4.123
SD	0.0157	SD	0.819
95% DL/2 (t) UCL	0.0251	95% H-Stat (DL/2) UCL	0.0288

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.304
		SD in Log Scale	0.579
		Mean in Original Scale	0.00618
		SD in Original Scale	0.00627
		95% t UCL	0.0076
		95% Percentile Bootstrap UCL	0.00769
		95% BCA Bootstrap UCL	0.00852
		95% H-UCL	0.00685

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.798	Data appear Normal at 5% Significance Level	
Theta Star	0.0173		
nu star	12.76		

		Nonparametric Statistics	
A-D Test Statistic	0.345		
5% A-D Critical Value	0.733	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.733	Mean	0.00737
5% K-S Critical Value	0.301	SD	0.00832
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00197
		95% KM (t) UCL	0.0107
Assuming Gamma Distribution		95% KM (z) UCL	0.0106
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0107
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0119
Maximum	0.043	95% KM (BCA) UCL	0.0115
Mean	0.00821	95% KM (Percentile Bootstrap) UCL	0.0109
Median	0.00772	95% KM (Chebyshev) UCL	0.016
SD	0.00718	97.5% KM (Chebyshev) UCL	0.0197
k star	0.764	99% KM (Chebyshev) UCL	0.027
Theta star	0.0107		
Nu star	84.06	Potential UCLs to Use	
AppChi2	63.93	95% KM (t) UCL	0.0107
95% Gamma Approximate UCL (Use when n >= 40)	0.0108	95% KM (Percentile Bootstrap) UCL	0.0109
95% Adjusted Gamma UCL (Use when n < 40)	0.0109		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Nickel

General Statistics (Units in mg/kg)

Number of Valid Observations	59	Number of Distinct Observations	55

Raw Statistics		Log-transformed Statistics	
Minimum	1.2	Minimum of Log Data	0.182
Maximum	72	Maximum of Log Data	4.277
Mean	20.67	Mean of log Data	2.676
Geometric Mean	14.52	SD of log Data	0.961
Median	16.1		
SD	15.73		
Std. Error of Mean	2.048		
Coefficient of Variation	0.761		
Skewness	1.108		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.154	Lilliefors Test Statistic	0.127
Lilliefors Critical Value	0.115	Lilliefors Critical Value	0.115
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	24.1	95% H-UCL	30.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	37.34
95% Adjusted-CLT UCL (Chen-1995)	24.36	97.5% Chebyshev (MVUE) UCL	43.63
95% Modified-t UCL (Johnson-1978)	24.15	99% Chebyshev (MVUE) UCL	56

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.494	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	13.84		
MLE of Mean	20.67		
MLE of Standard Deviation	16.91		
nu star	176.3		
Approximate Chi Square Value (.05)	146.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0459	95% CLT UCL	24.04
Adjusted Chi Square Value	145.9	95% Jackknife UCL	24.1
		95% Standard Bootstrap UCL	23.92
Anderson-Darling Test Statistic	0.333	95% Bootstrap-t UCL	24.44
Anderson-Darling 5% Critical Value	0.768	95% Hall's Bootstrap UCL	24.4
Kolmogorov-Smirnov Test Statistic	0.075	95% Percentile Bootstrap UCL	24.18
Kolmogorov-Smirnov 5% Critical Value	0.118	95% BCA Bootstrap UCL	24.12
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	29.6
		97.5% Chebyshev(Mean, Sd) UCL	33.46
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	41.05
95% Approximate Gamma UCL (Use when n >= 40)	24.86		
95% Adjusted Gamma UCL (Use when n < 40)	24.98		

Potential UCL to Use	Use 95% Approximate Gamma UCL	24.86

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Selenium

General Statistics (Units in mg/kg)

Number of Valid Data	43	Number of Detected Data	13
Number of Distinct Detected Data	10	Number of Non-Detect Data	30
		Percent Non-Detects	69.77%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.2	Minimum Detected	-1.609
Maximum Detected	5	Maximum Detected	1.609
Mean of Detected	3	Mean of Detected	0.934
SD of Detected	1.148	SD of Detected	0.8
Minimum Non-Detect	0.034	Minimum Non-Detect	-3.381
Maximum Non-Detect	0.81	Maximum Non-Detect	-0.211

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	31
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	72.09%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.928	Shapiro Wilk Test Statistic	0.598
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.153	Mean	-0.643
SD	1.379	SD	1.455
95% DL/2 (t) UCL	1.507	95% H-Stat (DL/2) UCL	2.91

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.408
		SD in Log Scale	1.181
		Mean in Original Scale	1.241
		SD in Original Scale	1.349
		95% t UCL	1.587
		95% Percentile Bootstrap UCL	1.573
		95% BCA Bootstrap UCL	1.627
		95% H-UCL	2.133

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	2.502	Data appear Normal at 5% Significance Level	
Theta Star	1.199		
nu star	65.04		

		Nonparametric Statistics	
A-D Test Statistic	1.418		
5% A-D Critical Value	0.739	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.739	Mean	1.047
5% K-S Critical Value	0.238	SD	1.422
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.226
		95% KM (t) UCL	1.426
Assuming Gamma Distribution		95% KM (z) UCL	1.418
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.968
Minimum	0.000001	95% KM (bootstrap t) UCL	1.437
Maximum	5	95% KM (BCA) UCL	2.877
Mean	0.972	95% KM (Percentile Bootstrap) UCL	2.837
Median	0.000001	95% KM (Chebyshev) UCL	2.03
SD	1.502	97.5% KM (Chebyshev) UCL	2.456
k star	0.109	99% KM (Chebyshev) UCL	3.292
Theta star	8.934		
Nu star	9.354	Potential UCLs to Use	
AppChi2	3.542	95% KM (t) UCL	1.426
95% Gamma Approximate UCL (Use when n >= 40)	2.566	95% KM (Percentile Bootstrap) UCL	2.837
95% Adjusted Gamma UCL (Use when n < 40)	2.659		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Silver

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	42
Number of Distinct Detected Data	37	Number of Non-Detect Data	17
		Percent Non-Detects	28.81%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.2	Minimum Detected	0.182
Maximum Detected	62.7	Maximum Detected	4.138
Mean of Detected	7.814	Mean of Detected	1.65
SD of Detected	10.19	SD of Detected	0.84
Minimum Non-Detect	0.001	Minimum Non-Detect	-6.908
Maximum Non-Detect	0.17	Maximum Non-Detect	-1.772

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	42
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	28.81%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.535	Shapiro Wilk Test Statistic	0.909
5% Shapiro Wilk Critical Value	0.942	5% Shapiro Wilk Critical Value	0.942
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.586	Mean	0.377
SD	9.268	SD	2.236
95% DL/2 (t) UCL	7.603	95% H-Stat (DL/2) UCL	62.23

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.221	Mean in Log Scale	1.076
SD	11.68	SD in Log Scale	1.185
95% MLE (t) UCL	5.764	Mean in Original Scale	5.792
95% MLE (Tiku) UCL	5.856	SD in Original Scale	9.151
		95% t UCL	7.783
		95% Percentile Bootstrap UCL	7.882
		95% BCA Bootstrap UCL	8.45
		95% H UCL	8.981

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.293	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	6.044	
nu star	108.6	

		Nonparametric Statistics	
A-D Test Statistic	1.237		
5% A-D Critical Value	0.769	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.769	Mean	5.908
5% K-S Critical Value	0.139	SD	9.008
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	1.187
		95% KM (t) UCL	7.893
Assuming Gamma Distribution		95% KM (z) UCL	7.861
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	7.793
Minimum	0.000001	95% KM (bootstrap t) UCL	9.646
Maximum	62.7	95% KM (BCA) UCL	8.4
Mean	5.563	95% KM (Percentile Bootstrap) UCL	8.136
Median	2.8	95% KM (Chebyshev) UCL	11.08
SD	9.282	97.5% KM (Chebyshev) UCL	13.32
k star	0.17	99% KM (Chebyshev) UCL	17.72
Theta star	32.71		
Nu star	20.07	Potential UCLs to Use	
AppChi2	10.9	95% KM (Percentile Bootstrap) UCL	8.136
95% Gamma Approximate UCL (Use when n >= 40)	10.24		
95% Adjusted Gamma UCL (Use when n < 40)	10.4		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Thallium

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	58
		Percent Non-Detects	98.31%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, B

The data set for variable Thallium was not processed!

Total DDx

General Statistics (Units in mg/kg)			
Number of Valid Data	55	Number of Detected Data	40
Number of Distinct Detected Data	38	Number of Non-Detect Data	15
		Percent Non-Detects	27.27%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0037	Minimum Detected	-5.599
Maximum Detected	2	Maximum Detected	0.693
Mean of Detected	0.344	Mean of Detected	-2.344
SD of Detected	0.508	SD of Detected	1.859
Minimum Non-Detect	0.0036	Minimum Non-Detect	-5.627
Maximum Non-Detect	0.017	Maximum Non-Detect	-4.075
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	30
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	45.45%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.693	Shapiro Wilk Test Statistic	0.942
5% Shapiro Wilk Critical Value	0.94	5% Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.252	Mean	-3.1
SD	0.458	SD	2.03
95% DL/2 (t) UCL	0.355	95% H-Stat (DL/2) UCL	0.991
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.000883	Mean in Log Scale	-3.21
SD	0.697	SD in Log Scale	2.187
95% MLE (t) UCL	0.158	Mean in Original Scale	0.252
95% MLE (Tiku) UCL	0.186	SD in Original Scale	0.458
		95% t UCL	0.355
		95% Percentile Bootstrap UCL	0.354
		95% BCA Bootstrap UCL	0.385
		95% H UCL	1.445
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.477	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.721		
nu star	38.17		
A-D Test Statistic	0.738	Nonparametric Statistics	
5% A-D Critical Value	0.814	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.814	Mean	0.252
5% K-S Critical Value	0.148	SD	0.454
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0619
		95% KM (t) UCL	0.356
Assuming Gamma Distribution		95% KM (z) UCL	0.354
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.355
Minimum	0.000001	95% KM (bootstrap t) UCL	0.401
Maximum	2	95% KM (BCA) UCL	0.355
Mean	0.25	95% KM (Percentile Bootstrap) UCL	0.357
Median	0.029	95% KM (Chebyshev) UCL	0.522
SD	0.459	97.5% KM (Chebyshev) UCL	0.639
k star	0.185	99% KM (Chebyshev) UCL	0.868
Theta star	1.354		
Nu star	20.32	Potential UCLs to Use	
AppChi2	11.09	95% KM (Chebyshev) UCL	0.522
95% Gamma Approximate UCL (Use when n >= 40)	0.458		
95% Adjusted Gamma UCL (Use when n < 40)	0.466		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics (Units in mg/kg)			
Number of Valid Data	305	Number of Detected Data	285
Number of Distinct Detected Data	188	Number of Non-Detect Data	20
		Percent Non-Detects	6.56%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.027	Minimum Detected	-3.612
Maximum Detected	79.5	Maximum Detected	4.376
Mean of Detected	8.934	Mean of Detected	0.864
SD of Detected	13.83	SD of Detected	1.951
Minimum Non-Detect	0.034	Minimum Non-Detect	-3.381
Maximum Non-Detect	0.42	Maximum Non-Detect	-0.868
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	82
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	223
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	26.89%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.26	Lilliefors Test Statistic	0.0989
5% Lilliefors Critical Value	0.0525	5% Lilliefors Critical Value	0.0525
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	8.351	Mean	0.575
SD	13.55	SD	2.188
95% DL/2 (t) UCL	9.631	95% H-Stat (DL/2) UCL	29.48
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	5.252	Mean in Log Scale	0.598
SD	16.83	SD in Log Scale	2.143
95% MLE (t) UCL	6.842	Mean in Original Scale	8.351
95% MLE (Tiku) UCL	6.88	SD in Original Scale	13.55
		95% t UCL	9.631
		95% Percentile Bootstrap UCL	9.704
		95% BCA Bootstrap UCL	9.817
		95% H UCL	26.94
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.479	Data do not follow a Discernable Distribution (0.05)	
Theta Star	18.65		
nu star	273.1		
A-D Test Statistic	2.289	Nonparametric Statistics	
5% A-D Critical Value	0.826	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.826	Mean	8.351
5% K-S Critical Value	0.0571	SD	13.52
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.776
		95% KM (t) UCL	9.631
Assuming Gamma Distribution		95% KM (z) UCL	9.627
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	9.63
Minimum	1.00E-06	95% KM (bootstrap t) UCL	9.727
Maximum	79.5	95% KM (BCA) UCL	9.517
Mean	8.348	95% KM (Percentile Bootstrap) UCL	9.64
Median	3.1	95% KM (Chebyshev) UCL	11.73
SD	13.55	97.5% KM (Chebyshev) UCL	13.2
k star	0.308	99% KM (Chebyshev) UCL	16.07
Theta star	27.09		
Nu star	188	Potential UCLs to Use	
AppChi2	157.3	97.5% KM (Chebyshev) UCL	13.2
95% Gamma Approximate UCL (Use when n >= 40)	9.978		
95% Adjusted Gamma UCL (Use when n < 40)	9.987		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Data	59	Number of Detected Data	55
Number of Distinct Detected Data	54	Number of Non-Detect Data	4
		Percent Non-Detects	6.78%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	5	Minimum Detected	1.609
Maximum Detected	95	Maximum Detected	4.554
Mean of Detected	37.11	Mean of Detected	3.429
SD of Detected	21.63	SD of Detected	0.647
Minimum Non-Detect	0.72	Minimum Non-Detect	-0.329
Maximum Non-Detect	0.72	Maximum Non-Detect	-0.329

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.104	Lilliefors Test Statistic	0.0926
5% Lilliefors Critical Value	0.119	5% Lilliefors Critical Value	0.119
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	34.62	Mean	3.127
SD	22.86	SD	1.29
95% DL/2 (t) UCL	39.59	95% H-Stat (DL/2) UCL	85.44

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	33.9	Mean in Log Scale	3.328
SD	24.01	SD in Log Scale	0.732
95% MLE (t) UCL	39.13	Mean in Original Scale	35.07
95% MLE (Tiku) UCL	39.12	SD in Original Scale	22.23
		95% t UCL	39.91
		95% Percentile Bootstrap UCL	39.8
		95% BCA Bootstrap UCL	40.19
		95% H UCL	44.45

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.718	Data appear Normal at 5% Significance Level
Theta Star	13.65	
nu star	299	

		Nonparametric Statistics	
A-D Test Statistic	0.331		
5% A-D Critical Value	0.758	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.758	Mean	34.93
5% K-S Critical Value	0.121	SD	22.21
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.919
		95% KM (t) UCL	39.81
Assuming Gamma Distribution		95% KM (z) UCL	39.74
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	39.63
Minimum	0.000001	95% KM (bootstrap t) UCL	39.88
Maximum	95	95% KM (BCA) UCL	40.7
Mean	34.6	95% KM (Percentile Bootstrap) UCL	39.98
Median	32.4	95% KM (Chebyshev) UCL	47.66
SD	22.9	97.5% KM (Chebyshev) UCL	53.16
k star	0.482	99% KM (Chebyshev) UCL	63.98
Theta star	71.83		
Nu star	56.83	Potential UCLs to Use	
AppChi2	40.5	95% KM (t) UCL	39.81
95% Gamma Approximate UCL (Use when n >= 40)	48.54	95% KM (Percentile Bootstrap) UCL	39.98
95% Adjusted Gamma UCL (Use when n < 40)	48.96		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc

General Statistics (Units in mg/kg)

Number of Valid Observations	59	Number of Distinct Observations	59

Raw Statistics		Log-transformed Statistics	
Minimum	5	Minimum of Log Data	1.609
Maximum	570	Maximum of Log Data	6.346
Mean	169.8	Mean of log Data	4.717
Geometric Mean	111.8	SD of log Data	1.041
Median	122		
SD	141.5		
Std. Error of Mean	18.42		
Coefficient of Variation	0.833		
Skewness	1.093		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.145	Lilliefors Test Statistic	0.0871
Lilliefors Critical Value	0.115	Lilliefors Critical Value	0.115
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	200.6	95% H-UCL	267.2
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	323.5
95% Adjusted-CLT UCL (Chen-1995)	202.9	97.5% Chebyshev (MVUE) UCL	381.4
95% Modified-t UCL (Johnson-1978)	201	99% Chebyshev (MVUE) UCL	495.3

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.282	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	132.5		
MLE of Mean	169.8		
MLE of Standard Deviation	150		
nu star	151.2		
Approximate Chi Square Value (.05)	123.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0459	95% CLT UCL	200.1
Adjusted Chi Square Value	123.2	95% Jackknife UCL	200.6
		95% Standard Bootstrap UCL	200.3
Anderson-Darling Test Statistic	0.209	95% Bootstrap-t UCL	203.7
Anderson-Darling 5% Critical Value	0.772	95% Hall's Bootstrap UCL	203.7
Kolmogorov-Smirnov Test Statistic	0.0676	95% Percentile Bootstrap UCL	200
Kolmogorov-Smirnov 5% Critical Value	0.118	95% BCA Bootstrap UCL	202
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	250.1
		97.5% Chebyshev(Mean, Sd) UCL	284.8
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	353
95% Approximate Gamma UCL (Use when n >= 40)	207.4		
95% Adjusted Gamma UCL (Use when n < 40)	208.4		

Potential UCL to Use	Use 95% Approximate Gamma UCL	207.4

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aldrin

General Statistics (Units in mg/kg)

Number of Valid Data	19	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	18
		Percent Non-Detects	94.74%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, E

The data set for variable Aldrin was not processed!

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	21	Number of Distinct Observations	21

Raw Statistics		Log-transformed Statistics	
Minimum	2200	Minimum of Log Data	7.696
Maximum	35800	Maximum of Log Data	10.49
Mean	12730	Mean of log Data	9.178
Geometric Mean	9677	SD of log Data	0.781
Median	9600		
SD	9713		
Std. Error of Mean	2120		
Coefficient of Variation	0.763		
Skewness	1.218		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.857	Shapiro Wilk Test Statistic	0.97
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	16386	95% H-UCL	19564
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	23265
95% Adjusted-CLT UCL (Chen-1995)	16818	97.5% Chebyshev (MVUE) UCL	27753
95% Modified-t UCL (Johnson-1978)	16480	99% Chebyshev (MVUE) UCL	36570

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.724	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	7385		
MLE of Mean	12730		
MLE of Standard Deviation	9696		
nu star	72.4		
Approximate Chi Square Value (.05)	53.81	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	16216
Adjusted Chi Square Value	52.58	95% Jackknife UCL	16386
		95% Standard Bootstrap UCL	16139
Anderson-Darling Test Statistic	0.338	95% Bootstrap-t UCL	17568
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	16922
Kolmogorov-Smirnov Test Statistic	0.121	95% Percentile Bootstrap UCL	16287
Kolmogorov-Smirnov 5% Critical Value	0.192	95% BCA Bootstrap UCL	16714
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	21969
		97.5% Chebyshev(Mean, Sd) UCL	25967
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	33820
95% Approximate Gamma UCL (Use when n >= 40)	17129		
95% Adjusted Gamma UCL (Use when n < 40)	17530		

Potential UCL to Use	Use 95% Approximate Gamma UCL	17129

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Antimony

General Statistics (Units in mg/kg)

Number of Valid Data	21	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	9
		Percent Non-Detects	42.86%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.14	Minimum Detected	-1.966
Maximum Detected	19	Maximum Detected	2.944
Mean of Detected	4.088	Mean of Detected	0.853
SD of Detected	5.019	SD of Detected	1.209
Minimum Non-Detect	0.0013	Minimum Non-Detect	-6.645
Maximum Non-Detect	0.32	Maximum Non-Detect	-1.139

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	47.62%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.66	Shapiro Wilk Test Statistic	0.94
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.384	Mean	-0.721
SD	4.233	SD	2.374
95% DL/2 (t) UCL	3.978	95% H-Stat (DL/2) UCL	103.7

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.404
		SD in Log Scale	1.806
		Mean in Original Scale	2.405
		SD in Original Scale	4.222
		95% t UCL	3.994
		95% Percentile Bootstrap UCL	4.061
		95% BCA Bootstrap UCL	4.922
		95% H-UCL	15.91

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.833	Data appear Gamma Distributed at 5% Significance Level
Theta Star	4.907	
nu star	19.99	

		Nonparametric Statistics	
A-D Test Statistic	0.342		
5% A-D Critical Value	0.756	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.756	Mean	2.396
5% K-S Critical Value	0.252	SD	4.125
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.94
		95% KM (t) UCL	4.017
Assuming Gamma Distribution		95% KM (z) UCL	3.942
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.838
Minimum	0.000001	95% KM (bootstrap t) UCL	5.735
Maximum	19	95% KM (BCA) UCL	4.642
Mean	2.336	95% KM (Percentile Bootstrap) UCL	4.196
Median	0.76	95% KM (Chebyshev) UCL	6.494
SD	4.261	97.5% KM (Chebyshev) UCL	8.267
k star	0.139	99% KM (Chebyshev) UCL	11.75
Theta star	16.77		
Nu star	5.851	Potential UCLs to Use	
AppChi2	1.564	95% KM (BCA) UCL	4.642
95% Gamma Approximate UCL (Use when n >= 40)	8.737		
95% Adjusted Gamma UCL (Use when n < 40)	9.753		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Observations	21	Number of Distinct Observations	20
Raw Statistics		Log-transformed Statistics	
Minimum	2.75	Minimum of Log Data	1.012
Maximum	37.6	Maximum of Log Data	3.627
Mean	14.68	Mean of log Data	2.431
Geometric Mean	11.37	SD of log Data	0.766
Median	11.8		
SD	10.27		
Std. Error of Mean	2.241		
Coefficient of Variation	0.7		
Skewness	0.89		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.901	Shapiro Wilk Test Statistic	0.966
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	18.54	95% H-UCL	22.48
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	26.78
95% Adjusted-CLT UCL (Chen-1995)	18.83	97.5% Chebyshev (MVUE) UCL	31.88
95% Modified-t UCL (Johnson-1978)	18.62	99% Chebyshev (MVUE) UCL	41.9
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.842	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	7.969		
MLE of Mean	14.68		
MLE of Standard Deviation	10.82		
nu star	77.36		
Approximate Chi Square Value (.05)	58.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	18.36
Adjusted Chi Square Value	56.82	95% Jackknife UCL	18.54
		95% Standard Bootstrap UCL	18.27
Anderson-Darling Test Statistic	0.26	95% Bootstrap-t UCL	19.28
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	18.76
Kolmogorov-Smirnov Test Statistic	0.125	95% Percentile Bootstrap UCL	18.43
Kolmogorov-Smirnov 5% Critical Value	0.192	95% BCA Bootstrap UCL	18.64
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	24.45
		97.5% Chebyshev(Mean, Sd) UCL	28.67
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	36.97
95% Approximate Gamma UCL (Use when n >= 40)	19.54		
95% Adjusted Gamma UCL (Use when n < 40)	19.99		
Potential UCL to Use		Use 95% Approximate Gamma UCL	19.54

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Barium

General Statistics (Units in mg/kg)

Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	46.4	Minimum of Log Data	3.837
Maximum	1500	Maximum of Log Data	7.313
Mean	351.6	Mean of log Data	5.385
Geometric Mean	218.1	SD of log Data	1.008
Median	250		
SD	394.6		
Std. Error of Mean	86.12		
Coefficient of Variation	1.123		
Skewness	2.252		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.687	Shapiro Wilk Test Statistic	0.943
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	500.1	95% H-UCL	647.3
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	727.5
95% Adjusted-CLT UCL (Chen-1995)	538.4	97.5% Chebyshev (MVUE) UCL	890.8
95% Modified-t UCL (Johnson-1978)	507.1	99% Chebyshev (MVUE) UCL	1212
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.048	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	335.4		
MLE of Mean	351.6		
MLE of Standard Deviation	343.4		
nu star	44.02		
Approximate Chi Square Value (.05)	29.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	493.2
Adjusted Chi Square Value	28.91	95% Jackknife UCL	500.1
		95% Standard Bootstrap UCL	486.9
Anderson-Darling Test Statistic	0.634	95% Bootstrap-t UCL	675
Anderson-Darling 5% Critical Value	0.765	95% Hall's Bootstrap UCL	1327
Kolmogorov-Smirnov Test Statistic	0.155	95% Percentile Bootstrap UCL	498.9
Kolmogorov-Smirnov 5% Critical Value	0.194	95% BCA Bootstrap UCL	536.4
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	726.9
		97.5% Chebyshev(Mean, Sd) UCL	889.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1208
95% Approximate Gamma UCL (Use when n >= 40)	519.2		
95% Adjusted Gamma UCL (Use when n < 40)	535.4		
Potential UCL to Use		Use 95% Approximate Gamma UCL	519.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Beta BHC (Beta Hexachlorocyclohexane)

General Statistics (Units in mg/kg)

Number of Valid Data	19	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	16
		Percent Non-Detects	84.21%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.60E-04	Minimum Detected	-8.74
Maximum Detected	3.10E-04	Maximum Detected	-8.079
Mean of Detected	2.20E-04	Mean of Detected	-8.463
SD of Detected	7.94E-05	SD of Detected	0.343
Minimum Non-Detect	5.00E-04	Minimum Non-Detect	-7.601
Maximum Non-Detect	1.5	Maximum Non-Detect	0.405

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	19
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.893	Shapiro Wilk Test Statistic	0.929
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0424	Mean	-6.111
SD	0.171	SD	1.888
95% DL/2 (t) UCL	0.111	95% H-Stat (DL/2) UCL	0.0801

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.463
		SD in Log Scale	0.152
		Mean in Original Scale	2.14E-04
		SD in Original Scale	3.41E-05
		95% t UCL	2.27E-04
		95% Percentile Bootstrap UCL	2.26E-04
		95% BCA Bootstrap UCL	2.28E-04
		95% H-UCL	2.28E-04

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level	
Theta Star	N/A		
nu star	N/A		
A-D Test Statistic	N/A	Nonparametric Statistics	
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	2.20E-04
5% K-S Critical Value	N/A	SD	6.48E-05
Data not Gamma Distributed at 5% Significance Level		SE of Mean	4.58E-05
		95% KM (t) UCL	2.99E-04
Assuming Gamma Distribution		95% KM (z) UCL	2.95E-04
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.15E-04
Minimum	N/A	95% KM (bootstrap t) UCL	5.41E-04
Maximum	N/A	95% KM (BCA) UCL	3.10E-04
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	4.20E-04
SD	N/A	97.5% KM (Chebyshev) UCL	5.06E-04
k star	N/A	99% KM (Chebyshev) UCL	6.76E-04
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	2.99E-04
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Gamma BHC (Lindane)

General Statistics (Units in mg/kg)

Number of Valid Data	19	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	17
		Percent Non-Detects	89.47%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.20E-04	Minimum Detected	-9.028
Maximum Detected	4.00E-04	Maximum Detected	-7.824
Mean of Detected	2.60E-04	Mean of Detected	-8.426
SD of Detected	1.98E-04	SD of Detected	0.851
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	1.5	Maximum Non-Detect	0.405

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	19
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV)

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0425	Mean	-5.947
SD	0.171	SD	1.742
95% DL/2 (t) UCL	0.111	95% H-Stat (DL/2) UCL	0.0568

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	2.60E-04
5% K-S Critical Value	N/A	SD	1.40E-04
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.40E-04
		95% KM (t) UCL	5.03E-04
Assuming Gamma Distribution		95% KM (z) UCL	4.90E-04
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.94E-04
Minimum	N/A	95% KM (bootstrap t) UCL	N/A
Maximum	N/A	95% KM (BCA) UCL	4.00E-04
Mean	N/A	95% KM (Percentile Bootstrap) UCL	4.00E-04
Median	N/A	95% KM (Chebyshev) UCL	8.70E-04
SD	N/A	97.5% KM (Chebyshev) UCL	0.00113
k star	N/A	99% KM (Chebyshev) UCL	0.00165
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	5.03E-04
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	4.00E-04
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bis(2-Ethylhexyl) Phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	21	Number of Detected Data	13
Number of Distinct Detected Data	12	Number of Non-Detect Data	8
		Percent Non-Detects	38.10%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.23	Minimum Detected	-1.47
Maximum Detected	110	Maximum Detected	4.7
Mean of Detected	20.41	Mean of Detected	1.586
SD of Detected	29.74	SD of Detected	2.244
Minimum Non-Detect	1.1	Minimum Non-Detect	0.0953
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	61.90%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.664	Shapiro Wilk Test Statistic	0.827
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	12.87	Mean	0.794
SD	25.06	SD	2.023
95% DL/2 (t) UCL	22.3	95% H-Stat (DL/2) UCL	113.5

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	39.6	Mean in Log Scale	0.757
SD	30.31	SD in Log Scale	2.121
95% MLE (t) UCL	51.01	Mean in Original Scale	12.93
95% MLE (Tiku) UCL	57.29	SD in Original Scale	25.03
		95% t UCL	22.35
		95% Percentile Bootstrap UCL	22.61
		95% BCA Bootstrap UCL	27.44
		95% H UCL	158.9

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.398	Data do not follow a Discernable Distribution (0.05)
Theta Star	51.23	
nu star	10.36	

A-D Test Statistic	0.833	Nonparametric Statistics	
5% A-D Critical Value	0.8	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.8	Mean	12.78
5% K-S Critical Value	0.251	SD	24.5
Data not Gamma Distributed at 5% Significance Level		SE of Mean	5.564
		95% KM (t) UCL	22.38
Assuming Gamma Distribution		95% KM (z) UCL	21.93
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	22.23
Minimum	0.000001	95% KM (bootstrap t) UCL	34.09
Maximum	110	95% KM (BCA) UCL	22.03
Mean	12.85	95% KM (Percentile Bootstrap) UCL	22.5
Median	0.4	95% KM (Chebyshev) UCL	37.03
SD	25.08	97.5% KM (Chebyshev) UCL	47.53
k star	0.142	99% KM (Chebyshev) UCL	68.14
Theta star	90.45		
Nu star	5.965	Potential UCLs to Use	
AppChi2	1.622	99% KM (Chebyshev) UCL	68.14
95% Gamma Approximate UCL (Use when n >= 40)	47.24		
95% Adjusted Gamma UCL (Use when n < 40)	52.66		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Butyl Benzyl Phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	21	Number of Detected Data	19
Number of Distinct Detected Data	18	Number of Non-Detect Data	2
		Percent Non-Detects	9.52%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.05	Minimum Detected	-2.996
Maximum Detected	25	Maximum Detected	3.219
Mean of Detected	5.365	Mean of Detected	-0.0536
SD of Detected	7.536	SD of Detected	2.246
Minimum Non-Detect	1.2	Minimum Non-Detect	0.182
Maximum Non-Detect	1.2	Maximum Non-Detect	0.182

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.75	Shapiro Wilk Test Statistic	0.877
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.912	Mean	-0.0971
SD	7.291	SD	2.136
95% DL/2 (t) UCL	7.656	95% H-Stat (DL/2) UCL	71.64

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.185
		SD in Log Scale	2.182
		Mean in Original Scale	4.883
		SD in Original Scale	7.31
		95% t UCL	7.634
		95% Percentile Bootstrap UCL	7.567
		95% BCA Bootstrap UCL	8.557
		95% H-UCL	79.04

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.357	Data do not follow a Discernable Distribution (0.05)	
Theta Star	15.03		
nu star	13.57		

A-D Test Statistic	1.153	Nonparametric Statistics	
5% A-D Critical Value	0.826	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.826	Mean	4.876
5% K-S Critical Value	0.213	SD	7.138
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.6
		95% KM (t) UCL	7.636
Assuming Gamma Distribution		95% KM (z) UCL	7.508
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	7.629
Minimum	0.000001	95% KM (bootstrap t) UCL	8.357
Maximum	25	95% KM (BCA) UCL	7.815
Mean	4.878	95% KM (Percentile Bootstrap) UCL	7.612
Median	0.494	95% KM (Chebyshev) UCL	11.85
SD	7.313	97.5% KM (Chebyshev) UCL	14.87
k star	0.286	99% KM (Chebyshev) UCL	20.8
Theta star	17.03		
Nu star	12.03	Potential UCLs to Use	
AppChi2	5.246	99% KM (Chebyshev) UCL	20.8
95% Gamma Approximate UCL (Use when n >= 40)	11.19		
95% Adjusted Gamma UCL (Use when n < 40)	11.96		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	21	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	5
		Percent Non-Detects	23.81%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.4	Minimum Detected	0.336
Maximum Detected	40.2	Maximum Detected	3.694
Mean of Detected	13.02	Mean of Detected	2.105
SD of Detected	11.44	SD of Detected	1.092
Minimum Non-Detect	0.19	Minimum Non-Detect	-1.661
Maximum Non-Detect	0.19	Maximum Non-Detect	-1.661

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.876	Shapiro Wilk Test Statistic	0.927
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	9.944	Mean	1.043
SD	11.4	SD	2.163
95% DL/2 (t) UCL	14.24	95% H-Stat (DL/2) UCL	250.3

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	7.929	Mean in Log Scale	1.498
SD	13.71	SD in Log Scale	1.481
95% MLE (t) UCL	13.09	Mean in Original Scale	10.09
95% MLE (Tiku) UCL	13.23	SD in Original Scale	11.27
		95% t UCL	14.33
		95% Percentile Bootstrap UCL	14.21
		95% BCA Bootstrap UCL	14.62
		95% H UCL	39.74

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.035	Data appear Gamma Distributed at 5% Significance Level
Theta Star	12.58	
nu star	33.13	

A-D Test Statistic	0.366	Nonparametric Statistics	
5% A-D Critical Value	0.759	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.759	Mean	10.25
5% K-S Critical Value	0.22	SD	10.86
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.448
		95% KM (t) UCL	14.48
Assuming Gamma Distribution		95% KM (z) UCL	14.28
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	14.43
Minimum	0.000001	95% KM (bootstrap t) UCL	15.51
Maximum	40.2	95% KM (BCA) UCL	14.67
Mean	9.921	95% KM (Percentile Bootstrap) UCL	14.5
Median	6.5	95% KM (Chebyshev) UCL	20.93
SD	11.42	97.5% KM (Chebyshev) UCL	25.54
k star	0.192	99% KM (Chebyshev) UCL	34.62
Theta star	51.7		
Nu star	8.06	Potential UCLs to Use	
AppChi2	2.77	95% KM (BCA) UCL	14.67
95% Gamma Approximate UCL (Use when n >= 40)	28.87		
95% Adjusted Gamma UCL (Use when n < 40)	31.52		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total Chlordane

General Statistics (Units in mg/kg)

Number of Valid Data	19	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	12
		Percent Non-Detects	63.16%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0014	Minimum Detected	-6.571
Maximum Detected	0.55	Maximum Detected	-0.598
Mean of Detected	0.141	Mean of Detected	-3.654
SD of Detected	0.203	SD of Detected	2.437
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	1.5	Maximum Non-Detect	0.405

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	19
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.763	Shapiro Wilk Test Statistic	0.903
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.105	Mean	-3.768
SD	0.204	SD	1.941
95% DL/2 (t) UCL	0.186	95% H-Stat (DL/2) UCL	1.015

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.987
		SD in Log Scale	1.809
		Mean in Original Scale	0.0541
		SD in Original Scale	0.135
		95% t UCL	0.108
		95% Percentile Bootstrap UCL	0.11
		95% BCA Bootstrap UCL	0.129
		95% H-UCL	0.186

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.318	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.442	
nu star	4.454	

		Nonparametric Statistics	
A-D Test Statistic	0.371		
5% A-D Critical Value	0.769	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.769	Mean	0.0578
5% K-S Critical Value	0.332	SD	0.135
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0344
		95% KM (t) UCL	0.117
Assuming Gamma Distribution		95% KM (z) UCL	0.114
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.115
Minimum	0.000001	95% KM (bootstrap t) UCL	0.2
Maximum	0.55	95% KM (BCA) UCL	0.121
Mean	0.0522	95% KM (Percentile Bootstrap) UCL	0.123
Median	0.000001	95% KM (Chebyshev) UCL	0.208
SD	0.136	97.5% KM (Chebyshev) UCL	0.272
k star	0.135	99% KM (Chebyshev) UCL	0.4
Theta star	0.385		
Nu star	5.148	Potential UCLs to Use	
AppChi2	1.221	95% KM (t) UCL	0.117
95% Gamma Approximate UCL (Use when n >= 40)	0.22		
95% Adjusted Gamma UCL (Use when n < 40)	0.252		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics (Units in mg/kg)			
Number of Valid Observations	21	Number of Distinct Observations	20
Raw Statistics		Log-transformed Statistics	
Minimum	7.7	Minimum of Log Data	2.041
Maximum	77.5	Maximum of Log Data	4.35
Mean	33.65	Mean of log Data	3.251
Geometric Mean	25.81	SD of log Data	0.789
Median	29		
SD	22.72		
Std. Error of Mean	4.958		
Coefficient of Variation	0.675		
Skewness	0.466		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.904	Shapiro Wilk Test Statistic	0.91
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	42.2	95% H-UCL	52.81
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	62.73
95% Adjusted-CLT UCL (Chen-1995)	42.34	97.5% Chebyshev (MVUE) UCL	74.91
95% Modified-t UCL (Johnson-1978)	42.28	99% Chebyshev (MVUE) UCL	98.84
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.778	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	18.92		
MLE of Mean	33.65		
MLE of Standard Deviation	25.23		
nu star	74.68		
Approximate Chi Square Value (.05)	55.78	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	41.8
Adjusted Chi Square Value	54.52	95% Jackknife UCL	42.2
		95% Standard Bootstrap UCL	41.61
Anderson-Darling Test Statistic	0.619	95% Bootstrap-t UCL	42.54
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	42.1
Kolmogorov-Smirnov Test Statistic	0.149	95% Percentile Bootstrap UCL	41.59
Kolmogorov-Smirnov 5% Critical Value	0.192	95% BCA Bootstrap UCL	42.26
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	55.26
		97.5% Chebyshev(Mean, Sd) UCL	64.61
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	82.98
95% Approximate Gamma UCL (Use when n >= 40)	45.05		
95% Adjusted Gamma UCL (Use when n < 40)	46.08		
Potential UCL to Use		Use 95% Approximate Gamma UCL	45.05

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cobalt

General Statistics (Units in mg/kg)

Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	2.1	Minimum of Log Data	0.742
Maximum	30.1	Maximum of Log Data	3.405
Mean	10.94	Mean of log Data	2.108
Geometric Mean	8.234	SD of log Data	0.814
Median	10		
SD	7.913		
Std. Error of Mean	1.727		
Coefficient of Variation	0.723		
Skewness	0.85		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.91	Shapiro Wilk Test Statistic	0.952
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	13.92	95% H-UCL	17.49
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	20.7
95% Adjusted-CLT UCL (Chen-1995)	14.12	97.5% Chebyshev (MVUE) UCL	24.8
95% Modified-t UCL (Johnson-1978)	13.97	99% Chebyshev (MVUE) UCL	32.85
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.669	Data appear Normal at 5% Significance Level	
Theta Star	6.553		
MLE of Mean	10.94		
MLE of Standard Deviation	8.466		
nu star	70.11		
Approximate Chi Square Value (.05)	51.83	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	13.78
Adjusted Chi Square Value	50.63	95% Jackknife UCL	13.92
		95% Standard Bootstrap UCL	13.74
Anderson-Darling Test Statistic	0.318	95% Bootstrap-t UCL	14.38
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL	14.43
Kolmogorov-Smirnov Test Statistic	0.144	95% Percentile Bootstrap UCL	13.9
Kolmogorov-Smirnov 5% Critical Value	0.192	95% BCA Bootstrap UCL	13.84
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	18.47
		97.5% Chebyshev(Mean, Sd) UCL	21.72
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	28.12
95% Approximate Gamma UCL (Use when n >= 40)	14.79		
95% Adjusted Gamma UCL (Use when n < 40)	15.15		
Potential UCL to Use		Use 95% Student's-t UCL	13.92

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper

General Statistics (Units in mg/kg)			
Number of Valid Observations	18	Number of Distinct Observations	17
Raw Statistics		Log-transformed Statistics	
Minimum	12.15	Minimum of Log Data	2.497
Maximum	960	Maximum of Log Data	6.867
Mean	138.7	Mean of log Data	4.266
Geometric Mean	71.27	SD of log Data	1.135
Median	78.15		
SD	218.2		
Std. Error of Mean	51.42		
Coefficient of Variation	1.574		
Skewness	3.474		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.547	Shapiro Wilk Test Statistic	0.962
Shapiro Wilk Critical Value	0.897	Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	228.1	95% H-UCL	296.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	298.2
95% Adjusted-CLT UCL (Chen-1995)	268.2	97.5% Chebyshev (MVUE) UCL	371.6
95% Modified-t UCL (Johnson-1978)	235.1	99% Chebyshev (MVUE) UCL	515.8
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.771	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	179.8		
MLE of Mean	138.7		
MLE of Standard Deviation	157.9		
nu star	27.76		
Approximate Chi Square Value (.05)	16.74	Nonparametric Statistics	
Adjusted Level of Significance	0.0357	95% CLT UCL	223.2
Adjusted Chi Square Value	15.92	95% Jackknife UCL	228.1
		95% Standard Bootstrap UCL	222.7
Anderson-Darling Test Statistic	0.691	95% Bootstrap-t UCL	384.9
Anderson-Darling 5% Critical Value	0.772	95% Hall's Bootstrap UCL	545.2
Kolmogorov-Smirnov Test Statistic	0.166	95% Percentile Bootstrap UCL	232.3
Kolmogorov-Smirnov 5% Critical Value	0.21	95% BCA Bootstrap UCL	285.5
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	362.8
		97.5% Chebyshev(Mean, Sd) UCL	459.8
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	650.3
95% Approximate Gamma UCL (Use when n >= 40)	229.9		
95% Adjusted Gamma UCL (Use when n < 40)	241.7		
Potential UCL to Use		Use 95% Approximate Gamma UCL	229.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics (Units in mg/kg)

Number of Valid Data	18	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	9
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00345	Minimum Detected	-5.669
Maximum Detected	16	Maximum Detected	2.773
Mean of Detected	1.835	Mean of Detected	-3.201
SD of Detected	5.313	SD of Detected	2.686
Minimum Non-Detect	0.0043	Minimum Non-Detect	-5.449
Maximum Non-Detect	0.014	Maximum Non-Detect	-4.269

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	6
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	66.67%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.404	Shapiro Wilk Test Statistic	0.844
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.92	Mean	-4.208
SD	3.764	SD	2.128
95% DL/2 (t) UCL	2.464	95% H-Stat (DL/2) UCL	1.497

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.595
		SD in Log Scale	2.416
		Mean in Original Scale	0.919
		SD in Original Scale	3.765
		95% t UCL	2.463
		95% Percentile Bootstrap UCL	2.694
		95% BCA Bootstrap UCL	3.586
		95% H-UCL	3.672

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.204	Data appear Lognormal at 5% Significance Level	
Theta Star	9.015		
nu star	3.663		

A-D Test Statistic	1.515	Nonparametric Statistics	
5% A-D Critical Value	0.847	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.847	Mean	0.919
5% K-S Critical Value	0.308	SD	3.659
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.915
		95% KM (t) UCL	2.51
Assuming Gamma Distribution		95% KM (z) UCL	2.424
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.463
Minimum	0.000001	95% KM (bootstrap t) UCL	249.5
Maximum	16	95% KM (BCA) UCL	2.694
Mean	0.917	95% KM (Percentile Bootstrap) UCL	2.68
Median	0.00173	95% KM (Chebyshev) UCL	4.906
SD	3.765	97.5% KM (Chebyshev) UCL	6.631
k star	0.118	99% KM (Chebyshev) UCL	10.02
Theta star	7.793		
Nu star	4.238	Potential UCLs to Use	
AppChi2	0.818	99% KM (Chebyshev) UCL	10.02
95% Gamma Approximate UCL (Use when n >= 40)	4.753		
95% Adjusted Gamma UCL (Use when n < 40)	5.65		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Diethyl Phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	21	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	18
		Percent Non-Detects	85.71%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0066	Minimum Detected	-5.021
Maximum Detected	78	Maximum Detected	4.357
Mean of Detected	26.01	Mean of Detected	-1.438
SD of Detected	45.02	SD of Detected	5.065
Minimum Non-Detect	0.036	Minimum Non-Detect	-3.324
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	95.24%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.75	Shapiro Wilk Test Statistic	0.857
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.993	Mean	-1.769
SD	16.96	SD	2.114
95% DL/2 (t) UCL	10.38	95% H-Stat (DL/2) UCL	12.35
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.755
		SD in Log Scale	2.263
		Mean in Original Scale	3.75
		SD in Original Scale	17.01
		95% t UCL	10.15
		95% Percentile Bootstrap UCL	11.17
		95% BCA Bootstrap UCL	14.94
		95% H-UCL	3.103
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	N/A	Data appear Lognormal at 5% Significance Level	
Theta Star	N/A		
nu star	N/A		
A-D Test Statistic	N/A	Nonparametric Statistics	
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	3.73
5% K-S Critical Value	N/A	SD	16.61
Data not Gamma Distributed at 5% Significance Level		SE of Mean	4.439
		95% KM (t) UCL	11.38
Assuming Gamma Distribution		95% KM (z) UCL	11.03
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	10.13
Minimum	N/A	95% KM (bootstrap t) UCL	3474
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	23.08
SD	N/A	97.5% KM (Chebyshev) UCL	31.45
k star	N/A	99% KM (Chebyshev) UCL	47.89
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	99% KM (Chebyshev) UCL	47.89
95% Gamma Approximate UCL (Use when n >= 40)	N/A		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Di-N-Butyl Phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	21	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	13
		Percent Non-Detects	61.90%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.024	Minimum Detected	-3.73
Maximum Detected	2.3	Maximum Detected	0.833
Mean of Detected	0.975	Mean of Detected	-0.861
SD of Detected	0.838	SD of Detected	1.847
Minimum Non-Detect	0.046	Minimum Non-Detect	-3.079
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	18
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	85.71%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.933	Shapiro Wilk Test Statistic	0.804
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.629	Mean	-1.193
SD	0.605	SD	1.551
95% DL/2 (t) UCL	0.857	95% H-Stat (DL/2) UCL	3.278

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.931	Mean in Log Scale	-2.118
SD	0.34	SD in Log Scale	1.594
95% MLE (t) UCL	2.059	Mean in Original Scale	0.416
95% MLE (Tiku) UCL	2.261	SD in Original Scale	0.671
		95% t UCL	0.668
		95% Percentile Bootstrap UCL	0.662
		95% BCA Bootstrap UCL	0.714
		95% H UCL	1.471

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.534	Data appear Normal at 5% Significance Level
Theta Star	1.827	
nu star	8.537	

		Nonparametric Statistics	
A-D Test Statistic	0.527		
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	0.444
5% K-S Critical Value	0.305	SD	0.661
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.163
		95% KM (t) UCL	0.724
Assuming Gamma Distribution		95% KM (z) UCL	0.711
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.716
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.757
Maximum	2.3	95% KM (BCA) UCL	0.949
Mean	0.431	95% KM (Percentile Bootstrap) UCL	0.823
Median	0.026	95% KM (Chebyshev) UCL	1.153
SD	0.681	97.5% KM (Chebyshev) UCL	1.459
k star	0.168	99% KM (Chebyshev) UCL	2.062
Theta star	2.56		
Nu star	7.072	Potential UCLs to Use	
AppChi2	2.21	95% KM (t) UCL	0.724
95% Gamma Approximate UCL (Use when n >= 40)	1.379	95% KM (Percentile Bootstrap) UCL	0.823
95% Adjusted Gamma UCL (Use when n < 40)	1.518		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Endrin Aldehyde

General Statistics (Units in mg/kg)

Number of Valid Data	19	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	13
		Percent Non-Detects	68.42%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0011	Minimum Detected	-6.812
Maximum Detected	5.16	Maximum Detected	1.641
Mean of Detected	0.929	Mean of Detected	-3.219
SD of Detected	2.076	SD of Detected	3.232
Minimum Non-Detect	0.0004	Minimum Non-Detect	-7.824
Maximum Non-Detect	0.014	Maximum Non-Detect	-4.269

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	84.21%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.538	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.296	Mean	-4.895
SD	1.18	SD	2.218
95% DL/2 (t) UCL	0.766	95% H-Stat (DL/2) UCL	0.989

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.536
		SD in Log Scale	3.184
		Mean in Original Scale	0.294
		SD in Original Scale	1.18
		95% t UCL	0.763
		95% Percentile Bootstrap UCL	0.829
		95% BCA Bootstrap UCL	1.116
		95% H-UCL	28.53

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.226	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4.117		
nu star	2.708		
A-D Test Statistic	0.471	Nonparametric Statistics	
5% A-D Critical Value	0.792	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.792	Mean	0.295
5% K-S Critical Value	0.362	SD	1.149
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.289
		95% KM (t) UCL	0.795
Assuming Gamma Distribution		95% KM (z) UCL	0.77
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.764
Minimum	0.000001	95% KM (bootstrap t) UCL	8.763
Maximum	5.16	95% KM (BCA) UCL	0.845
Mean	0.293	95% KM (Percentile Bootstrap) UCL	0.837
Median	0.000001	95% KM (Chebyshev) UCL	1.553
SD	1.18	97.5% KM (Chebyshev) UCL	2.097
k star	0.11	99% KM (Chebyshev) UCL	3.167
Theta star	2.663		
Nu star	4.185	Potential UCLs to Use	
AppChi2	0.796	95% KM (t) UCL	0.795
95% Gamma Approximate UCL (Use when n >= 40)	1.542		
95% Adjusted Gamma UCL (Use when n < 40)	1.806		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Heptachlor Epoxide

General Statistics (Units in mg/kg)

Number of Valid Data	19	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	12
		Percent Non-Detects	63.16%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00039	Minimum Detected	-7.849
Maximum Detected	11.78	Maximum Detected	2.466
Mean of Detected	1.782	Mean of Detected	-3.43
SD of Detected	4.412	SD of Detected	3.606
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.0071	Maximum Non-Detect	-4.948

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	78.95%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.484	Shapiro Wilk Test Statistic	0.953
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.658	Mean	-5.147
SD	2.696	SD	2.517
95% DL/2 (t) UCL	1.731	95% H-Stat (DL/2) UCL	2.985

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.685
		SD in Log Scale	3.443
		Mean in Original Scale	0.657
		SD in Original Scale	2.696
		95% t UCL	1.729
		95% Percentile Bootstrap UCL	1.891
		95% BCA Bootstrap UCL	2.526
		95% H-UCL	127.5

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.201	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	8.852		
nu star	2.819		
A-D Test Statistic	0.615	Nonparametric Statistics	
5% A-D Critical Value	0.827	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.827	Mean	0.657
5% K-S Critical Value	0.343	SD	2.624
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.65
		95% KM (t) UCL	1.785
Assuming Gamma Distribution		95% KM (z) UCL	1.727
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.729
Minimum	0.000001	95% KM (bootstrap t) UCL	40.56
Maximum	11.78	95% KM (BCA) UCL	1.898
Mean	0.657	95% KM (Percentile Bootstrap) UCL	1.887
Median	0.000001	95% KM (Chebyshev) UCL	3.492
SD	2.696	97.5% KM (Chebyshev) UCL	4.718
k star	0.108	99% KM (Chebyshev) UCL	7.127
Theta star	6.089		
Nu star	4.098	Potential UCLs to Use	
AppChi2	0.761	95% KM (t) UCL	1.785
95% Gamma Approximate UCL (Use when n >= 40)	3.537		
95% Adjusted Gamma UCL (Use when n < 40)	4.153		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Hexachlorobenzene

General Statistics (Units in mg/kg)

Number of Valid Data	21	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	19
		Percent Non-Detects	90.48%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.007	Minimum Detected	-4.962
Maximum Detected	0.014	Maximum Detected	-4.269
Mean of Detected	0.0105	Mean of Detected	-4.615
SD of Detected	0.00495	SD of Detected	0.49
Minimum Non-Detect	0.021	Minimum Non-Detect	-3.863
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV)

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.308	Mean	-2.024
SD	0.268	SD	1.661
95% DL/2 (t) UCL	0.409	95% H-Stat (DL/2) UCL	1.974

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	N/A
		SD in Log Scale	N/A
		Mean in Original Scale	N/A
		SD in Original Scale	N/A
		95% t UCL	N/A
		95% Percentile Bootstrap UCL	N/A
		95% BCA Bootstrap UCL	N/A
		95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data do not follow a Discernable Distribution (0.05)
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A		
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.0105
5% K-S Critical Value	N/A	SD	0.0035
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0035
		95% KM (t) UCL	0.0165
Assuming Gamma Distribution		95% KM (z) UCL	0.0163
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0188
Minimum	N/A	95% KM (bootstrap t) UCL	0.0175
Maximum	N/A	95% KM (BCA) UCL	0.014
Mean	N/A	95% KM (Percentile Bootstrap) UCL	N/A
Median	N/A	95% KM (Chebyshev) UCL	0.0258
SD	N/A	97.5% KM (Chebyshev) UCL	0.0324
k star	N/A	99% KM (Chebyshev) UCL	0.0453
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	0.0165
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (% Bootstrap) UCL	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Warning: Recommended UCL exceeds the maximum observation
Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

HMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Observations	21	Number of Distinct Observations	21

Raw Statistics		Log-transformed Statistics	
Minimum	0.047	Minimum of Log Data	-3.058
Maximum	89.8	Maximum of Log Data	4.498
Mean	14.5	Mean of log Data	1.279
Geometric Mean	3.593	SD of log Data	2.149
Median	6.98		
SD	22.59		
Std. Error of Mean	4.929		
Coefficient of Variation	1.558		
Skewness	2.494		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.655	Shapiro Wilk Test Statistic	0.94
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	23	95% H-UCL	299.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	96.49
95% Adjusted-CLT UCL (Chen-1995)	25.47	97.5% Chebyshev (MVUE) UCL	126.5
95% Modified-t UCL (Johnson-1978)	23.44	99% Chebyshev (MVUE) UCL	185.5

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.427	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	33.95		
MLE of Mean	14.5		
MLE of Standard Deviation	22.18		
nu star	17.94		
Approximate Chi Square Value (.05)	9.344	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	22.6
Adjusted Chi Square Value	8.869	95% Jackknife UCL	23
		95% Standard Bootstrap UCL	22.36
Anderson-Darling Test Statistic	0.269	95% Bootstrap-t UCL	33.7
Anderson-Darling 5% Critical Value	0.813	95% Hall's Bootstrap UCL	61.39
Kolmogorov-Smirnov Test Statistic	0.102	95% Percentile Bootstrap UCL	23.53
Kolmogorov-Smirnov 5% Critical Value	0.201	95% BCA Bootstrap UCL	26.05
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	35.98
		97.5% Chebyshev(Mean, Sd) UCL	45.28
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	63.54
95% Approximate Gamma UCL (Use when n >= 40)	27.83		
95% Adjusted Gamma UCL (Use when n < 40)	29.32		

Potential UCL to Use	Use 95% Adjusted Gamma UCL	29.32

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	21	Number of Distinct Observations	21

Raw Statistics		Log-transformed Statistics	
Minimum	25.95	Minimum of Log Data	3.256
Maximum	1000	Maximum of Log Data	6.908
Mean	256.5	Mean of log Data	5.018
Geometric Mean	151	SD of log Data	1.105
Median	143		
SD	269.9		
Std. Error of Mean	58.9		
Coefficient of Variation	1.052		
Skewness	1.692		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.792	Shapiro Wilk Test Statistic	0.961
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	358.1	95% H-UCL	543
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	585.6
95% Adjusted-CLT UCL (Chen-1995)	376.7	97.5% Chebyshev (MVUE) UCL	723.8
95% Modified-t UCL (Johnson-1978)	361.7	99% Chebyshev (MVUE) UCL	995.3

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.957	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	267.9		
MLE of Mean	256.5		
MLE of Standard Deviation	262.2		
nu star	40.21		
Approximate Chi Square Value (.05)	26.68	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	353.4
Adjusted Chi Square Value	25.84	95% Jackknife UCL	358.1
		95% Standard Bootstrap UCL	352.9
Anderson-Darling Test Statistic	0.358	95% Bootstrap-t UCL	401.4
Anderson-Darling 5% Critical Value	0.768	95% Hall's Bootstrap UCL	459
Kolmogorov-Smirnov Test Statistic	0.123	95% Percentile Bootstrap UCL	352.9
Kolmogorov-Smirnov 5% Critical Value	0.195	95% BCA Bootstrap UCL	364.9
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	513.3
		97.5% Chebyshev(Mean, Sd) UCL	624.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	842.6
95% Approximate Gamma UCL (Use when n >= 40)	386.6		
95% Adjusted Gamma UCL (Use when n < 40)	399.3		

Potential UCL to Use		Use 95% Approximate Gamma UCL	386.6

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	18	Number of Distinct Observations	17

Raw Statistics		Log-transformed Statistics	
Minimum	37.7	Minimum of Log Data	3.63
Maximum	1050	Maximum of Log Data	6.957
Mean	385.7	Mean of log Data	5.581
Geometric Mean	265.3	SD of log Data	1.077
Median	398		
SD	261.3		
Std. Error of Mean	61.58		
Coefficient of Variation	0.677		
Skewness	0.708		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.908	Shapiro Wilk Test Statistic	0.783
Shapiro Wilk Critical Value	0.897	Shapiro Wilk Critical Value	0.897
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	492.8	95% H-UCL	971.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1013
95% Adjusted-CLT UCL (Chen-1995)	497.9	97.5% Chebyshev (MVUE) UCL	1255
95% Modified-t UCL (Johnson-1978)	494.5	99% Chebyshev (MVUE) UCL	1732

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.272	Data appear Normal at 5% Significance Level	
Theta Star	303.3		
MLE of Mean	385.7		
MLE of Standard Deviation	342		
nu star	45.78		
Approximate Chi Square Value (.05)	31.26	Nonparametric Statistics	
Adjusted Level of Significance	0.0357	95% CLT UCL	487
Adjusted Chi Square Value	30.11	95% Jackknife UCL	492.8
		95% Standard Bootstrap UCL	481.3
Anderson-Darling Test Statistic	1.287	95% Bootstrap-t UCL	503.2
Anderson-Darling 5% Critical Value	0.757	95% Hall's Bootstrap UCL	519.6
Kolmogorov-Smirnov Test Statistic	0.216	95% Percentile Bootstrap UCL	479.4
Kolmogorov-Smirnov 5% Critical Value	0.207	95% BCA Bootstrap UCL	498.7
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	654.1
		97.5% Chebyshev(Mean, Sd) UCL	770.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	998.4
95% Approximate Gamma UCL (Use when n >= 40)	564.9		
95% Adjusted Gamma UCL (Use when n < 40)	586.5		

Potential UCL to Use	Use 95% Student's-t UCL	492.8

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics (Units in mg/kg)

Number of Valid Data	21	Number of Detected Data	19
Number of Distinct Detected Data	18	Number of Non-Detect Data	2
		Percent Non-Detects	9.52%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.125	Minimum Detected	-2.079
Maximum Detected	1.5	Maximum Detected	0.405
Mean of Detected	0.512	Mean of Detected	-0.872
SD of Detected	0.347	SD of Detected	0.66
Minimum Non-Detect	0.00007	Minimum Non-Detect	-9.567
Maximum Non-Detect	0.045	Maximum Non-Detect	-3.101

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	2
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	19
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	9.52%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.864	Shapiro Wilk Test Statistic	0.982
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.464	Mean	-1.459
SD	0.362	SD	2.206
95% DL/2 (t) UCL	0.6	95% H-Stat (DL/2) UCL	24.3

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.449	Mean in Log Scale	-1.02
SD	0.379	SD in Log Scale	0.78
95% MLE (t) UCL	0.591	Mean in Original Scale	0.471
95% MLE (Tiku) UCL	0.59	SD in Original Scale	0.353
		95% t UCL	0.604
		95% Percentile Bootstrap UCL	0.6
		95% BCA Bootstrap UCL	0.629
		95% H UCL	0.728

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.248	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.228	
nu star	85.44	

		Nonparametric Statistics	
A-D Test Statistic	0.258		
5% A-D Critical Value	0.75	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.75	Mean	0.475
5% K-S Critical Value	0.2	SD	0.341
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0765
		95% KM (t) UCL	0.607
Assuming Gamma Distribution		95% KM (z) UCL	0.601
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.605
Minimum	0.000001	95% KM (bootstrap t) UCL	0.641
Maximum	1.5	95% KM (BCA) UCL	0.61
Mean	0.463	95% KM (Percentile Bootstrap) UCL	0.601
Median	0.37	95% KM (Chebyshev) UCL	0.808
SD	0.364	97.5% KM (Chebyshev) UCL	0.952
k star	0.442	99% KM (Chebyshev) UCL	1.236
Theta star	1.046		
Nu star	18.58	Potential UCLs to Use	
AppChi2	9.811	95% KM (BCA) UCL	0.61
95% Gamma Approximate UCL (Use when n >= 40)	0.877		
95% Adjusted Gamma UCL (Use when n < 40)	0.922		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Nickel

General Statistics (Units in mg/kg)

Number of Valid Observations	21	Number of Distinct Observations	20

Raw Statistics		Log-transformed Statistics	
Minimum	7.2	Minimum of Log Data	1.974
Maximum	92.8	Maximum of Log Data	4.53
Mean	37.58	Mean of log Data	3.322
Geometric Mean	27.7	SD of log Data	0.858
Median	37.5		
SD	26.52		
Std. Error of Mean	5.788		
Coefficient of Variation	0.706		
Skewness	0.495		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.909	Shapiro Wilk Test Statistic	0.895
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	47.57	95% H-UCL	63.19
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	74.17
95% Adjusted-CLT UCL (Chen-1995)	47.77	97.5% Chebyshev (MVUE) UCL	89.33
95% Modified-t UCL (Johnson-1978)	47.67	99% Chebyshev (MVUE) UCL	119.1

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.564	Data appear Normal at 5% Significance Level	
Theta Star	24.02		
MLE of Mean	37.58		
MLE of Standard Deviation	30.05		
nu star	65.71		
Approximate Chi Square Value (.05)	48.06	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	47.1
Adjusted Chi Square Value	46.9	95% Jackknife UCL	47.57
		95% Standard Bootstrap UCL	46.56
Anderson-Darling Test Statistic	0.801	95% Bootstrap-t UCL	48.72
Anderson-Darling 5% Critical Value	0.756	95% Hall's Bootstrap UCL	47.4
Kolmogorov-Smirnov Test Statistic	0.178	95% Percentile Bootstrap UCL	47.49
Kolmogorov-Smirnov 5% Critical Value	0.192	95% BCA Bootstrap UCL	48.04
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	62.81
		97.5% Chebyshev(Mean, Sd) UCL	73.73
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	95.17
95% Approximate Gamma UCL (Use when n >= 40)	51.39		
95% Adjusted Gamma UCL (Use when n < 40)	52.66		

Potential UCL to Use	Use 95% Student's-t UCL	47.57

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Selenium

General Statistics (Units in mg/kg)

Number of Valid Data	21	Number of Detected Data	14
Number of Distinct Detected Data	9	Number of Non-Detect Data	7
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.6	Minimum Detected	0.47
Maximum Detected	7.9	Maximum Detected	2.067
Mean of Detected	3.05	Mean of Detected	1.037
SD of Detected	1.509	SD of Detected	0.382
Minimum Non-Detect	0.0011	Minimum Non-Detect	-6.812
Maximum Non-Detect	0.81	Maximum Non-Detect	-0.211

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	14
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	33.33%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.649	Shapiro Wilk Test Statistic	0.838
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.149	Mean	0.0758
SD	1.787	SD	1.976
95% DL/2 (t) UCL	2.822	95% H-Stat (DL/2) UCL	46.46

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.824	Mean in Log Scale	0.747
SD	2.205	SD in Log Scale	0.534
95% MLE (t) UCL	2.654	Mean in Original Scale	2.434
95% MLE (Tiku) UCL	2.726	SD in Original Scale	1.515
		95% t UCL	3.004
		95% Percentile Bootstrap UCL	2.974
		95% BCA Bootstrap UCL	3.214
		95% H UCL	3.097

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	5.211	Data do not follow a Discernable Distribution (0.05)
Theta Star	0.585	
nu star	145.9	

A-D Test Statistic	1.184	Nonparametric Statistics	
5% A-D Critical Value	0.737	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.737	Mean	2.567
5% K-S Critical Value	0.229	SD	1.37
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.31
		95% KM (t) UCL	3.102
Assuming Gamma Distribution		95% KM (z) UCL	3.077
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.074
Minimum	0.000001	95% KM (bootstrap t) UCL	3.445
Maximum	7.9	95% KM (BCA) UCL	3.267
Mean	2.053	95% KM (Percentile Bootstrap) UCL	3.176
Median	2.6	95% KM (Chebyshev) UCL	3.919
SD	1.891	97.5% KM (Chebyshev) UCL	4.504
k star	0.191	99% KM (Chebyshev) UCL	5.654
Theta star	10.77		
Nu star	8.007	Potential UCLs to Use	
AppChi2	2.739	95% KM (BCA) UCL	3.267
95% Gamma Approximate UCL (Use when n >= 40)	6.002		
95% Adjusted Gamma UCL (Use when n < 40)	6.557		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Silver

General Statistics (Units in mg/kg)

Number of Valid Data	21	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	5
		Percent Non-Detects	23.81%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.2	Minimum Detected	0.788
Maximum Detected	13.6	Maximum Detected	2.61
Mean of Detected	6.125	Mean of Detected	1.692
SD of Detected	3.112	SD of Detected	0.512
Minimum Non-Detect	0.17	Minimum Non-Detect	-1.772
Maximum Non-Detect	0.17	Maximum Non-Detect	-1.772

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.932	Shapiro Wilk Test Statistic	0.985
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.687	Mean	0.703
SD	3.77	SD	1.868
95% DL/2 (t) UCL	6.106	95% H-Stat (DL/2) UCL	59.29

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.099	Mean in Log Scale	1.399
SD	4.598	SD in Log Scale	0.707
95% MLE (t) UCL	5.83	Mean in Original Scale	5.055
95% MLE (Tiku) UCL	5.929	SD in Original Scale	3.338
		95% t UCL	6.311
		95% Percentile Bootstrap UCL	6.193
		95% BCA Bootstrap UCL	6.391
		95% H UCL	7.366

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	3.559	Data appear Normal at 5% Significance Level
Theta Star	1.721	
nu star	113.9	

A-D Test Statistic	0.164	Nonparametric Statistics	
5% A-D Critical Value	0.742	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.742	Mean	5.19
5% K-S Critical Value	0.216	SD	3.116
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.702
		95% KM (t) UCL	6.402
Assuming Gamma Distribution		95% KM (z) UCL	6.346
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.343
Minimum	0.000001	95% KM (bootstrap t) UCL	6.677
Maximum	13.6	95% KM (BCA) UCL	6.586
Mean	4.667	95% KM (Percentile Bootstrap) UCL	6.419
Median	4.5	95% KM (Chebyshev) UCL	8.252
SD	3.796	97.5% KM (Chebyshev) UCL	9.577
k star	0.209	99% KM (Chebyshev) UCL	12.18
Theta star	22.33		
Nu star	8.778	Potential UCLs to Use	
AppChi2	3.193	95% KM (t) UCL	6.402
95% Gamma Approximate UCL (Use when n >= 40)	12.83	95% KM (Percentile Bootstrap) UCL	6.419
95% Adjusted Gamma UCL (Use when n < 40)	13.94		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Thallium

General Statistics (Units in mg/kg)

Number of Valid Data	21	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	20
		Percent Non-Detects	95.24%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, E

The data set for variable Thallium was not processed!

Total DDx

General Statistics (Units in mg/kg)

Number of Valid Data	19	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	9
		Percent Non-Detects	47.37%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0115	Minimum Detected	-4.465
Maximum Detected	56.2	Maximum Detected	4.029
Mean of Detected	6.017	Mean of Detected	-1.686
SD of Detected	17.65	SD of Detected	2.684
Minimum Non-Detect	0.0043	Minimum Non-Detect	-5.449
Maximum Non-Detect	0.014	Maximum Non-Detect	-4.269

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	57.89%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.395	Shapiro Wilk Test Statistic	0.9
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.169	Mean	-3.358
SD	12.86	SD	2.633
95% DL/2 (t) UCL	8.284	95% H-Stat (DL/2) UCL	31.79

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.822
		SD in Log Scale	4.011
		Mean in Original Scale	3.167
		SD in Original Scale	12.86
		95% t UCL	8.281
		95% Percentile Bootstrap UCL	9.023
		95% BCA Bootstrap UCL	12.13
		95% H-UCL	36785

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.214	Data appear Lognormal at 5% Significance Level	
Theta Star	28.17		
nu star	4.271		

A-D Test Statistic	1.315	Nonparametric Statistics	
5% A-D Critical Value	0.85	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.85	Mean	3.172
5% K-S Critical Value	0.293	SD	12.51
Data not Gamma Distributed at 5% Significance Level		SE of Mean	3.026
		95% KM (t) UCL	8.419
Assuming Gamma Distribution		95% KM (z) UCL	8.149
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	8.286
Minimum	0.000001	95% KM (bootstrap t) UCL	188.7
Maximum	56.2	95% KM (BCA) UCL	8.998
Mean	3.167	95% KM (Percentile Bootstrap) UCL	9.055
Median	0.0115	95% KM (Chebyshev) UCL	16.36
SD	12.86	97.5% KM (Chebyshev) UCL	22.07
k star	0.115	99% KM (Chebyshev) UCL	33.28
Theta star	27.48		
Nu star	4.379	Potential UCLs to Use	
AppChi2	0.877	99% KM (Chebyshev) UCL	33.28
95% Gamma Approximate UCL (Use when n >= 40)	15.81		
95% Adjusted Gamma UCL (Use when n < 40)	18.44		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics (Units in mg/kg)			
Number of Valid Data	437	Number of Detected Data	366
Number of Distinct Detected Data	200	Number of Non-Detect Data	71
		Percent Non-Detects	16.25%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	924	Maximum Detected	6.829
Mean of Detected	22.2	Mean of Detected	1.102
SD of Detected	83.04	SD of Detected	1.96
Minimum Non-Detect	0.04	Minimum Non-Detect	-3.219
Maximum Non-Detect	0.72	Maximum Non-Detect	-0.329
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	164
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	273
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	37.53%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.395	Lilliefors Test Statistic	0.0429
5% Lilliefors Critical Value	0.0463	5% Lilliefors Critical Value	0.0463
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	18.61	Mean	0.424
SD	76.42	SD	2.388
95% DL/2 (t) UCL	24.63	95% H-Stat (DL/2) UCL	39.71
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.436
		SD in Log Scale	2.364
		Mean in Original Scale	18.61
		SD in Original Scale	76.42
		95% t UCL	24.63
		95% Percentile Bootstrap UCL	25.12
		95% BCA Bootstrap UCL	26.57
		95% H-UCL	37.66
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.337	Data appear Lognormal at 5% Significance Level	
Theta Star	65.79		
nu star	247		
A-D Test Statistic	20.14	Nonparametric Statistics	
5% A-D Critical Value	0.862	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.862	Mean	18.6
5% K-S Critical Value	0.0514	SD	76.33
Data not Gamma Distributed at 5% Significance Level		SE of Mean	3.656
		95% KM (t) UCL	24.63
Assuming Gamma Distribution		95% KM (z) UCL	24.62
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	24.63
Minimum	0.000001	95% KM (bootstrap t) UCL	27.45
Maximum	924	95% KM (BCA) UCL	24.61
Mean	18.6	95% KM (Percentile Bootstrap) UCL	24.9
Median	1.6	95% KM (Chebyshev) UCL	34.54
SD	76.42	97.5% KM (Chebyshev) UCL	41.44
k star	0.177	99% KM (Chebyshev) UCL	54.98
Theta star	105		
Nu star	154.7	Potential UCLs to Use	
AppChi2	127	97.5% KM (Chebyshev) UCL	41.44
95% Gamma Approximate UCL (Use when n >= 40)	22.66		
95% Adjusted Gamma UCL (Use when n < 40)	22.68		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	12.95	Minimum of Log Data	2.561
Maximum	87.9	Maximum of Log Data	4.476
Mean	42.57	Mean of log Data	3.606
Geometric Mean	36.81	SD of log Data	0.573
Median	40		
SD	22.44		
Std. Error of Mean	4.897		
Coefficient of Variation	0.527		
Skewness	0.591		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.939	Shapiro Wilk Test Statistic	0.957
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	51.02	95% H-UCL	56.49
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	67.59
95% Adjusted-CLT UCL (Chen-1995)	51.3	97.5% Chebyshev (MVUE) UCL	78.23
95% Modified-t UCL (Johnson-1978)	51.13	99% Chebyshev (MVUE) UCL	99.13
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.113	Data appear Normal at 5% Significance Level	
Theta Star	13.67		
MLE of Mean	42.57		
MLE of Standard Deviation	24.13		
nu star	130.8		
Approximate Chi Square Value (.05)	105.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	50.63
Adjusted Chi Square Value	103.6	95% Jackknife UCL	51.02
		95% Standard Bootstrap UCL	50.46
Anderson-Darling Test Statistic	0.256	95% Bootstrap-t UCL	52
Anderson-Darling 5% Critical Value	0.748	95% Hall's Bootstrap UCL	51.89
Kolmogorov-Smirnov Test Statistic	0.0963	95% Percentile Bootstrap UCL	50.39
Kolmogorov-Smirnov 5% Critical Value	0.191	95% BCA Bootstrap UCL	51.13
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	63.92
		97.5% Chebyshev(Mean, Sd) UCL	73.16
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	91.3
95% Approximate Gamma UCL (Use when n >= 40)	52.85		
95% Adjusted Gamma UCL (Use when n < 40)	53.74		
Potential UCL to Use		Use 95% Student's-t UCL	51.02

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Zinc

General Statistics (Units in mg/kg)			
Number of Valid Observations	21	Number of Distinct Observations	21
Raw Statistics		Log-transformed Statistics	
Minimum	31	Minimum of Log Data	3.434
Maximum	1000	Maximum of Log Data	6.908
Mean	284.9	Mean of log Data	5.046
Geometric Mean	155.4	SD of log Data	1.21
Median	205		
SD	291.4		
Std. Error of Mean	63.6		
Coefficient of Variation	1.023		
Skewness	1.194		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.833	Shapiro Wilk Test Statistic	0.905
Shapiro Wilk Critical Value	0.908	Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	394.6	95% H-UCL	700.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	713.5
95% Adjusted-CLT UCL (Chen-1995)	407.2	97.5% Chebyshev (MVUE) UCL	890
95% Modified-t UCL (Johnson-1978)	397.4	99% Chebyshev (MVUE) UCL	1237
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.852	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	334.5		
MLE of Mean	284.9		
MLE of Standard Deviation	308.7		
nu star	35.78		
Approximate Chi Square Value (.05)	23.09	Nonparametric Statistics	
Adjusted Level of Significance	0.0383	95% CLT UCL	389.5
Adjusted Chi Square Value	22.31	95% Jackknife UCL	394.6
		95% Standard Bootstrap UCL	387.5
Anderson-Darling Test Statistic	0.686	95% Bootstrap-t UCL	416.1
Anderson-Darling 5% Critical Value	0.772	95% Hall's Bootstrap UCL	408
Kolmogorov-Smirnov Test Statistic	0.179	95% Percentile Bootstrap UCL	392.8
Kolmogorov-Smirnov 5% Critical Value	0.195	95% BCA Bootstrap UCL	406.8
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	562.1
		97.5% Chebyshev(Mean, Sd) UCL	682.1
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	917.7
95% Approximate Gamma UCL (Use when n >= 40)	441.5		
95% Adjusted Gamma UCL (Use when n < 40)	457		
Potential UCL to Use		Use 95% Approximate Gamma UCL	441.5

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Aldrin

General Statistics (Units in mg/kg)

Number of Valid Data	2	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	1
		Percent Non-Detects	50.00%

Warning: This data set only has 2 observations!
Data set is too small to compute reliable and meaningful statistics and estimates
The data set for variable Aldrin was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results

Aluminum

General Statistics (Units in mg/kg)

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	8040	Minimum of Log Data	8.992
Maximum	16900	Maximum of Log Data	9.735
Mean	13273	Mean of log Data	9.46
Geometric Mean	12838	SD of log Data	0.292
Median	13950		
SD	3522		
Std. Error of Mean	1438		
Coefficient of Variation	0.265		
Skewness	-0.598		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk Test Statistic	0.888
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	16170	95% H-UCL	17896
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	20221
95% Adjusted-CLT UCL (Chen-1995)	15263	97.5% Chebyshev (MVUE) UCL	23216
95% Modified-t UCL (Johnson-1978)	16112	99% Chebyshev (MVUE) UCL	29098

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	7.687	Data appear Normal at 5% Significance Level	
Theta Star	1727		
MLE of Mean	13273		
MLE of Standard Deviation	4787		
nu star	92.25		
Approximate Chi Square Value (.05)	71.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	15638
Adjusted Chi Square Value	64.42	95% Jackknife UCL	16170
		95% Standard Bootstrap UCL	15430
Anderson-Darling Test Statistic	0.39	95% Bootstrap-t UCL	15613
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	15129
Kolmogorov-Smirnov Test Statistic	0.261	95% Percentile Bootstrap UCL	15350
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	15217
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	19540
		97.5% Chebyshev(Mean, Sd) UCL	22252
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	27579
95% Approximate Gamma UCL (Use when n >= 40)	17221		
95% Adjusted Gamma UCL (Use when n < 40)	19006		

Potential UCL to Use	Use 95% Student's-t UCL	16170

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Arsenic

General Statistics (Units in mg/kg)

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	1.3	Minimum of Log Data	0.262
Maximum	3	Maximum of Log Data	1.099
Mean	1.983	Mean of log Data	0.648
Geometric Mean	1.912	SD of log Data	0.294
Median	1.95		
SD	0.598		
Std. Error of Mean	0.244		
Coefficient of Variation	0.302		
Skewness	0.881		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.943	Shapiro Wilk Test Statistic	0.976
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.475	95% H-UCL	2.672
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.019
95% Adjusted-CLT UCL (Chen-1995)	2.479	97.5% Chebyshev (MVUE) UCL	3.468
95% Modified-t UCL (Johnson-1978)	2.49	99% Chebyshev (MVUE) UCL	4.349

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	7.05	Data appear Normal at 5% Significance Level	
Theta Star	0.281		
MLE of Mean	1.983		
MLE of Standard Deviation	0.747		
nu star	84.6		
Approximate Chi Square Value (.05)	64.4	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	2.385
Adjusted Chi Square Value	58.07	95% Jackknife UCL	2.475
		95% Standard Bootstrap UCL	2.348
Anderson-Darling Test Statistic	0.215	95% Bootstrap-t UCL	2.582
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	2.932
Kolmogorov-Smirnov Test Statistic	0.15	95% Percentile Bootstrap UCL	2.35
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	2.383
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.048
		97.5% Chebyshev(Mean, Sd) UCL	3.508
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	4.413
95% Approximate Gamma UCL (Use when n >= 40)	2.605		
95% Adjusted Gamma UCL (Use when n < 40)	2.889		

Potential UCL to Use	Use 95% Student's-t UCL	2.475

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Bis(2-Ethylhexyl) Phthalate

General Statistics (Units in mg/kg)

Number of Valid Data	6	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	2
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.16	Minimum Detected	-1.833
Maximum Detected	6.1	Maximum Detected	1.808
Mean of Detected	1.7	Mean of Detected	-0.698
SD of Detected	2.935	SD of Detected	1.714
Minimum Non-Detect	0.015	Minimum Non-Detect	-4.2
Maximum Non-Detect	0.015	Maximum Non-Detect	-4.2

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.655	Shapiro Wilk Test Statistic	0.787
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.136	Mean	-2.096
SD	2.436	SD	2.541
95% DL/2 (t) UCL	3.139	95% H-Stat (DL/2) UCL	188989

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.401	Mean in Log Scale	-2.203
SD	2.941	SD in Log Scale	2.72
95% MLE (t) UCL	2.82	Mean in Original Scale	1.136
95% MLE (Tiku) UCL	2.979	SD in Original Scale	2.436
		95% t UCL	3.139
		95% Percentile Bootstrap UCL	3.082
		95% BCA Bootstrap UCL	3.175
		95% H UCL	1328563

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.295	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	5.755	
nu star	2.363	

A-D Test Statistic	0.691	Nonparametric Statistics	
5% A-D Critical Value	0.68	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.68	Mean	1.187
5% K-S Critical Value	0.41	SD	2.199
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	1.036
		95% KM (t) UCL	3.275
Assuming Gamma Distribution		95% KM (z) UCL	2.891
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.166
Minimum	0.000001	95% KM (bootstrap t) UCL	31.21
Maximum	6.1	95% KM (BCA) UCL	3.165
Mean	1.133	95% KM (Percentile Bootstrap) UCL	3.132
Median	0.165	95% KM (Chebyshev) UCL	5.704
SD	2.437	97.5% KM (Chebyshev) UCL	7.659
k star	0.185	99% KM (Chebyshev) UCL	11.5
Theta star	6.119		
Nu star	2.223	Potential UCLs to Use	
AppChi2	0.185	95% KM (BCA) UCL	3.165
95% Gamma Approximate UCL (Use when n >= 40)	13.61		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics (Units in mg/kg)

Number of Valid Data	6	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	3
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1	Minimum Detected	0
Maximum Detected	9.4	Maximum Detected	2.241
Mean of Detected	4.833	Mean of Detected	1.217
SD of Detected	4.248	SD of Detected	1.133
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.019	Maximum Non-Detect	-3.963

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	50.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.978	Shapiro Wilk Test Statistic	0.978
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.419	Mean	-2.47
SD	3.77	SD	4.184
95% DL/2 (t) UCL	5.52	95% H-Stat (DL/2) UCL	3.89E+15

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.08	Mean in Log Scale	-0.639
SD	5.909	SD in Log Scale	2.203
95% MLE (t) UCL	4.941	Mean in Original Scale	2.465
95% MLE (Tiku) UCL	6.065	SD in Original Scale	3.735
		95% t UCL	5.537
		95% Percentile Bootstrap UCL	5.04
		95% BCA Bootstrap UCL	6.073
		95% H UCL	24487

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	N/A	Data appear Normal at 5% Significance Level
Theta Star	N/A	
nu star	N/A	

		Nonparametric Statistics	
A-D Test Statistic	N/A	Kaplan-Meier (KM) Method	
5% A-D Critical Value	N/A		
K-S Test Statistic	N/A	Mean	2.917
5% K-S Critical Value	N/A	SD	3.113
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.556
		95% KM (t) UCL	6.053
Assuming Gamma Distribution		95% KM (z) UCL	5.477
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.105
Minimum	N/A	95% KM (bootstrap t) UCL	5.02
Maximum	N/A	95% KM (BCA) UCL	N/A
Mean	N/A	95% KM (Percentile Bootstrap) UCL	9.4
Median	N/A	95% KM (Chebyshev) UCL	9.7
SD	N/A	97.5% KM (Chebyshev) UCL	12.64
k star	N/A	99% KM (Chebyshev) UCL	18.4
Theta star	N/A		
Nu star	N/A	Potential UCLs to Use	
AppChi2	N/A	95% KM (t) UCL	6.053
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	9.4
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chlordane, Total

General Statistics (Units in mg/kg)

Number of Valid Observations	2	Number of Distinct Observations	2

Warning: This data set only has 2 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable Chlordane, Total was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Chromium

General Statistics (Units in mg/kg)

Number of Valid Observations	6	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	12.7	Minimum of Log Data	2.542
Maximum	19.8	Maximum of Log Data	2.986
Mean	15.03	Mean of log Data	2.7
Geometric Mean	14.88	SD of log Data	0.154
Median	14.3		
SD	2.503		
Std. Error of Mean	1.022		
Coefficient of Variation	0.167		
Skewness	1.757		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.822	Shapiro Wilk Test Statistic	0.865
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	17.09	95% H-UCL	17.29
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	19.15
95% Adjusted-CLT UCL (Chen-1995)	17.5	97.5% Chebyshev (MVUE) UCL	20.93
95% Modified-t UCL (Johnson-1978)	17.21	99% Chebyshev (MVUE) UCL	24.44

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	24.19	Data appear Normal at 5% Significance Level	
Theta Star	0.622		
MLE of Mean	15.03		
MLE of Standard Deviation	3.057		
nu star	290.2		
Approximate Chi Square Value (.05)	251.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	16.71
Adjusted Chi Square Value	238.8	95% Jackknife UCL	17.09
		95% Standard Bootstrap UCL	16.61
Anderson-Darling Test Statistic	0.523	95% Bootstrap-t UCL	19.05
Anderson-Darling 5% Critical Value	0.697	95% Hall's Bootstrap UCL	24.25
Kolmogorov-Smirnov Test Statistic	0.266	95% Percentile Bootstrap UCL	16.87
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	17.05
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	19.49
		97.5% Chebyshev(Mean, Sd) UCL	21.42
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	25.2
95% Approximate Gamma UCL (Use when n >= 40)	17.33		
95% Adjusted Gamma UCL (Use when n < 40)	18.28		

Potential UCL to Use	Use 95% Student's-t UCL	17.09

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cyanide

General Statistics (Units in mg/kg)

Number of Valid Data	6	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	2
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.21	Minimum Detected	-1.561
Maximum Detected	6.1	Maximum Detected	1.808
Mean of Detected	1.985	Mean of Detected	-0.0536
SD of Detected	2.762	SD of Detected	1.403
Minimum Non-Detect	0.004	Minimum Non-Detect	-5.521
Maximum Non-Detect	0.004	Maximum Non-Detect	-5.521

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.738	Shapiro Wilk Test Statistic	0.969
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.324	Mean	-2.107
SD	2.372	SD	3.362
95% DL/2 (t) UCL	3.275	95% H-Stat (DL/2) UCL	7.36E+09

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.623	Mean in Log Scale	-1.374
SD	2.902	SD in Log Scale	2.349
95% MLE (t) UCL	3.01	Mean in Original Scale	1.331
95% MLE (Tiku) UCL	3.173	SD in Original Scale	2.368
		95% t UCL	3.278
		95% Percentile Bootstrap UCL	3.096
		95% BCA Bootstrap UCL	3.427
		95% H UCL	50381

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.367	Data appear Gamma Distributed at 5% Significance Level
Theta Star	5.404	
nu star	2.938	

A-D Test Statistic	0.376	Nonparametric Statistics	
5% A-D Critical Value	0.67	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.67	Mean	1.393
5% K-S Critical Value	0.404	SD	2.125
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.002
		95% KM (t) UCL	3.412
Assuming Gamma Distribution		95% KM (z) UCL	3.041
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3.257
Minimum	0.000001	95% KM (bootstrap t) UCL	11.24
Maximum	6.1	95% KM (BCA) UCL	3.427
Mean	1.323	95% KM (Percentile Bootstrap) UCL	3.287
Median	0.42	95% KM (Chebyshev) UCL	5.76
SD	2.372	97.5% KM (Chebyshev) UCL	7.649
k star	0.189	99% KM (Chebyshev) UCL	11.36
Theta star	7.009		
Nu star	2.266	Potential UCLs to Use	
AppChi2	0.193	95% KM (BCA) UCL	3.427
95% Gamma Approximate UCL (Use when n >= 40)	15.54		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dieldrin

General Statistics (Units in mg/kg)

Number of Valid Observations	1	Number of Distinct Observations	1

Warning: This data set only has 1 observations!
Data set is too small to compute reliable and meaningful statistics and estimates
The data set for variable Dieldrin was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results

Endrin Ketone

General Statistics (Units in mg/kg)

Number of Valid Data	2	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	1
		Percent Non-Detects	50.00%

Warning: This data set only has 2 observations!
Data set is too small to compute reliable and meaningful statistics and estimates
The data set for variable Endrin Ketone was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results

HMW PAHs

General Statistics (Units in mg/kg)

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.208	Minimum of Log Data	-1.57
Maximum	20.6	Maximum of Log Data	3.025
Mean	5.69	Mean of log Data	0.869
Geometric Mean	2.385	SD of log Data	1.606
Median	3.055		
SD	7.66		
Std. Error of Mean	3.127		
Coefficient of Variation	1.346		
Skewness	1.982		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates

It is suggested to collect at least 8 to 10 observations using these statistical methods
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.747	Shapiro Wilk Test Statistic	0.971
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	11.99	95% H-UCL	779.4
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	22.5
95% Adjusted-CLT UCL (Chen-1995)	13.54	97.5% Chebyshev (MVUE) UCL	29.57
95% Modified-t UCL (Johnson-1978)	12.41	99% Chebyshev (MVUE) UCL	43.47

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.459	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	12.4		
MLE of Mean	5.69		
MLE of Standard Deviation	8.399		
nu star	5.507		
Approximate Chi Square Value (.05)	1.393	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	10.83
Adjusted Chi Square Value	0.78	95% Jackknife UCL	11.99
		95% Standard Bootstrap UCL	10.54
Anderson-Darling Test Statistic	0.257	95% Bootstrap-t UCL	19.7
Anderson-Darling 5% Critical Value	0.724	95% Hall's Bootstrap UCL	29.57
Kolmogorov-Smirnov Test Statistic	0.217	95% Percentile Bootstrap UCL	11.38
Kolmogorov-Smirnov 5% Critical Value	0.345	95% BCA Bootstrap UCL	12.54
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	19.32
		97.5% Chebyshev(Mean, Sd) UCL	25.22
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	36.8
95% Approximate Gamma UCL (Use when n >= 40)	22.49		
95% Adjusted Gamma UCL (Use when n < 40)	40.17		

Potential UCL to Use	Use 95% Approximate Gamma UCL	22.49
Recommended UCL exceeds the maximum observation		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead

General Statistics (Units in mg/kg)

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	32.1	Minimum of Log Data	3.469
Maximum	137	Maximum of Log Data	4.92
Mean	71.95	Mean of log Data	4.12
Geometric Mean	61.54	SD of log Data	0.619
Median	65.8		
SD	42.76		
Std. Error of Mean	17.46		
Coefficient of Variation	0.594		
Skewness	0.579		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.868	Shapiro Wilk Test Statistic	0.867
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	107.1	95% H-UCL	168.4
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	151
95% Adjusted-CLT UCL (Chen-1995)	105.1	97.5% Chebyshev (MVUE) UCL	185.2
95% Modified-t UCL (Johnson-1978)	107.8	99% Chebyshev (MVUE) UCL	252.3

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.79	Data appear Normal at 5% Significance Level	
Theta Star	40.19		
MLE of Mean	71.95		
MLE of Standard Deviation	53.77		
nu star	21.48		
Approximate Chi Square Value (.05)	11.95	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	100.7
Adjusted Chi Square Value	9.491	95% Jackknife UCL	107.1
		95% Standard Bootstrap UCL	97.94
Anderson-Darling Test Statistic	0.5	95% Bootstrap-t UCL	118.9
Anderson-Darling 5% Critical Value	0.701	95% Hall's Bootstrap UCL	94.43
Kolmogorov-Smirnov Test Statistic	0.281	95% Percentile Bootstrap UCL	98.82
Kolmogorov-Smirnov 5% Critical Value	0.334	95% BCA Bootstrap UCL	99.63
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	148
		97.5% Chebyshev(Mean, Sd) UCL	181
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	245.6
95% Approximate Gamma UCL (Use when n >= 40)	129.3		
95% Adjusted Gamma UCL (Use when n < 40)	162.9		

Potential UCL to Use	Use 95% Student's-t UCL	107.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Manganese

General Statistics (Units in mg/kg)

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	110	Minimum of Log Data	4.7
Maximum	798	Maximum of Log Data	6.682
Mean	400.5	Mean of log Data	5.78
Geometric Mean	323.7	SD of log Data	0.75
Median	366		
SD	263.3		
Std. Error of Mean	107.5		
Coefficient of Variation	0.657		
Skewness	0.506		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.928	Shapiro Wilk Test Statistic	0.945
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	617.1	95% H-UCL	1305
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	944.7
95% Adjusted-CLT UCL (Chen-1995)	601	97.5% Chebyshev (MVUE) UCL	1178
95% Modified-t UCL (Johnson-1978)	620.8	99% Chebyshev (MVUE) UCL	1635

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.362	Data appear Normal at 5% Significance Level	
Theta Star	294		
MLE of Mean	400.5		
MLE of Standard Deviation	343.1		
nu star	16.35		
Approximate Chi Square Value (.05)	8.208	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	577.3
Adjusted Chi Square Value	6.24	95% Jackknife UCL	617.1
		95% Standard Bootstrap UCL	563.9
Anderson-Darling Test Statistic	0.286	95% Bootstrap-t UCL	701.2
Anderson-Darling 5% Critical Value	0.703	95% Hall's Bootstrap UCL	550.4
Kolmogorov-Smirnov Test Statistic	0.217	95% Percentile Bootstrap UCL	564.8
Kolmogorov-Smirnov 5% Critical Value	0.335	95% BCA Bootstrap UCL	565.3
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	869
		97.5% Chebyshev(Mean, Sd) UCL	1072
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1470
95% Approximate Gamma UCL (Use when n >= 40)	797.7		
95% Adjusted Gamma UCL (Use when n < 40)	1049		

Potential UCL to Use	Use 95% Student's-t UCL	617.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics (Units in mg/kg)

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.048	Minimum of Log Data	-3.037
Maximum	0.19	Maximum of Log Data	-1.661
Mean	0.112	Mean of log Data	-2.282
Geometric Mean	0.102	SD of log Data	0.487
Median	0.11		
SD	0.0502		
Std. Error of Mean	0.0205		
Coefficient of Variation	0.448		
Skewness	0.422		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.987	Shapiro Wilk Test Statistic	0.984
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.153	95% H-UCL	0.203
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.21
95% Adjusted-CLT UCL (Chen-1995)	0.15	97.5% Chebyshev (MVUE) UCL	0.252
95% Modified-t UCL (Johnson-1978)	0.154	99% Chebyshev (MVUE) UCL	0.335

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.897	Data appear Normal at 5% Significance Level	
Theta Star	0.0387		
MLE of Mean	0.112		
MLE of Standard Deviation	0.0658		
nu star	34.77		
Approximate Chi Square Value (.05)	22.28	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	0.146
Adjusted Chi Square Value	18.76	95% Jackknife UCL	0.153
		95% Standard Bootstrap UCL	0.142
Anderson-Darling Test Statistic	0.148	95% Bootstrap-t UCL	0.16
Anderson-Darling 5% Critical Value	0.698	95% Hall's Bootstrap UCL	0.161
Kolmogorov-Smirnov Test Statistic	0.12	95% Percentile Bootstrap UCL	0.143
Kolmogorov-Smirnov 5% Critical Value	0.333	95% BCA Bootstrap UCL	0.143
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.201
		97.5% Chebyshev(Mean, Sd) UCL	0.24
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.316
95% Approximate Gamma UCL (Use when n >= 40)	0.175		
95% Adjusted Gamma UCL (Use when n < 40)	0.208		

Potential UCL to Use	Use 95% Student's-t UCL	0.153

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total DDx

General Statistics (Units in mg/kg)

Number of Valid Observations	2	Number of Distinct Observations	2

Warning: This data set only has 2 observations!
Data set is too small to compute reliable and meaningful statistics and estimates
The data set for variable Total DDx was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results

Total PCBs

General Statistics (Units in mg/kg)

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.125	Minimum of Log Data	-2.079
Maximum	62	Maximum of Log Data	4.127
Mean	19.03	Mean of log Data	0.742
Geometric Mean	2.101	SD of log Data	2.639
Median	0.852		
SD	28.89		
Std. Error of Mean	11.79		
Coefficient of Variation	1.518		
Skewness	1.042		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.693	Shapiro Wilk Test Statistic	0.853
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	42.79	95% H-UCL	9847645
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	90.03
95% Adjusted-CLT UCL (Chen-1995)	43.79	97.5% Chebyshev (MVUE) UCL	120.6
95% Modified-t UCL (Johnson-1978)	43.63	99% Chebyshev (MVUE) UCL	180.7

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.267	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	71.36		
MLE of Mean	19.03		
MLE of Standard Deviation	36.85		
nu star	3.2		
Approximate Chi Square Value (.05)	0.434	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	38.43
Adjusted Chi Square Value	0.196	95% Jackknife UCL	42.79
		95% Standard Bootstrap UCL	36.8
Anderson-Darling Test Statistic	0.715	95% Bootstrap-t UCL	1349
Anderson-Darling 5% Critical Value	0.765	95% Hall's Bootstrap UCL	1431
Kolmogorov-Smirnov Test Statistic	0.345	95% Percentile Bootstrap UCL	37.62
Kolmogorov-Smirnov 5% Critical Value	0.356	95% BCA Bootstrap UCL	39.58
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	70.44
		97.5% Chebyshev(Mean, Sd) UCL	92.68
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	136.4
95% Approximate Gamma UCL (Use when n >= 40)	140.3		
95% Adjusted Gamma UCL (Use when n < 40)	310		

Potential UCL to Use	Use 95% Adjusted Gamma UCL	310
Recommended UCL exceeds the maximum observation		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics (Units in mg/kg)

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	12.6	Minimum of Log Data	2.534
Maximum	24.3	Maximum of Log Data	3.19
Mean	19.1	Mean of log Data	2.93
Geometric Mean	18.73	SD of log Data	0.224
Median	18.65		
SD	3.965		
Std. Error of Mean	1.619		
Coefficient of Variation	0.208		
Skewness	-0.53		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.929	Shapiro Wilk Test Statistic	0.891
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	22.36	95% H-UCL	23.71
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	26.75
95% Adjusted-CLT UCL (Chen-1995)	21.39	97.5% Chebyshev (MVUE) UCL	30.05
95% Modified-t UCL (Johnson-1978)	22.3	99% Chebyshev (MVUE) UCL	36.53

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	12.81	Data appear Normal at 5% Significance Level	
Theta Star	1.491		
MLE of Mean	19.1		
MLE of Standard Deviation	5.336		
nu star	153.7		
Approximate Chi Square Value (.05)	126.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	21.76
Adjusted Chi Square Value	117	95% Jackknife UCL	22.36
		95% Standard Bootstrap UCL	21.54
Anderson-Darling Test Statistic	0.419	95% Bootstrap-t UCL	22.33
Anderson-Darling 5% Critical Value	0.697	95% Hall's Bootstrap UCL	22.69
Kolmogorov-Smirnov Test Statistic	0.285	95% Percentile Bootstrap UCL	21.58
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	21.23
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	26.16
		97.5% Chebyshev(Mean, Sd) UCL	29.21
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	35.21
95% Approximate Gamma UCL (Use when n >= 40)	23.29		
95% Adjusted Gamma UCL (Use when n < 40)	25.09		

Potential UCL to Use	Use 95% Student's-t UCL	22.36

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Zinc

General Statistics (Units in mg/kg)

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	22.8	Minimum of Log Data	3.127
Maximum	148	Maximum of Log Data	4.997
Mean	80.17	Mean of log Data	4.188
Geometric Mean	65.88	SD of log Data	0.72
Median	68.6		
SD	50.74		
Std. Error of Mean	20.71		
Coefficient of Variation	0.633		
Skewness	0.442		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates

It is suggested to collect at least 8 to 10 observations using these statistical methods
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.919	Shapiro Wilk Test Statistic	0.954
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	121.9	95% H-UCL	241.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	184.8
95% Adjusted-CLT UCL (Chen-1995)	118.2	97.5% Chebyshev (MVUE) UCL	229.6
95% Modified-t UCL (Johnson-1978)	122.5	99% Chebyshev (MVUE) UCL	317.6

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.462	Data appear Normal at 5% Significance Level	
Theta Star	54.84		
MLE of Mean	80.17		
MLE of Standard Deviation	66.3		
nu star	17.54		
Approximate Chi Square Value (.05)	9.061	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	114.2
Adjusted Chi Square Value	6.973	95% Jackknife UCL	121.9
		95% Standard Bootstrap UCL	111.2
Anderson-Darling Test Statistic	0.234	95% Bootstrap-t UCL	153.5
Anderson-Darling 5% Critical Value	0.702	95% Hall's Bootstrap UCL	137.4
Kolmogorov-Smirnov Test Statistic	0.199	95% Percentile Bootstrap UCL	111.3
Kolmogorov-Smirnov 5% Critical Value	0.335	95% BCA Bootstrap UCL	113.8
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	170.5
		97.5% Chebyshev(Mean, Sd) UCL	209.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	286.3
95% Approximate Gamma UCL (Use when n >= 40)	155.2		
95% Adjusted Gamma UCL (Use when n < 40)	201.7		

Potential UCL to Use	Use 95% Student's-t UCL	121.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Whole Body Predatory Fish

Total PCBs (ug/kg)

General Statistics

Number of Valid Observations	40	Number of Distinct Observations	38

Raw Statistics		Log-transformed Statistics	
Minimum	900	Minimum of Log Data	6.802
Maximum	16206	Maximum of Log Data	9.693
Mean	5216	Mean of log Data	8.323
Geometric Mean	4119	SD of log Data	0.702
Median	4048		
SD	3825		
Std. Error of Mean	604.7		
Coefficient of Variation	0.733		
Skewness	1.479		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.834	Shapiro Wilk Test Statistic	0.978
Shapiro Wilk Critical Value	0.94	Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	6235	95% H-UCL	6670
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7991
95% Adjusted-CLT UCL (Chen-1995)	6362	97.5% Chebyshev (MVUE) UCL	9186
95% Modified-t UCL (Johnson-1978)	6258	99% Chebyshev (MVUE) UCL	11531

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.118	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2463		
MLE of Mean	5216		
MLE of Standard Deviation	3584		
nu star	169.4		
Approximate Chi Square Value (.05)	140.3	Nonparametric Statistics	
Adjusted Level of Significance	0.044	95% CLT UCL	6210
Adjusted Chi Square Value	139.3	95% Jackknife UCL	6235
		95% Standard Bootstrap UCL	6212
Anderson-Darling Test Statistic	0.521	95% Bootstrap-t UCL	6428
Anderson-Darling 5% Critical Value	0.758	95% Hall's Bootstrap UCL	6364
Kolmogorov-Smirnov Test Statistic	0.106	95% Percentile Bootstrap UCL	6186
Kolmogorov-Smirnov 5% Critical Value	0.141	95% BCA Bootstrap UCL	6314
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	7852
		97.5% Chebyshev(Mean, Sd) UCL	8992
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	11233
95% Approximate Gamma UCL (Use when n >= 40)	6297		
95% Adjusted Gamma UCL (Use when n < 40)	6342		

Potential UCL to Use	Use 95% Approximate Gamma UCL	6297

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chromium (mg/kg)

General Statistics

Number of Valid Data	30	Number of Detected Data	22
Number of Distinct Detected Data	19	Number of Non-Detect Data	8
		Percent Non-Detects	26.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0738	Minimum Detected	-2.606
Maximum Detected	2.1	Maximum Detected	0.742
Mean of Detected	0.572	Mean of Detected	-0.807
SD of Detected	0.458	SD of Detected	0.736
Minimum Non-Detect	0.355	Minimum Non-Detect	-1.037
Maximum Non-Detect	0.4	Maximum Non-Detect	-0.916

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	13
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	56.67%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.767	Shapiro Wilk Test Statistic	0.941
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.471	Mean	-1.033
SD	0.425	SD	0.733
95% DL/2 (t) UCL	0.603	95% H-Stat (DL/2) UCL	0.626

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.228	Mean in Log Scale	-0.984
SD	0.66	SD in Log Scale	0.705
95% MLE (t) UCL	0.432	Mean in Original Scale	0.483
95% MLE (Tiku) UCL	0.506	SD in Original Scale	0.419
		95% t UCL	0.612
		95% Percentile Bootstrap UCL	0.606
		95% BCA Bootstrap UCL	0.645
		95% H UCL	0.634

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.896	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.302	
nu star	83.45	

		Nonparametric Statistics	
A-D Test Statistic	0.693		
5% A-D Critical Value	0.755	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.755	Mean	0.492
5% K-S Critical Value	0.188	SD	0.409
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0775
		95% KM (t) UCL	0.623
Assuming Gamma Distribution		95% KM (z) UCL	0.619
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.623
Minimum	0.0477	95% KM (bootstrap t) UCL	0.688
Maximum	2.1	95% KM (BCA) UCL	0.619
Mean	0.487	95% KM (Percentile Bootstrap) UCL	0.623
Median	0.388	95% KM (Chebyshev) UCL	0.83
SD	0.421	97.5% KM (Chebyshev) UCL	0.976
k star	1.688	99% KM (Chebyshev) UCL	1.263
Theta star	0.289		
Nu star	101.3	Potential UCLs to Use	
AppChi2	79.05	95% KM (Percentile Bootstrap) UCL	0.623
95% Gamma Approximate UCL (Use when n >= 40)	0.624		
95% Adjusted Gamma UCL (Use when n < 40)	0.633		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Copper (mg/kg)

General Statistics			
Number of Valid Observations	30	Number of Distinct Observations	26
Raw Statistics		Log-transformed Statistics	
Minimum	0.58	Minimum of Log Data	-0.545
Maximum	2.783	Maximum of Log Data	1.023
Mean	1.03	Mean of log Data	-0.0547
Geometric Mean	0.947	SD of log Data	0.39
Median	0.845		
SD	0.509		
Std. Error of Mean	0.0929		
Coefficient of Variation	0.494		
Skewness	2.197		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.745	Shapiro Wilk Test Statistic	0.895
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.188	95% H-UCL	1.169
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.343
95% Adjusted-CLT UCL (Chen-1995)	1.223	97.5% Chebyshev (MVUE) UCL	1.483
95% Modified-t UCL (Johnson-1978)	1.194	99% Chebyshev (MVUE) UCL	1.759
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.484	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.188		
MLE of Mean	1.03		
MLE of Standard Deviation	0.44		
nu star	329.1		
Approximate Chi Square Value (.05)	288	Nonparametric Statistics	
Adjusted Level of Significance	0.041	95% CLT UCL	1.183
Adjusted Chi Square Value	285.8	95% Jackknife UCL	1.188
		95% Standard Bootstrap UCL	1.179
Anderson-Darling Test Statistic	1.412	95% Bootstrap-t UCL	1.282
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL	1.321
Kolmogorov-Smirnov Test Statistic	0.191	95% Percentile Bootstrap UCL	1.192
Kolmogorov-Smirnov 5% Critical Value	0.16	95% BCA Bootstrap UCL	1.215
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.435
		97.5% Chebyshev(Mean, Sd) UCL	1.611
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.955
95% Approximate Gamma UCL (Use when n >= 40)	1.177		
95% Adjusted Gamma UCL (Use when n < 40)	1.186		
Potential UCL to Use		Use 95% Student's-t UCL	1.188
		or 95% Modified-t UCL	1.194

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead (mg/kg)

General Statistics			
Number of Valid Observations	30	Number of Distinct Observations	27
Raw Statistics		Log-transformed Statistics	
Minimum	0.15	Minimum of Log Data	-1.897
Maximum	2.9	Maximum of Log Data	1.065
Mean	0.521	Mean of log Data	-0.853
Geometric Mean	0.426	SD of log Data	0.578
Median	0.455		
SD	0.487		
Std. Error of Mean	0.0889		
Coefficient of Variation	0.934		
Skewness	4.255		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.537	Shapiro Wilk Test Statistic	0.933
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.673	95% H-UCL	0.626
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.744
95% Adjusted-CLT UCL (Chen-1995)	0.742	97.5% Chebyshev (MVUE) UCL	0.85
95% Modified-t UCL (Johnson-1978)	0.684	99% Chebyshev (MVUE) UCL	1.057
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.395	Data appear Lognormal at 5% Significance Level	
Theta Star	0.218		
MLE of Mean	0.521		
MLE of Standard Deviation	0.337		
nu star	143.7		
Approximate Chi Square Value (.05)	117	Nonparametric Statistics	
Adjusted Level of Significance	0.041	95% CLT UCL	0.668
Adjusted Chi Square Value	115.6	95% Jackknife UCL	0.673
		95% Standard Bootstrap UCL	0.66
Anderson-Darling Test Statistic	1.146	95% Bootstrap-t UCL	0.876
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL	1.278
Kolmogorov-Smirnov Test Statistic	0.197	95% Percentile Bootstrap UCL	0.69
Kolmogorov-Smirnov 5% Critical Value	0.162	95% BCA Bootstrap UCL	0.792
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.909
		97.5% Chebyshev(Mean, Sd) UCL	1.077
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.406
95% Approximate Gamma UCL (Use when n >= 40)	0.64		
95% Adjusted Gamma UCL (Use when n < 40)	0.648		
Potential UCL to Use		Use 95% H-UCL	0.626

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury (mg/kg)

General Statistics

Number of Valid Data	30	Number of Detected Data	28
Number of Distinct Detected Data	24	Number of Non-Detect Data	2
		Percent Non-Detects	6.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.023	Minimum Detected	-3.772
Maximum Detected	0.0967	Maximum Detected	-2.336
Mean of Detected	0.044	Mean of Detected	-3.187
SD of Detected	0.0174	SD of Detected	0.355
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.0291	Maximum Non-Detect	-3.536

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	24
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	20.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.877	Shapiro Wilk Test Statistic	0.967
5% Shapiro Wilk Critical Value	0.924	5% Shapiro Wilk Critical Value	0.924
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0419	Mean	-3.269
SD	0.0186	SD	0.466
95% DL/2 (t) UCL	0.0477	95% H-Stat (DL/2) UCL	0.0501

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0411	Mean in Log Scale	-3.236
SD	0.0195	SD in Log Scale	0.392
95% MLE (t) UCL	0.0472	Mean in Original Scale	0.0424
95% MLE (Tiku) UCL	0.0472	SD in Original Scale	0.0179
		95% t UCL	0.048
		95% Percentile Bootstrap UCL	0.048
		95% BCA Bootstrap UCL	0.0485
		95% H UCL	0.0486

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	7.102	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.0062		
nu star	397.7		

A-D Test Statistic	0.482	Nonparametric Statistics	
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	0.0427
5% K-S Critical Value	0.165	SD	0.0172
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00321
		95% KM (t) UCL	0.0481
Assuming Gamma Distribution		95% KM (z) UCL	0.048
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0481
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0501
Maximum	0.0967	95% KM (BCA) UCL	0.0483
Mean	0.0416	95% KM (Percentile Bootstrap) UCL	0.0483
Median	0.0385	95% KM (Chebyshev) UCL	0.0567
SD	0.0192	97.5% KM (Chebyshev) UCL	0.0627
k star	1.291	99% KM (Chebyshev) UCL	0.0746
Theta star	0.0322		
Nu star	77.45	Potential UCLs to Use	
AppChi2	58.18	95% KM (BCA) UCL	0.0483
95% Gamma Approximate UCL (Use when n >= 40)	0.0554		
95% Adjusted Gamma UCL (Use when n < 40)	0.0563		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Selenium (mg/kg)

General Statistics

Number of Valid Observations	30	Number of Distinct Observations	23

Raw Statistics		Log-transformed Statistics	
Minimum	0.562	Minimum of Log Data	-0.577
Maximum	1.6	Maximum of Log Data	0.47
Mean	0.95	Mean of log Data	-0.0837
Geometric Mean	0.92	SD of log Data	0.256
Median	0.92		
SD	0.252		
Std. Error of Mean	0.046		
Coefficient of Variation	0.265		
Skewness	0.851		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.943	Shapiro Wilk Test Statistic	0.982
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.028	95% H-UCL	1.034
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.144
95% Adjusted-CLT UCL (Chen-1995)	1.033	97.5% Chebyshev (MVUE) UCL	1.229
95% Modified-t UCL (Johnson-1978)	1.029	99% Chebyshev (MVUE) UCL	1.395

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	14.17	Data appear Normal at 5% Significance Level	
Theta Star	0.067		
MLE of Mean	0.95		
MLE of Standard Deviation	0.252		
nu star	850.1		
Approximate Chi Square Value (.05)	783.4	Nonparametric Statistics	
Adjusted Level of Significance	0.041	95% CLT UCL	1.025
Adjusted Chi Square Value	779.7	95% Jackknife UCL	1.028
		95% Standard Bootstrap UCL	1.024
Anderson-Darling Test Statistic	0.271	95% Bootstrap-t UCL	1.043
Anderson-Darling 5% Critical Value	0.745	95% Hall's Bootstrap UCL	1.035
Kolmogorov-Smirnov Test Statistic	0.102	95% Percentile Bootstrap UCL	1.026
Kolmogorov-Smirnov 5% Critical Value	0.16	95% BCA Bootstrap UCL	1.032
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.15
		97.5% Chebyshev(Mean, Sd) UCL	1.237
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.407
95% Approximate Gamma UCL (Use when n >= 40)	1.031		
95% Adjusted Gamma UCL (Use when n < 40)	1.035		

Potential UCL to Use	Use 95% Student's-t UCL	1.028

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Zinc (mg/kg)

General Statistics			
Number of Valid Observations	30	Number of Distinct Observations	19
Raw Statistics		Log-transformed Statistics	
Minimum	15	Minimum of Log Data	2.708
Maximum	28	Maximum of Log Data	3.332
Mean	21.51	Mean of log Data	3.058
Geometric Mean	21.29	SD of log Data	0.146
Median	21.56		
SD	3.058		
Std. Error of Mean	0.558		
Coefficient of Variation	0.142		
Skewness	-0.0122		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.982	Shapiro Wilk Test Statistic	0.973
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	22.46	95% H-UCL	22.55
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	24.01
95% Adjusted-CLT UCL (Chen-1995)	22.42	97.5% Chebyshev (MVUE) UCL	25.1
95% Modified-t UCL (Johnson-1978)	22.46	99% Chebyshev (MVUE) UCL	27.22
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	44.93	Data appear Normal at 5% Significance Level	
Theta Star	0.479		
MLE of Mean	21.51		
MLE of Standard Deviation	3.209		
nu star	2696		
Approximate Chi Square Value (.05)	2576	Nonparametric Statistics	
Adjusted Level of Significance	0.041	95% CLT UCL	22.43
Adjusted Chi Square Value	2569	95% Jackknife UCL	22.46
		95% Standard Bootstrap UCL	22.42
Anderson-Darling Test Statistic	0.305	95% Bootstrap-t UCL	22.44
Anderson-Darling 5% Critical Value	0.744	95% Hall's Bootstrap UCL	22.43
Kolmogorov-Smirnov Test Statistic	0.112	95% Percentile Bootstrap UCL	22.42
Kolmogorov-Smirnov 5% Critical Value	0.16	95% BCA Bootstrap UCL	22.41
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	23.94
		97.5% Chebyshev(Mean, Sd) UCL	24.99
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	27.06
95% Approximate Gamma UCL (Use when n >= 40)	22.51		
95% Adjusted Gamma UCL (Use when n < 40)	22.56		
Potential UCL to Use		Use 95% Student's-t UCL	22.46

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Total PCBs (ug/kg)

General Statistics

Number of Valid Observations	9	Number of Distinct Observations	9

Raw Statistics		Log-transformed Statistics	
Minimum	2165	Minimum of Log Data	7.68
Maximum	19707	Maximum of Log Data	9.889
Mean	9292	Mean of log Data	8.964
Geometric Mean	7816	SD of log Data	0.665
Median	8400		
SD	5432		
Std. Error of Mean	1811		
Coefficient of Variation	0.585		
Skewness	0.843		

Warning: There are only 9 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.934	Shapiro Wilk Test Statistic	0.95
Shapiro Wilk Critical Value	0.829	Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	12659	95% H-UCL	17789
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	18838
95% Adjusted-CLT UCL (Chen-1995)	12814	97.5% Chebyshev (MVUE) UCL	22888
95% Modified-t UCL (Johnson-1978)	12744	99% Chebyshev (MVUE) UCL	30844

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.106	Data appear Normal at 5% Significance Level	
Theta Star	4412		
MLE of Mean	9292		
MLE of Standard Deviation	6403		
nu star	37.91		
Approximate Chi Square Value (.05)	24.81	Nonparametric Statistics	
Adjusted Level of Significance	0.0231	95% CLT UCL	12270
Adjusted Chi Square Value	22.6	95% Jackknife UCL	12659
		95% Standard Bootstrap UCL	12087
Anderson-Darling Test Statistic	0.229	95% Bootstrap-t UCL	13938
Anderson-Darling 5% Critical Value	0.727	95% Hall's Bootstrap UCL	19838
Kolmogorov-Smirnov Test Statistic	0.178	95% Percentile Bootstrap UCL	12262
Kolmogorov-Smirnov 5% Critical Value	0.281	95% BCA Bootstrap UCL	12529
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	17184
		97.5% Chebyshev(Mean, Sd) UCL	20599
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	27307
95% Approximate Gamma UCL (Use when n >= 40)	14198		
95% Adjusted Gamma UCL (Use when n < 40)	15587		

Potential UCL to Use		Use 95% Student's-t UCL	12659

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper (mg/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	0.744	Minimum of Log Data	-0.295
Maximum	0.992	Maximum of Log Data	-0.00837
Mean	0.817	Mean of log Data	-0.207
Geometric Mean	0.813	SD of log Data	0.114
Median	0.78		
SD	0.0995		
Std. Error of Mean	0.0445		
Coefficient of Variation	0.122		
Skewness	2.011		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.742	Shapiro Wilk Test Statistic	0.765
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.912	95% H-UCL	0.92
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.999
95% Adjusted-CLT UCL (Chen-1995)	0.933	97.5% Chebyshev (MVUE) UCL	1.077
95% Modified-t UCL (Johnson-1978)	0.919	99% Chebyshev (MVUE) UCL	1.232

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	36.92	Data appear Lognormal at 5% Significance Level	
Theta Star	0.0221		
MLE of Mean	0.817		
MLE of Standard Deviation	0.134		
nu star	369.2		
Approximate Chi Square Value (.05)	325.7	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	0.89
Adjusted Chi Square Value	307.6	95% Jackknife UCL	0.912
		95% Standard Bootstrap UCL	0.882
Anderson-Darling Test Statistic	0.729	95% Bootstrap-t UCL	1.148
Anderson-Darling 5% Critical Value	0.678	95% Hall's Bootstrap UCL	1.262
Kolmogorov-Smirnov Test Statistic	0.367	95% Percentile Bootstrap UCL	0.898
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL	0.909
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.011
		97.5% Chebyshev(Mean, Sd) UCL	1.095
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.26
95% Approximate Gamma UCL (Use when n >= 40)	0.926		
95% Adjusted Gamma UCL (Use when n < 40)	0.981		

Potential UCL to Use		
	Use 95% Student's-t UCL	0.912
	or 95% Modified-t UCL	0.919
	or 95% H-UCL	0.92

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead (mg/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	0.432	Minimum of Log Data	-0.84
Maximum	0.65	Maximum of Log Data	-0.431
Mean	0.544	Mean of log Data	-0.625
Geometric Mean	0.535	SD of log Data	0.197
Median	0.57		
SD	0.104		
Std. Error of Mean	0.0466		
Coefficient of Variation	0.192		
Skewness	-0.282		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.847	Shapiro Wilk Test Statistic	0.834
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.643	95% H-UCL	0.678
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.753
95% Adjusted-CLT UCL (Chen-1995)	0.614	97.5% Chebyshev (MVUE) UCL	0.843
95% Modified-t UCL (Johnson-1978)	0.642	99% Chebyshev (MVUE) UCL	1.021

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	13.29	Data appear Normal at 5% Significance Level	
Theta Star	0.0409		
MLE of Mean	0.544		
MLE of Standard Deviation	0.149		
nu star	132.9		
Approximate Chi Square Value (.05)	107.2	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	0.62
Adjusted Chi Square Value	97.18	95% Jackknife UCL	0.643
		95% Standard Bootstrap UCL	0.611
Anderson-Darling Test Statistic	0.513	95% Bootstrap-t UCL	0.627
Anderson-Darling 5% Critical Value	0.679	95% Hall's Bootstrap UCL	0.582
Kolmogorov-Smirnov Test Statistic	0.275	95% Percentile Bootstrap UCL	0.61
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL	0.606
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.747
		97.5% Chebyshev(Mean, Sd) UCL	0.835
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.007
95% Approximate Gamma UCL (Use when n >= 40)	0.674		
95% Adjusted Gamma UCL (Use when n < 40)	0.743		

Potential UCL to Use		Use 95% Student's-t UCL	0.643

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Mercury (mg/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	0.0385	Minimum of Log Data	-3.257
Maximum	0.048	Maximum of Log Data	-3.037
Mean	0.0421	Mean of log Data	-3.169
Geometric Mean	0.042	SD of log Data	0.0812
Median	0.0413		
SD	0.00353		
Std. Error of Mean	0.00158		
Coefficient of Variation	0.0837		
Skewness	1.416		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.865	Shapiro Wilk Test Statistic	0.883
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0455	95% H-UCL	N/A
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0488
95% Adjusted-CLT UCL (Chen-1995)	0.0458	97.5% Chebyshev (MVUE) UCL	0.0517
95% Modified-t UCL (Johnson-1978)	0.0457	99% Chebyshev (MVUE) UCL	0.0574

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	74.57	Data appear Normal at 5% Significance Level	
Theta Star	0.000565		
MLE of Mean	0.0421		
MLE of Standard Deviation	0.00488		
nu star	745.7		
Approximate Chi Square Value (.05)	683.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	0.0447
Adjusted Chi Square Value	656.8	95% Jackknife UCL	0.0455
		95% Standard Bootstrap UCL	0.0444
Anderson-Darling Test Statistic	0.468	95% Bootstrap-t UCL	0.0481
Anderson-Darling 5% Critical Value	0.678	95% Hall's Bootstrap UCL	0.0587
Kolmogorov-Smirnov Test Statistic	0.309	95% Percentile Bootstrap UCL	0.0447
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL	0.0454
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.049
		97.5% Chebyshev(Mean, Sd) UCL	0.052
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.0578
95% Approximate Gamma UCL (Use when n >= 40)	0.046		
95% Adjusted Gamma UCL (Use when n < 40)	0.0479		

Potential UCL to Use		Use 95% Student's-t UCL	0.0455

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Nickel (mg/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	4

Raw Statistics		Log-transformed Statistics	
Minimum	0.21	Minimum of Log Data	-1.561
Maximum	0.41	Maximum of Log Data	-0.893
Mean	0.272	Mean of log Data	-1.337
Geometric Mean	0.263	SD of log Data	0.286
Median	0.22		
SD	0.0851		
Std. Error of Mean	0.038		
Coefficient of Variation	0.313		
Skewness	1.437		

Warning: There are only 4 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.797	Shapiro Wilk Test Statistic	0.821
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.353	95% H-UCL	0.384
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.422
95% Adjusted-CLT UCL (Chen-1995)	0.36	97.5% Chebyshev (MVUE) UCL	0.487
95% Modified-t UCL (Johnson-1978)	0.357	99% Chebyshev (MVUE) UCL	0.616

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.946	Data appear Normal at 5% Significance Level	
Theta Star	0.0457		
MLE of Mean	0.272		
MLE of Standard Deviation	0.111		
nu star	59.46		
Approximate Chi Square Value (.05)	42.73	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	0.334
Adjusted Chi Square Value	36.62	95% Jackknife UCL	0.353
		95% Standard Bootstrap UCL	0.327
Anderson-Darling Test Statistic	0.588	95% Bootstrap-t UCL	1.139
Anderson-Darling 5% Critical Value	0.679	95% Hall's Bootstrap UCL	0.751
Kolmogorov-Smirnov Test Statistic	0.355	95% Percentile Bootstrap UCL	0.334
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL	0.334
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.438
		97.5% Chebyshev(Mean, Sd) UCL	0.509
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.65
95% Approximate Gamma UCL (Use when n >= 40)	0.378		
95% Adjusted Gamma UCL (Use when n < 40)	0.441		

Potential UCL to Use		Use 95% Student's-t UCL	0.353

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Selenium (mg/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	4

Raw Statistics		Log-transformed Statistics	
Minimum	1.1	Minimum of Log Data	0.0953
Maximum	1.5	Maximum of Log Data	0.405
Mean	1.211	Mean of log Data	0.184
Geometric Mean	1.201	SD of log Data	0.136
Median	1.104		
SD	0.174		
Std. Error of Mean	0.0778		
Coefficient of Variation	0.144		
Skewness	1.611		

Warning: There are only 4 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.753	Shapiro Wilk Test Statistic	0.763
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.377	95% H-UCL	1.397
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.53
95% Adjusted-CLT UCL (Chen-1995)	1.399	97.5% Chebyshev (MVUE) UCL	1.668
95% Modified-t UCL (Johnson-1978)	1.386	99% Chebyshev (MVUE) UCL	1.94

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	26.37	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.0459		
MLE of Mean	1.211		
MLE of Standard Deviation	0.236		
nu star	263.7		
Approximate Chi Square Value (.05)	227.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	1.339
Adjusted Chi Square Value	212.2	95% Jackknife UCL	1.377
		95% Standard Bootstrap UCL	1.324
Anderson-Darling Test Statistic	0.701	95% Bootstrap-t UCL	9.521
Anderson-Darling 5% Critical Value	0.678	95% Hall's Bootstrap UCL	5.43
Kolmogorov-Smirnov Test Statistic	0.356	95% Percentile Bootstrap UCL	1.34
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL	1.342
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.55
		97.5% Chebyshev(Mean, Sd) UCL	1.697
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.985
95% Approximate Gamma UCL (Use when n >= 40)	1.406		
95% Adjusted Gamma UCL (Use when n < 40)	1.505		

Potential UCL to Use		Use 95% Approximate Gamma UCL	1.406

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Silver (mg/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	0.108	Minimum of Log Data	-2.23
Maximum	0.228	Maximum of Log Data	-1.481
Mean	0.163	Mean of log Data	-1.849
Geometric Mean	0.157	SD of log Data	0.297
Median	0.16		
SD	0.0476		
Std. Error of Mean	0.0213		
Coefficient of Variation	0.292		
Skewness	0.314		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.979	Shapiro Wilk Test Statistic	0.984
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.208	95% H-UCL	0.235
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.257
95% Adjusted-CLT UCL (Chen-1995)	0.201	97.5% Chebyshev (MVUE) UCL	0.298
95% Modified-t UCL (Johnson-1978)	0.209	99% Chebyshev (MVUE) UCL	0.378

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.94	Data appear Normal at 5% Significance Level	
Theta Star	0.0274		
MLE of Mean	0.163		
MLE of Standard Deviation	0.0669		
nu star	59.4		
Approximate Chi Square Value (.05)	42.68	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	0.198
Adjusted Chi Square Value	36.57	95% Jackknife UCL	0.208
		95% Standard Bootstrap UCL	0.195
Anderson-Darling Test Statistic	0.183	95% Bootstrap-t UCL	0.217
Anderson-Darling 5% Critical Value	0.679	95% Hall's Bootstrap UCL	0.215
Kolmogorov-Smirnov Test Statistic	0.171	95% Percentile Bootstrap UCL	0.193
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL	0.195
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.256
		97.5% Chebyshev(Mean, Sd) UCL	0.296
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.375
95% Approximate Gamma UCL (Use when n >= 40)	0.227		
95% Adjusted Gamma UCL (Use when n < 40)	0.265		

Potential UCL to Use		Use 95% Student's-t UCL	0.208

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Zinc (mg/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	19	Minimum of Log Data	2.944
Maximum	35.92	Maximum of Log Data	3.581
Mean	23.98	Mean of log Data	3.15
Geometric Mean	23.33	SD of log Data	0.25
Median	21		
SD	6.823		
Std. Error of Mean	3.051		
Coefficient of Variation	0.285		
Skewness	2		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.739	Shapiro Wilk Test Statistic	0.791
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	30.48	95% H-UCL	32.09
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	35.58
95% Adjusted-CLT UCL (Chen-1995)	31.91	97.5% Chebyshev (MVUE) UCL	40.62
95% Modified-t UCL (Johnson-1978)	30.94	99% Chebyshev (MVUE) UCL	50.52

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	7.509	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	3.193		
MLE of Mean	23.98		
MLE of Standard Deviation	8.75		
nu star	75.09		
Approximate Chi Square Value (.05)	56.13	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	29
Adjusted Chi Square Value	49.03	95% Jackknife UCL	30.48
		95% Standard Bootstrap UCL	28.44
Anderson-Darling Test Statistic	0.695	95% Bootstrap-t UCL	47.99
Anderson-Darling 5% Critical Value	0.679	95% Hall's Bootstrap UCL	57.83
Kolmogorov-Smirnov Test Statistic	0.34	95% Percentile Bootstrap UCL	29.55
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL	30.34
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	37.28
		97.5% Chebyshev(Mean, Sd) UCL	43.03
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	54.34
95% Approximate Gamma UCL (Use when n >= 40)	32.07		
95% Adjusted Gamma UCL (Use when n < 40)	36.72		

Potential UCL to Use		Use 95% Approximate Gamma UCL	32.07

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs (ug/kg)

General Statistics			
Number of Valid Observations	16	Number of Distinct Observations	16
Raw Statistics		Log-transformed Statistics	
Minimum	1100	Minimum of Log Data	7.003
Maximum	19923	Maximum of Log Data	9.9
Mean	8830	Mean of log Data	8.66
Geometric Mean	5770	SD of log Data	1.048
Median	7338		
SD	7005		
Std. Error of Mean	1751		
Coefficient of Variation	0.793		
Skewness	0.349		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.866	Shapiro Wilk Test Statistic	0.89
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	11900	95% H-UCL	21203
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	21535
95% Adjusted-CLT UCL (Chen-1995)	11874	97.5% Chebyshev (MVUE) UCL	26735
95% Modified-t UCL (Johnson-1978)	11925	99% Chebyshev (MVUE) UCL	36949
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.112	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	7944		
MLE of Mean	8830		
MLE of Standard Deviation	8375		
nu star	35.57		
Approximate Chi Square Value (.05)	22.92	Nonparametric Statistics	
Adjusted Level of Significance	0.0335	95% CLT UCL	11710
Adjusted Chi Square Value	21.77	95% Jackknife UCL	11900
		95% Standard Bootstrap UCL	11579
Anderson-Darling Test Statistic	0.676	95% Bootstrap-t UCL	11948
Anderson-Darling 5% Critical Value	0.758	95% Hall's Bootstrap UCL	11572
Kolmogorov-Smirnov Test Statistic	0.203	95% Percentile Bootstrap UCL	11623
Kolmogorov-Smirnov 5% Critical Value	0.22	95% BCA Bootstrap UCL	11822
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16463
		97.5% Chebyshev(Mean, Sd) UCL	19766
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	26254
95% Approximate Gamma UCL (Use when n >= 40)	13702		
95% Adjusted Gamma UCL (Use when n < 40)	14427		
Potential UCL to Use		Use 95% Approximate Gamma UCL	13702

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper (mg/kg)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	0.7	Minimum of Log Data	-0.357
Maximum	2.527	Maximum of Log Data	0.927
Mean	1.076	Mean of log Data	-0.0528
Geometric Mean	0.949	SD of log Data	0.494
Median	0.813		
SD	0.717		
Std. Error of Mean	0.293		
Coefficient of Variation	0.667		
Skewness	2.356		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.604	Shapiro Wilk Test Statistic	0.685
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.666	95% H-UCL	1.915
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.97
95% Adjusted-CLT UCL (Chen-1995)	1.858	97.5% Chebyshev (MVUE) UCL	2.369
95% Modified-t UCL (Johnson-1978)	1.713	99% Chebyshev (MVUE) UCL	3.152

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.18	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.493		
MLE of Mean	1.076		
MLE of Standard Deviation	0.728		
nu star	26.16		
Approximate Chi Square Value (.05)	15.51	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	1.557
Adjusted Chi Square Value	12.64	95% Jackknife UCL	1.666
		95% Standard Bootstrap UCL	1.515
Anderson-Darling Test Statistic	1.086	95% Bootstrap-t UCL	4.124
Anderson-Darling 5% Critical Value	0.7	95% Hall's Bootstrap UCL	4.105
Kolmogorov-Smirnov Test Statistic	0.407	95% Percentile Bootstrap UCL	1.622
Kolmogorov-Smirnov 5% Critical Value	0.333	95% BCA Bootstrap UCL	1.68
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2.352
		97.5% Chebyshev(Mean, Sd) UCL	2.904
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3.989
95% Approximate Gamma UCL (Use when n >= 40)	1.815		
95% Adjusted Gamma UCL (Use when n < 40)	2.226		

Potential UCL to Use		
	Use 95% Student's-t UCL	1.666
	or 95% Modified-t UCL	1.713

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead (mg/kg)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	0.342	Minimum of Log Data	-1.073
Maximum	0.54	Maximum of Log Data	-0.616
Mean	0.457	Mean of log Data	-0.794
Geometric Mean	0.452	SD of log Data	0.17
Median	0.482		
SD	0.073		
Std. Error of Mean	0.0298		
Coefficient of Variation	0.16		
Skewness	-0.825		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.915	Shapiro Wilk Test Statistic	0.892
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.517	95% H-UCL	0.535
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.596
95% Adjusted-CLT UCL (Chen-1995)	0.496	97.5% Chebyshev (MVUE) UCL	0.655
95% Modified-t UCL (Johnson-1978)	0.516	99% Chebyshev (MVUE) UCL	0.773

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	21.92	Data appear Normal at 5% Significance Level	
Theta Star	0.0209		
MLE of Mean	0.457		
MLE of Standard Deviation	0.0977		
nu star	263.1		
Approximate Chi Square Value (.05)	226.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	0.506
Adjusted Chi Square Value	214.2	95% Jackknife UCL	0.517
		95% Standard Bootstrap UCL	0.503
Anderson-Darling Test Statistic	0.43	95% Bootstrap-t UCL	0.509
Anderson-Darling 5% Critical Value	0.697	95% Hall's Bootstrap UCL	0.492
Kolmogorov-Smirnov Test Statistic	0.312	95% Percentile Bootstrap UCL	0.501
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	0.5
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.587
		97.5% Chebyshev(Mean, Sd) UCL	0.644
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.754
95% Approximate Gamma UCL (Use when n >= 40)	0.531		
95% Adjusted Gamma UCL (Use when n < 40)	0.562		

Potential UCL to Use		Use 95% Student's-t UCL	0.517

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Mercury (mg/kg)

General Statistics

Number of Valid Data	6	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	1
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0203	Minimum Detected	-3.899
Maximum Detected	0.19	Maximum Detected	-1.661
Mean of Detected	0.0651	Mean of Detected	-3.105
SD of Detected	0.0713	SD of Detected	0.897
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.02	Maximum Non-Detect	-3.912

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.713	Shapiro Wilk Test Statistic	0.872
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0559	Mean	-3.355
SD	0.0677	SD	1.009
95% DL/2 (t) UCL	0.112	95% H-Stat (DL/2) UCL	0.38

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.05	Mean in Log Scale	-3.478
SD	0.0689	SD in Log Scale	1.215
95% MLE (t) UCL	0.107	Mean in Original Scale	0.0551
95% MLE (Tiku) UCL	0.105	SD in Original Scale	0.0684
		95% t UCL	0.111
		95% Percentile Bootstrap UCL	0.104
		95% BCA Bootstrap UCL	0.124
		95% H UCL	0.912

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.726	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.0896	
nu star	7.265	

		Nonparametric Statistics	
A-D Test Statistic	0.563	Kaplan-Meier (KM) Method	
5% A-D Critical Value	0.687		
K-S Test Statistic	0.687	Mean	0.0576
5% K-S Critical Value	0.362	SD	0.0606
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0277
		95% KM (t) UCL	0.113
Assuming Gamma Distribution		95% KM (z) UCL	0.103
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.112
Minimum	0.000001	95% KM (bootstrap t) UCL	0.563
Maximum	0.19	95% KM (BCA) UCL	0.109
Mean	0.0543	95% KM (Percentile Bootstrap) UCL	0.107
Median	0.0283	95% KM (Chebyshev) UCL	0.178
SD	0.0691	97.5% KM (Chebyshev) UCL	0.23
k star	0.282	99% KM (Chebyshev) UCL	0.333
Theta star	0.192		
Nu star	3.383	Potential UCLs to Use	
AppChi2	0.494	95% KM (Chebyshev) UCL	0.178
95% Gamma Approximate UCL (Use when n >= 40)	0.371		
95% Adjusted Gamma UCL (Use when n < 40)	0.81		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Selenium (mg/kg)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6

Raw Statistics		Log-transformed Statistics	
Minimum	1.064	Minimum of Log Data	0.0616
Maximum	1.609	Maximum of Log Data	0.476
Mean	1.273	Mean of log Data	0.231
Geometric Mean	1.26	SD of log Data	0.162
Median	1.25		
SD	0.21		
Std. Error of Mean	0.0859		
Coefficient of Variation	0.165		
Skewness	0.697		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.927	Shapiro Wilk Test Statistic	0.936
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.447	95% H-UCL	1.476
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.639
95% Adjusted-CLT UCL (Chen-1995)	1.441	97.5% Chebyshev (MVUE) UCL	1.798
95% Modified-t UCL (Johnson-1978)	1.451	99% Chebyshev (MVUE) UCL	2.109

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	22.86	Data appear Normal at 5% Significance Level	
Theta Star	0.0557		
MLE of Mean	1.273		
MLE of Standard Deviation	0.266		
nu star	274.3		
Approximate Chi Square Value (.05)	237	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	1.415
Adjusted Chi Square Value	224.3	95% Jackknife UCL	1.447
		95% Standard Bootstrap UCL	1.402
Anderson-Darling Test Statistic	0.268	95% Bootstrap-t UCL	1.508
Anderson-Darling 5% Critical Value	0.697	95% Hall's Bootstrap UCL	1.504
Kolmogorov-Smirnov Test Statistic	0.198	95% Percentile Bootstrap UCL	1.403
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	1.416
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.648
		97.5% Chebyshev(Mean, Sd) UCL	1.81
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.128
95% Approximate Gamma UCL (Use when n >= 40)	1.474		
95% Adjusted Gamma UCL (Use when n < 40)	1.557		

Potential UCL to Use		Use 95% Student's-t UCL	1.447

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Silver (mg/kg)

General Statistics

Number of Valid Data	6	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	1
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0812	Minimum Detected	-2.511
Maximum Detected	0.23	Maximum Detected	-1.47
Mean of Detected	0.14	Mean of Detected	-2.056
SD of Detected	0.0664	SD of Detected	0.465
Minimum Non-Detect	0.14	Minimum Non-Detect	-1.966
Maximum Non-Detect	0.14	Maximum Non-Detect	-1.966

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.861	Shapiro Wilk Test Statistic	0.884
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.128	Mean	-2.157
SD	0.0659	SD	0.483
95% DL/2 (t) UCL	0.182	95% H-Stat (DL/2) UCL	0.228

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.104
		SD in Log Scale	0.432
		Mean in Original Scale	0.132
		SD in Original Scale	0.062
		95% t UCL	0.183
		95% Percentile Bootstrap UCL	0.172
		95% BCA Bootstrap UCL	0.179
		95% H-UCL	0.216

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.463	Data appear Normal at 5% Significance Level
Theta Star	0.0567	
nu star	24.63	

		Nonparametric Statistics	
A-D Test Statistic	0.435	Kaplan-Meier (KM) Method	
5% A-D Critical Value	0.68		
K-S Test Statistic	0.68	Mean	0.132
5% K-S Critical Value	0.358	SD	0.0572
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0262
		95% KM (t) UCL	0.185
Assuming Gamma Distribution		95% KM (z) UCL	0.175
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.184
Minimum	0.0812	95% KM (bootstrap t) UCL	0.304
Maximum	0.23	95% KM (BCA) UCL	0.176
Mean	0.134	95% KM (Percentile Bootstrap) UCL	0.176
Median	0.106	95% KM (Chebyshev) UCL	0.246
SD	0.0613	97.5% KM (Chebyshev) UCL	0.296
k star	3.33	99% KM (Chebyshev) UCL	0.393
Theta star	0.0401		
Nu star	39.95	Potential UCLs to Use	
AppChi2	26.47	95% KM (t) UCL	0.185
95% Gamma Approximate UCL (Use when n >= 40)	0.202	95% KM (Percentile Bootstrap) UCL	0.176
95% Adjusted Gamma UCL (Use when n < 40)	0.236		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc (mg/kg)

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	19.82	Minimum of Log Data	2.987
Maximum	37	Maximum of Log Data	3.611
Mean	23.89	Mean of log Data	3.149
Geometric Mean	23.3	SD of log Data	0.232
Median	21.26		
SD	6.505		
Std. Error of Mean	2.655		
Coefficient of Variation	0.272		
Skewness	2.314		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.642	Shapiro Wilk Test Statistic	0.687
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	29.24	95% H-UCL	29.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	33.65
95% Adjusted-CLT UCL (Chen-1995)	30.94	97.5% Chebyshev (MVUE) UCL	37.9
95% Modified-t UCL (Johnson-1978)	29.66	99% Chebyshev (MVUE) UCL	46.24

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	10.22	Data do not follow a Discernable Distribution (0.05)	
Theta Star	2.338		
MLE of Mean	23.89		
MLE of Standard Deviation	7.474		
nu star	122.6		
Approximate Chi Square Value (.05)	98.05	Nonparametric Statistics	
Adjusted Level of Significance	0.0122	95% CLT UCL	28.26
Adjusted Chi Square Value	90.12	95% Jackknife UCL	29.24
		95% Standard Bootstrap UCL	27.89
Anderson-Darling Test Statistic	1.062	95% Bootstrap-t UCL	54.56
Anderson-Darling 5% Critical Value	0.697	95% Hall's Bootstrap UCL	55.91
Kolmogorov-Smirnov Test Statistic	0.37	95% Percentile Bootstrap UCL	28.89
Kolmogorov-Smirnov 5% Critical Value	0.332	95% BCA Bootstrap UCL	29.42
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	35.47
		97.5% Chebyshev(Mean, Sd) UCL	40.47
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	50.31
95% Approximate Gamma UCL (Use when n >= 40)	29.88		
95% Adjusted Gamma UCL (Use when n < 40)	32.51		

Potential UCL to Use		Use 95% Student's-t UCL	29.24
		or 95% Modified-t UCL	29.66

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs (ug/kg)

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10
Raw Statistics		Log-transformed Statistics	
Minimum	210	Minimum of Log Data	5.347
Maximum	813.8	Maximum of Log Data	6.702
Mean	448	Mean of log Data	6.013
Geometric Mean	408.8	SD of log Data	0.454
Median	391.8		
SD	201.5		
Std. Error of Mean	63.71		
Coefficient of Variation	0.45		
Skewness	0.656		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.919	Shapiro Wilk Test Statistic	0.949
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	564.8	95% H-UCL	627.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	732.7
95% Adjusted-CLT UCL (Chen-1995)	566.9	97.5% Chebyshev (MVUE) UCL	855.8
95% Modified-t UCL (Johnson-1978)	567	99% Chebyshev (MVUE) UCL	1098
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.005	Data appear Normal at 5% Significance Level	
Theta Star	111.8		
MLE of Mean	448		
MLE of Standard Deviation	223.8		
nu star	80.11		
Approximate Chi Square Value (.05)	60.48	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	552.8
Adjusted Chi Square Value	57.53	95% Jackknife UCL	564.8
		95% Standard Bootstrap UCL	548.5
Anderson-Darling Test Statistic	0.311	95% Bootstrap-t UCL	587.8
Anderson-Darling 5% Critical Value	0.729	95% Hall's Bootstrap UCL	560.6
Kolmogorov-Smirnov Test Statistic	0.196	95% Percentile Bootstrap UCL	549.9
Kolmogorov-Smirnov 5% Critical Value	0.267	95% BCA Bootstrap UCL	555.6
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	725.7
		97.5% Chebyshev(Mean, Sd) UCL	845.9
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1082
95% Approximate Gamma UCL (Use when n >= 40)	593.3		
95% Adjusted Gamma UCL (Use when n < 40)	623.8		
Potential UCL to Use		Use 95% Student's-t UCL	564.8

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Copper (mg/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	0.67	Minimum of Log Data	-0.4
Maximum	1.1	Maximum of Log Data	0.0953
Mean	0.896	Mean of log Data	-0.123
Geometric Mean	0.884	SD of log Data	0.184
Median	0.91		
SD	0.158		
Std. Error of Mean	0.0708		
Coefficient of Variation	0.177		
Skewness	-0.312		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.989	Shapiro Wilk Test Statistic	0.97
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.047	95% H-UCL	1.097
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.217
95% Adjusted-CLT UCL (Chen-1995)	1.002	97.5% Chebyshev (MVUE) UCL	1.355
95% Modified-t UCL (Johnson-1978)	1.045	99% Chebyshev (MVUE) UCL	1.628

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	15.45	Data appear Normal at 5% Significance Level	
Theta Star	0.058		
MLE of Mean	0.896		
MLE of Standard Deviation	0.228		
nu star	154.5		
Approximate Chi Square Value (.05)	126.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	1.012
Adjusted Chi Square Value	115.7	95% Jackknife UCL	1.047
		95% Standard Bootstrap UCL	0.999
Anderson-Darling Test Statistic	0.212	95% Bootstrap-t UCL	1.026
Anderson-Darling 5% Critical Value	0.678	95% Hall's Bootstrap UCL	1.018
Kolmogorov-Smirnov Test Statistic	0.167	95% Percentile Bootstrap UCL	0.996
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL	0.988
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.204
		97.5% Chebyshev(Mean, Sd) UCL	1.338
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.6
95% Approximate Gamma UCL (Use when n >= 40)	1.092		
95% Adjusted Gamma UCL (Use when n < 40)	1.196		

Potential UCL to Use		Use 95% Student's-t UCL	1.047

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Lead (mg/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	0.38	Minimum of Log Data	-0.968
Maximum	0.66	Maximum of Log Data	-0.416
Mean	0.524	Mean of log Data	-0.665
Geometric Mean	0.514	SD of log Data	0.219
Median	0.5		
SD	0.112		
Std. Error of Mean	0.0501		
Coefficient of Variation	0.214		
Skewness	-0.00171		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.965	Shapiro Wilk Test Statistic	0.963
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.631	95% H-UCL	0.673
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.748
95% Adjusted-CLT UCL (Chen-1995)	0.606	97.5% Chebyshev (MVUE) UCL	0.844
95% Modified-t UCL (Johnson-1978)	0.631	99% Chebyshev (MVUE) UCL	1.034

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	10.81	Data appear Normal at 5% Significance Level	
Theta Star	0.0485		
MLE of Mean	0.524		
MLE of Standard Deviation	0.159		
nu star	108.1		
Approximate Chi Square Value (.05)	85.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	0.606
Adjusted Chi Square Value	76.2	95% Jackknife UCL	0.631
		95% Standard Bootstrap UCL	0.597
Anderson-Darling Test Statistic	0.234	95% Bootstrap-t UCL	0.686
Anderson-Darling 5% Critical Value	0.679	95% Hall's Bootstrap UCL	0.696
Kolmogorov-Smirnov Test Statistic	0.208	95% Percentile Bootstrap UCL	0.602
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL	0.602
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.742
		97.5% Chebyshev(Mean, Sd) UCL	0.837
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.022
95% Approximate Gamma UCL (Use when n >= 40)	0.666		
95% Adjusted Gamma UCL (Use when n < 40)	0.743		

Potential UCL to Use		Use 95% Student's-t UCL	0.631

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Mercury (mg/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	4

Raw Statistics		Log-transformed Statistics	
Minimum	0.019	Minimum of Log Data	-3.963
Maximum	0.032	Maximum of Log Data	-3.442
Mean	0.0284	Mean of log Data	-3.579
Geometric Mean	0.0279	SD of log Data	0.219
Median	0.03		
SD	0.00541		
Std. Error of Mean	0.00242		
Coefficient of Variation	0.191		
Skewness	-1.926		

Warning: There are only 4 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.748	Shapiro Wilk Test Statistic	0.714
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0336	95% H-UCL	0.0365
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0406
95% Adjusted-CLT UCL (Chen-1995)	0.0302	97.5% Chebyshev (MVUE) UCL	0.0458
95% Modified-t UCL (Johnson-1978)	0.0332	99% Chebyshev (MVUE) UCL	0.0561

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	11.62	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.00244		
MLE of Mean	0.0284		
MLE of Standard Deviation	0.00833		
nu star	116.2		
Approximate Chi Square Value (.05)	92.34	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	0.0324
Adjusted Chi Square Value	83.04	95% Jackknife UCL	0.0336
		95% Standard Bootstrap UCL	0.032
Anderson-Darling Test Statistic	0.785	95% Bootstrap-t UCL	0.0316
Anderson-Darling 5% Critical Value	0.679	95% Hall's Bootstrap UCL	0.0306
Kolmogorov-Smirnov Test Statistic	0.369	95% Percentile Bootstrap UCL	0.0312
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL	0.031
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.039
		97.5% Chebyshev(Mean, Sd) UCL	0.0435
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.0525
95% Approximate Gamma UCL (Use when n >= 40)	0.0357		
95% Adjusted Gamma UCL (Use when n < 40)	0.0398		

Potential UCL to Use		Use 95% Student's-t UCL	0.0336
		or 95% Modified-t UCL	0.0332

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Selenium (mg/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	4

Raw Statistics		Log-transformed Statistics	
Minimum	1.1	Minimum of Log Data	0.0953
Maximum	1.6	Maximum of Log Data	0.47
Mean	1.32	Mean of log Data	0.266
Geometric Mean	1.304	SD of log Data	0.173
Median	1.3		
SD	0.228		
Std. Error of Mean	0.102		
Coefficient of Variation	0.173		
Skewness	0.228		

Warning: There are only 4 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.884	Shapiro Wilk Test Statistic	0.879
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1.537	95% H-UCL	1.594
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.764
95% Adjusted-CLT UCL (Chen-1995)	1.499	97.5% Chebyshev (MVUE) UCL	1.956
95% Modified-t UCL (Johnson-1978)	1.539	99% Chebyshev (MVUE) UCL	2.333

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	16.95	Data appear Normal at 5% Significance Level	
Theta Star	0.0779		
MLE of Mean	1.32		
MLE of Standard Deviation	0.321		
nu star	169.5		
Approximate Chi Square Value (.05)	140.4	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	1.488
Adjusted Chi Square Value	128.8	95% Jackknife UCL	1.537
		95% Standard Bootstrap UCL	1.468
Anderson-Darling Test Statistic	0.401	95% Bootstrap-t UCL	1.528
Anderson-Darling 5% Critical Value	0.678	95% Hall's Bootstrap UCL	1.423
Kolmogorov-Smirnov Test Statistic	0.263	95% Percentile Bootstrap UCL	1.48
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL	1.46
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1.765
		97.5% Chebyshev(Mean, Sd) UCL	1.957
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2.335
95% Approximate Gamma UCL (Use when n >= 40)	1.594		
95% Adjusted Gamma UCL (Use when n < 40)	1.738		

Potential UCL to Use		Use 95% Student's-t UCL	1.537

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Zinc (mg/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	4

Raw Statistics		Log-transformed Statistics	
Minimum	17	Minimum of Log Data	2.833
Maximum	21	Maximum of Log Data	3.045
Mean	19.6	Mean of log Data	2.972
Geometric Mean	19.54	SD of log Data	0.0882
Median	20		
SD	1.673		
Std. Error of Mean	0.748		
Coefficient of Variation	0.0854		
Skewness	-1.089		

Warning: There are only 4 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.881	Shapiro Wilk Test Statistic	0.871
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	21.2	95% H-UCL	N/A
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	22.97
95% Adjusted-CLT UCL (Chen-1995)	20.44	97.5% Chebyshev (MVUE) UCL	24.43
95% Modified-t UCL (Johnson-1978)	21.13	99% Chebyshev (MVUE) UCL	27.29

Gamma Distribution Test		Data Distribution
k star (bias corrected)	65.91	Data appear Normal at 5% Significance Level
Theta Star	0.297	
MLE of Mean	19.6	
MLE of Standard Deviation	2.414	
nu star	659.1	
Approximate Chi Square Value (.05)	600.5	Nonparametric Statistics
Adjusted Level of Significance	0.0086	95% CLT UCL 20.83
Adjusted Chi Square Value	575.7	95% Jackknife UCL 21.2
		95% Standard Bootstrap UCL 20.68
Anderson-Darling Test Statistic	0.4	95% Bootstrap-t UCL 20.91
Anderson-Darling 5% Critical Value	0.678	95% Hall's Bootstrap UCL 20.46
Kolmogorov-Smirnov Test Statistic	0.221	95% Percentile Bootstrap UCL 20.6
Kolmogorov-Smirnov 5% Critical Value	0.357	95% BCA Bootstrap UCL 20.4
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 22.86
		97.5% Chebyshev(Mean, Sd) UCL 24.27
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 27.05
95% Approximate Gamma UCL (Use when n >= 40)	21.51	
95% Adjusted Gamma UCL (Use when n < 40)	22.44	

Potential UCL to Use	Use 95% Student's-t UCL	21.2

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Total PCBs (ug/kg)

General Statistics

Number of Valid Observations	5	Number of Distinct Observations	5

Raw Statistics		Log-transformed Statistics	
Minimum	421.6	Minimum of Log Data	6.044
Maximum	1627	Maximum of Log Data	7.395
Mean	895.2	Mean of log Data	6.685
Geometric Mean	800.3	SD of log Data	0.532
Median	896.1		
SD	473.7		
Std. Error of Mean	211.9		
Coefficient of Variation	0.529		
Skewness	0.946		

Warning: A sample size of 'n' = 5 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 5 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.925	Shapiro Wilk Test Statistic	0.966
Shapiro Wilk Critical Value	0.762	Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1347	95% H-UCL	2076
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1812
95% Adjusted-CLT UCL (Chen-1995)	1339	97.5% Chebyshev (MVUE) UCL	2210
95% Modified-t UCL (Johnson-1978)	1362	99% Chebyshev (MVUE) UCL	2990

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.983	Data appear Normal at 5% Significance Level	
Theta Star	451.5		
MLE of Mean	895.2		
MLE of Standard Deviation	635.7		
nu star	19.83		
Approximate Chi Square Value (.05)	10.73	Nonparametric Statistics	
Adjusted Level of Significance	0.0086	95% CLT UCL	1244
Adjusted Chi Square Value	7.964	95% Jackknife UCL	1347
		95% Standard Bootstrap UCL	1205
Anderson-Darling Test Statistic	0.244	95% Bootstrap-t UCL	1521
Anderson-Darling 5% Critical Value	0.681	95% Hall's Bootstrap UCL	1567
Kolmogorov-Smirnov Test Statistic	0.202	95% Percentile Bootstrap UCL	1227
Kolmogorov-Smirnov 5% Critical Value	0.358	95% BCA Bootstrap UCL	1259
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1819
		97.5% Chebyshev(Mean, Sd) UCL	2218
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3003
95% Approximate Gamma UCL (Use when n >= 40)	1655		
95% Adjusted Gamma UCL (Use when n < 40)	2229		

Potential UCL to Use		Use 95% Student's-t UCL	1347

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Whole Body Bottom-Feeding Fish

Total PCBs (ug/kg)

General Statistics

Number of Valid Observations	19	Number of Distinct Observations	19

Raw Statistics		Log-transformed Statistics	
Minimum	1043	Minimum of Log Data	6.95
Maximum	23248	Maximum of Log Data	10.05
Mean	8215	Mean of log Data	8.772
Geometric Mean	6453	SD of log Data	0.758
Median	7637		
SD	5744		
Std. Error of Mean	1318		
Coefficient of Variation	0.699		
Skewness	1.31		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.89	Shapiro Wilk Test Statistic	0.975
Shapiro Wilk Critical Value	0.901	Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	10500	95% H-UCL	12950
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	15316
95% Adjusted-CLT UCL (Chen-1995)	10806	97.5% Chebyshev (MVUE) UCL	18291
95% Modified-t UCL (Johnson-1978)	10566	99% Chebyshev (MVUE) UCL	24134

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.907	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4307		
MLE of Mean	8215		
MLE of Standard Deviation	5948		
nu star	72.48		
Approximate Chi Square Value (.05)	53.88	Nonparametric Statistics	
Adjusted Level of Significance	0.0369	95% CLT UCL	10383
Adjusted Chi Square Value	52.48	95% Jackknife UCL	10500
		95% Standard Bootstrap UCL	10359
Anderson-Darling Test Statistic	0.144	95% Bootstrap-t UCL	11315
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	12041
Kolmogorov-Smirnov Test Statistic	0.0786	95% Percentile Bootstrap UCL	10480
Kolmogorov-Smirnov 5% Critical Value	0.201	95% BCA Bootstrap UCL	10724
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13959
		97.5% Chebyshev(Mean, Sd) UCL	16444
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	21326
95% Approximate Gamma UCL (Use when n >= 40)	11052		
95% Adjusted Gamma UCL (Use when n < 40)	11347		

Potential UCL to Use		Use 95% Approximate Gamma UCL	11052

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs (ug/kg)

General Statistics

Number of Valid Observations	8	Number of Distinct Observations	8

Raw Statistics		Log-transformed Statistics	
Minimum	1720	Minimum of Log Data	7.45
Maximum	14229	Maximum of Log Data	9.563
Mean	7322	Mean of log Data	8.677
Geometric Mean	5865	SD of log Data	0.758
Median	6730		
SD	4730		
Std. Error of Mean	1672		
Coefficient of Variation	0.646		
Skewness	0.492		

Warning: There are only 8 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.913	Shapiro Wilk Test Statistic	0.941
Shapiro Wilk Critical Value	0.818	Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	10490	95% H-UCL	17730
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16396
95% Adjusted-CLT UCL (Chen-1995)	10383	97.5% Chebyshev (MVUE) UCL	20249
95% Modified-t UCL (Johnson-1978)	10538	99% Chebyshev (MVUE) UCL	27818

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.587	Data appear Normal at 5% Significance Level	
Theta Star	4612		
MLE of Mean	7322		
MLE of Standard Deviation	5811		
nu star	25.4		
Approximate Chi Square Value (.05)	14.92	Nonparametric Statistics	
Adjusted Level of Significance	0.0195	95% CLT UCL	10072
Adjusted Chi Square Value	12.93	95% Jackknife UCL	10490
		95% Standard Bootstrap UCL	9954
Anderson-Darling Test Statistic	0.239	95% Bootstrap-t UCL	11213
Anderson-Darling 5% Critical Value	0.723	95% Hall's Bootstrap UCL	11473
Kolmogorov-Smirnov Test Statistic	0.151	95% Percentile Bootstrap UCL	9929
Kolmogorov-Smirnov 5% Critical Value	0.297	95% BCA Bootstrap UCL	10182
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	14611
		97.5% Chebyshev(Mean, Sd) UCL	17765
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23960
95% Approximate Gamma UCL (Use when n >= 40)	12466		
95% Adjusted Gamma UCL (Use when n < 40)	14382		

Potential UCL to Use	Use 95% Student's-t UCL	10490

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs (ug/kg)

General Statistics			
Number of Valid Observations	14	Number of Distinct Observations	14
Number of Missing Values	1		

Raw Statistics		Log-transformed Statistics	
Minimum	12941	Minimum of Log Data	9.468
Maximum	48974	Maximum of Log Data	10.8
Mean	32166	Mean of log Data	10.31
Geometric Mean	30093	SD of log Data	0.398
Median	36153		
SD	11136		
Std. Error of Mean	2976		
Coefficient of Variation	0.346		
Skewness	-0.285		

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.94	Shapiro Wilk Test Statistic	0.905
Shapiro Wilk Critical Value	0.874	Shapiro Wilk Critical Value	0.874
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	37437	95% H-UCL	40544
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	47672
95% Adjusted-CLT UCL (Chen-1995)	36819	97.5% Chebyshev (MVUE) UCL	54290
95% Modified-t UCL (Johnson-1978)	37399	99% Chebyshev (MVUE) UCL	67289

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	6.071	Data appear Normal at 5% Significance Level	
Theta Star	5298		
MLE of Mean	32166		
MLE of Standard Deviation	13055		
nu star	170		
Approximate Chi Square Value (.05)	140.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0312	95% CLT UCL	37062
Adjusted Chi Square Value	137.3	95% Jackknife UCL	37437
		95% Standard Bootstrap UCL	36920
Anderson-Darling Test Statistic	0.57	95% Bootstrap-t UCL	36959
Anderson-Darling 5% Critical Value	0.736	95% Hall's Bootstrap UCL	36534
Kolmogorov-Smirnov Test Statistic	0.231	95% Percentile Bootstrap UCL	36937
Kolmogorov-Smirnov 5% Critical Value	0.229	95% BCA Bootstrap UCL	36828
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	45139
		97.5% Chebyshev(Mean, Sd) UCL	50753
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	61780
95% Approximate Gamma UCL (Use when n >= 40)	38824		
95% Adjusted Gamma UCL (Use when n < 40)	39818		

Potential UCL to Use		Use 95% Student's-t UCL	37437

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Total PCBs (ug/kg)

General Statistics

Number of Valid Observations	7	Number of Distinct Observations	7

Raw Statistics		Log-transformed Statistics	
Minimum	211.2	Minimum of Log Data	5.353
Maximum	12480	Maximum of Log Data	9.432
Mean	2047	Mean of log Data	6.205
Geometric Mean	495.4	SD of log Data	1.461
Median	287.3		
SD	4602		
Std. Error of Mean	1740		
Coefficient of Variation	2.249		
Skewness	2.642		

Warning: A sample size of 'n' = 7 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 7 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.474	Shapiro Wilk Test Statistic	0.642
Shapiro Wilk Critical Value	0.803	Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	5427	95% H-UCL	29552
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3815
95% Adjusted-CLT UCL (Chen-1995)	6764	97.5% Chebyshev (MVUE) UCL	4975
95% Modified-t UCL (Johnson-1978)	5716	99% Chebyshev (MVUE) UCL	7252

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.355	Data do not follow a Discernable Distribution (0.05)	
Theta Star	5766		
MLE of Mean	2047		
MLE of Standard Deviation	3435		
nu star	4.969		
Approximate Chi Square Value (.05)	1.138	Nonparametric Statistics	
Adjusted Level of Significance	0.0158	95% CLT UCL	4908
Adjusted Chi Square Value	0.681	95% Jackknife UCL	5427
		95% Standard Bootstrap UCL	4679
Anderson-Darling Test Statistic	1.613	95% Bootstrap-t UCL	179697
Anderson-Darling 5% Critical Value	0.759	95% Hall's Bootstrap UCL	70160
Kolmogorov-Smirnov Test Statistic	0.436	95% Percentile Bootstrap UCL	5508
Kolmogorov-Smirnov 5% Critical Value	0.329	95% BCA Bootstrap UCL	5589
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9629
		97.5% Chebyshev(Mean, Sd) UCL	12910
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	19355
95% Approximate Gamma UCL (Use when n >= 40)	8937		
95% Adjusted Gamma UCL (Use when n < 40)	14934		

Potential UCL to Use	Use 95% Hall's Bootstrap UCL	70160

Recommended UCL exceeds the maximum observation
In Case Bootstrap t and/or Hall's Bootstrap yields an unreasonably large UCL value, use 97.5% or 99% Chebyshev (Mean, Sd) UCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs (ug/kg)

General Statistics			
Number of Valid Observations	11	Number of Distinct Observations	11
Raw Statistics		Log-transformed Statistics	
Minimum	620.3	Minimum of Log Data	6.43
Maximum	33969	Maximum of Log Data	10.43
Mean	6086	Mean of log Data	7.963
Geometric Mean	2872	SD of log Data	1.231
Median	2819		
SD	9628		
Std. Error of Mean	2903		
Coefficient of Variation	1.582		
Skewness	2.875		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.586	Shapiro Wilk Test Statistic	0.948
Shapiro Wilk Critical Value	0.85	Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	11347	95% H-UCL	23586
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	15105
95% Adjusted-CLT UCL (Chen-1995)	13549	97.5% Chebyshev (MVUE) UCL	19251
95% Modified-t UCL (Johnson-1978)	11766	99% Chebyshev (MVUE) UCL	27394
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.636	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	9565		
MLE of Mean	6086		
MLE of Standard Deviation	7629		
nu star	14		
Approximate Chi Square Value (.05)	6.57	Nonparametric Statistics	
Adjusted Level of Significance	0.0278	95% CLT UCL	10861
Adjusted Chi Square Value	5.76	95% Jackknife UCL	11347
		95% Standard Bootstrap UCL	10706
Anderson-Darling Test Statistic	0.556	95% Bootstrap-t UCL	21200
Anderson-Darling 5% Critical Value	0.761	95% Hall's Bootstrap UCL	27248
Kolmogorov-Smirnov Test Statistic	0.184	95% Percentile Bootstrap UCL	11411
Kolmogorov-Smirnov 5% Critical Value	0.265	95% BCA Bootstrap UCL	13972
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	18739
		97.5% Chebyshev(Mean, Sd) UCL	24215
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	34970
95% Approximate Gamma UCL (Use when n >= 40)	12966		
95% Adjusted Gamma UCL (Use when n < 40)	14788		
Potential UCL to Use		Use 95% Approximate Gamma UCL	12966

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Asiatic Clams

Total PCB Aroclors (ug/kg, wet weight)

General Statistics			
Number of Valid Observations	12	Number of Distinct Observations	12
Raw Statistics		Log-transformed Statistics	
Minimum	1270	Minimum of Log Data	7.147
Maximum	2760	Maximum of Log Data	7.923
Mean	1813	Mean of log Data	7.476
Geometric Mean	1765	SD of log Data	0.24
Median	1654		
SD	446.9		
Std. Error of Mean	129		
Coefficient of Variation	0.246		
Skewness	0.737		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.928	Shapiro Wilk Test Statistic	0.95
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2045	95% H-UCL	2080
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2362
95% Adjusted-CLT UCL (Chen-1995)	2055	97.5% Chebyshev (MVUE) UCL	2600
95% Modified-t UCL (Johnson-1978)	2049	99% Chebyshev (MVUE) UCL	3067
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	14.21	Data appear Normal at 5% Significance Level	
Theta Star	127.6		
MLE of Mean	1813		
MLE of Standard Deviation	480.9		
nu star	341.1		
Approximate Chi Square Value (.05)	299.3	Nonparametric Statistics	
Adjusted Level of Significance	0.029	95% CLT UCL	2025
Adjusted Chi Square Value	293.4	95% Jackknife UCL	2045
		95% Standard Bootstrap UCL	2017
Anderson-Darling Test Statistic	0.334	95% Bootstrap-t UCL	2082
Anderson-Darling 5% Critical Value	0.732	95% Hall's Bootstrap UCL	2089
Kolmogorov-Smirnov Test Statistic	0.201	95% Percentile Bootstrap UCL	2024
Kolmogorov-Smirnov 5% Critical Value	0.245	95% BCA Bootstrap UCL	2032
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2375
		97.5% Chebyshev(Mean, Sd) UCL	2619
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	3097
95% Approximate Gamma UCL (Use when n >= 40)	2066		
95% Adjusted Gamma UCL (Use when n < 40)	2108		
Potential UCL to Use		Use 95% Student's-t UCL	2045

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Crayfish

Total PCB Aroclors (µg/kg)

General Statistics			
Number of Valid Observations	28	Number of Distinct Observations	17
Raw Statistics		Log-transformed Statistics	
Minimum	400	Minimum of Log Data	5.991
Maximum	2400	Maximum of Log Data	7.783
Mean	1308	Mean of log Data	7.098
Geometric Mean	1210	SD of log Data	0.418
Median	1100		
SD	498.3		
Std. Error of Mean	94.18		
Coefficient of Variation	0.381		
Skewness	0.376		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.961	Shapiro Wilk Test Statistic	0.952
Shapiro Wilk Critical Value	0.924	Shapiro Wilk Critical Value	0.924
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	1468	95% H-UCL	1536
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1784
95% Adjusted-CLT UCL (Chen-1995)	1470	97.5% Chebyshev (MVUE) UCL	1986
95% Modified-t UCL (Johnson-1978)	1469	99% Chebyshev (MVUE) UCL	2383
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.925	Data appear Normal at 5% Significance Level	
Theta Star	220.7		
MLE of Mean	1308		
MLE of Standard Deviation	537.1		
nu star	331.8		
Approximate Chi Square Value (.05)	290.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0404	95% CLT UCL	1462
Adjusted Chi Square Value	288.2	95% Jackknife UCL	1468
		95% Standard Bootstrap UCL	1462
Anderson-Darling Test Statistic	0.399	95% Bootstrap-t UCL	1480
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL	1474
Kolmogorov-Smirnov Test Statistic	0.154	95% Percentile Bootstrap UCL	1458
Kolmogorov-Smirnov 5% Critical Value	0.166	95% BCA Bootstrap UCL	1472
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1718
		97.5% Chebyshev(Mean, Sd) UCL	1896
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2245
95% Approximate Gamma UCL (Use when n >= 40)	1493		
95% Adjusted Gamma UCL (Use when n < 40)	1505		
Potential UCL to Use		Use 95% Student's-t UCL	1468

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Cadmium (mg/kg)

General Statistics

Number of Valid Data	28	Number of Detected Data	21
Number of Distinct Detected Data	21	Number of Non-Detect Data	7
		Percent Non-Detects	25.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.28	Minimum Detected	-1.273
Maximum Detected	1.7	Maximum Detected	0.531
Mean of Detected	0.733	Mean of Detected	-0.444
SD of Detected	0.399	SD of Detected	0.529
Minimum Non-Detect	0.26	Minimum Non-Detect	-1.347
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	28
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.892	Shapiro Wilk Test Statistic	0.964
5% Shapiro Wilk Critical Value	0.908	5% Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.652	Mean	-0.63
SD	0.418	SD	0.669
95% DL/2 (t) UCL	0.787	95% H-Stat (DL/2) UCL	0.872

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.621
		SD in Log Scale	0.595
		Mean in Original Scale	0.636
		SD in Original Scale	0.39
		95% t UCL	0.762
		95% Percentile Bootstrap UCL	0.764
		95% BCA Bootstrap UCL	0.782
		95% H-UCL	0.809

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	3.381	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.217		
nu star	142		

A-D Test Statistic	0.307	Nonparametric Statistics	
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	0.65
5% K-S Critical Value	0.19	SD	0.381
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0757
		95% KM (t) UCL	0.779
Assuming Gamma Distribution		95% KM (z) UCL	0.774
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.777
Minimum	0.000001	95% KM (bootstrap t) UCL	0.808
Maximum	1.7	95% KM (BCA) UCL	0.787
Mean	0.623	95% KM (Percentile Bootstrap) UCL	0.777
Median	0.595	95% KM (Chebyshev) UCL	0.98
SD	0.42	97.5% KM (Chebyshev) UCL	1.123
k star	0.423	99% KM (Chebyshev) UCL	1.403
Theta star	1.473		
Nu star	23.7	Potential UCLs to Use	
AppChi2	13.62	95% KM (Percentile Bootstrap) UCL	0.777
95% Gamma Approximate UCL (Use when n >= 40)	1.084		
95% Adjusted Gamma UCL (Use when n < 40)	1.123		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Copper (mg/kg)

General Statistics			
Number of Valid Observations	28	Number of Distinct Observations	23
Raw Statistics		Log-transformed Statistics	
Minimum	3.9	Minimum of Log Data	1.361
Maximum	70	Maximum of Log Data	4.248
Mean	42.76	Mean of log Data	3.624
Geometric Mean	37.51	SD of log Data	0.665
Median	43		
SD	15.32		
Std. Error of Mean	2.895		
Coefficient of Variation	0.358		
Skewness	-0.874		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.938	Shapiro Wilk Test Statistic	0.642
Shapiro Wilk Critical Value	0.924	Shapiro Wilk Critical Value	0.924
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	47.7	95% H-UCL	61.1
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	73.56
95% Adjusted-CLT UCL (Chen-1995)	47.02	97.5% Chebyshev (MVUE) UCL	85.34
95% Modified-t UCL (Johnson-1978)	47.62	99% Chebyshev (MVUE) UCL	108.5
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.568	Data appear Normal at 5% Significance Level	
Theta Star	11.98		
MLE of Mean	42.76		
MLE of Standard Deviation	22.64		
nu star	199.8		
Approximate Chi Square Value (.05)	168.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0404	95% CLT UCL	47.53
Adjusted Chi Square Value	166.3	95% Jackknife UCL	47.7
		95% Standard Bootstrap UCL	47.38
Anderson-Darling Test Statistic	2.169	95% Bootstrap-t UCL	47.41
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	47.05
Kolmogorov-Smirnov Test Statistic	0.206	95% Percentile Bootstrap UCL	47.49
Kolmogorov-Smirnov 5% Critical Value	0.166	95% BCA Bootstrap UCL	47
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	55.38
		97.5% Chebyshev(Mean, Sd) UCL	60.84
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	71.57
95% Approximate Gamma UCL (Use when n >= 40)	50.83		
95% Adjusted Gamma UCL (Use when n < 40)	51.38		
Potential UCL to Use		Use 95% Student's-t UCL	47.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Lead (mg/kg)

General Statistics

Number of Valid Data	28	Number of Detected Data	24
Number of Distinct Detected Data	23	Number of Non-Detect Data	4
		Percent Non-Detects	14.29%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.3	Minimum Detected	-1.204
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.789	Mean of Detected	-0.305
SD of Detected	0.282	SD of Detected	0.39
Minimum Non-Detect	0.26	Minimum Non-Detect	-1.347
Maximum Non-Detect	2.6	Maximum Non-Detect	0.956

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	28
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.982	Shapiro Wilk Test Statistic	0.967
5% Shapiro Wilk Critical Value	0.916	5% Shapiro Wilk Critical Value	0.916
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.751	Mean	-0.405
SD	0.329	SD	0.541
95% DL/2 (t) UCL	0.857	95% H-Stat (DL/2) UCL	0.948

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.374
		SD in Log Scale	0.42
		Mean in Original Scale	0.745
		SD in Original Scale	0.289
		95% t UCL	0.838
		95% Percentile Bootstrap UCL	0.836
		95% BCA Bootstrap UCL	0.831
		95% H-UCL	0.874

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	6.61	Data appear Normal at 5% Significance Level	
Theta Star	0.119		
nu star	317.3		

		Nonparametric Statistics	
A-D Test Statistic	0.208		
5% A-D Critical Value	0.745	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.745	Mean	0.747
5% K-S Critical Value	0.178	SD	0.29
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0573
		95% KM (t) UCL	0.844
Assuming Gamma Distribution		95% KM (z) UCL	0.841
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.843
Minimum	0.000001	95% KM (bootstrap t) UCL	0.847
Maximum	1.4	95% KM (BCA) UCL	0.843
Mean	0.736	95% KM (Percentile Bootstrap) UCL	0.842
Median	0.745	95% KM (Chebyshev) UCL	0.997
SD	0.313	97.5% KM (Chebyshev) UCL	1.105
k star	1.008	99% KM (Chebyshev) UCL	1.317
Theta star	0.731		
Nu star	56.44	Potential UCLs to Use	
AppChi2	40.17	95% KM (t) UCL	0.844
95% Gamma Approximate UCL (Use when n >= 40)	1.035	95% KM (Percentile Bootstrap) UCL	0.842
95% Adjusted Gamma UCL (Use when n < 40)	1.057		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Selenium (mg/kg)

General Statistics

Number of Valid Data	28	Number of Detected Data	18
Number of Distinct Detected Data	15	Number of Non-Detect Data	10
		Percent Non-Detects	35.71%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.52	Minimum Detected	-0.654
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.898	Mean of Detected	-0.14
SD of Detected	0.234	SD of Detected	0.265
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	28
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.954	Shapiro Wilk Test Statistic	0.961
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.833	Mean	-0.298
SD	0.431	SD	0.501
95% DL/2 (t) UCL	0.972	95% H-Stat (DL/2) UCL	1.015

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.233
		SD in Log Scale	0.293
		Mean in Original Scale	0.825
		SD in Original Scale	0.238
		95% t UCL	0.902
		95% Percentile Bootstrap UCL	0.898
		95% BCA Bootstrap UCL	0.902
		95% H-UCL	0.915

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	12.98	Data appear Normal at 5% Significance Level	
Theta Star	0.0692		
nu star	467.2		

		Nonparametric Statistics	
A-D Test Statistic	0.298		
5% A-D Critical Value	0.739	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.739	Mean	0.832
5% K-S Critical Value	0.203	SD	0.239
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0518
		95% KM (t) UCL	0.921
Assuming Gamma Distribution		95% KM (z) UCL	0.918
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.92
Minimum	0.000001	95% KM (bootstrap t) UCL	0.923
Maximum	1.4	95% KM (BCA) UCL	0.931
Mean	0.79	95% KM (Percentile Bootstrap) UCL	0.922
Median	0.856	95% KM (Chebyshev) UCL	1.058
SD	0.324	97.5% KM (Chebyshev) UCL	1.156
k star	0.98	99% KM (Chebyshev) UCL	1.348
Theta star	0.806		
Nu star	54.86	Potential UCLs to Use	
AppChi2	38.84	95% KM (t) UCL	0.921
95% Gamma Approximate UCL (Use when n >= 40)	1.116	95% KM (Percentile Bootstrap) UCL	0.922
95% Adjusted Gamma UCL (Use when n < 40)	1.14		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Silver (mg/kg)

General Statistics

Number of Valid Data	28	Number of Detected Data	26
Number of Distinct Detected Data	22	Number of Non-Detect Data	2
		Percent Non-Detects	7.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.23	Minimum Detected	-1.47
Maximum Detected	2.5	Maximum Detected	0.916
Mean of Detected	0.939	Mean of Detected	-0.261
SD of Detected	0.6	SD of Detected	0.655
Minimum Non-Detect	0.35	Minimum Non-Detect	-1.05
Maximum Non-Detect	1.4	Maximum Non-Detect	0.336

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	78.57%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.905	Shapiro Wilk Test Statistic	0.975
5% Shapiro Wilk Critical Value	0.92	5% Shapiro Wilk Critical Value	0.92
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.903	Mean	-0.317
SD	0.596	SD	0.689
95% DL/2 (t) UCL	1.095	95% H-Stat (DL/2) UCL	1.222

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.799	Mean in Log Scale	-0.312
SD	0.76	SD in Log Scale	0.669
95% MLE (t) UCL	1.043	Mean in Original Scale	0.902
95% MLE (Tiku) UCL	1.355	SD in Original Scale	0.595
		95% t UCL	1.093
		95% Percentile Bootstrap UCL	1.083
		95% BCA Bootstrap UCL	1.109
		95% H UCL	1.199

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	2.396	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.392		
nu star	124.6		

		Nonparametric Statistics	
A-D Test Statistic	0.285		
5% A-D Critical Value	0.753	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.753	Mean	0.904
5% K-S Critical Value	0.173	SD	0.587
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.114
		95% KM (t) UCL	1.097
Assuming Gamma Distribution		95% KM (z) UCL	1.091
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.097
Minimum	0.000001	95% KM (bootstrap t) UCL	1.143
Maximum	2.5	95% KM (BCA) UCL	1.098
Mean	0.9	95% KM (Percentile Bootstrap) UCL	1.089
Median	0.74	95% KM (Chebyshev) UCL	1.399
SD	0.604	97.5% KM (Chebyshev) UCL	1.614
k star	0.839	99% KM (Chebyshev) UCL	2.035
Theta star	1.072		
Nu star	47	Potential UCLs to Use	
AppChi2	32.26	95% KM (BCA) UCL	1.098
95% Gamma Approximate UCL (Use when n >= 40)	1.311		
95% Adjusted Gamma UCL (Use when n < 40)	1.342		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc (mg/kg)

General Statistics			
Number of Valid Observations	28	Number of Distinct Observations	18
Raw Statistics		Log-transformed Statistics	
Minimum	2.2	Minimum of Log Data	0.788
Maximum	39	Maximum of Log Data	3.664
Mean	23.09	Mean of log Data	3.016
Geometric Mean	20.42	SD of log Data	0.631
Median	24		
SD	8.285		
Std. Error of Mean	1.566		
Coefficient of Variation	0.359		
Skewness	-0.684		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.906	Shapiro Wilk Test Statistic	0.654
Shapiro Wilk Critical Value	0.924	Shapiro Wilk Critical Value	0.924
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25.75	95% H-UCL	31.99
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	38.41
95% Adjusted-CLT UCL (Chen-1995)	25.44	97.5% Chebyshev (MVUE) UCL	44.34
95% Modified-t UCL (Johnson-1978)	25.72	99% Chebyshev (MVUE) UCL	55.98
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.802	Data do not follow a Discernable Distribution (0.05)	
Theta Star	6.073		
MLE of Mean	23.09		
MLE of Standard Deviation	11.84		
nu star	212.9		
Approximate Chi Square Value (.05)	180.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0404	95% CLT UCL	25.66
Adjusted Chi Square Value	178.3	95% Jackknife UCL	25.75
		95% Standard Bootstrap UCL	25.58
Anderson-Darling Test Statistic	2.609	95% Bootstrap-t UCL	25.46
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	25.6
Kolmogorov-Smirnov Test Statistic	0.275	95% Percentile Bootstrap UCL	25.47
Kolmogorov-Smirnov 5% Critical Value	0.166	95% BCA Bootstrap UCL	25.36
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	29.91
		97.5% Chebyshev(Mean, Sd) UCL	32.86
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	38.67
95% Approximate Gamma UCL (Use when n >= 40)	27.29		
95% Adjusted Gamma UCL (Use when n < 40)	27.57		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	29.91

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Copper (mg/kg)

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	8

Raw Statistics		Log-transformed Statistics	
Minimum	17	Minimum of Log Data	2.833
Maximum	43	Maximum of Log Data	3.761
Mean	30.9	Mean of log Data	3.397
Geometric Mean	29.88	SD of log Data	0.281
Median	31		
SD	8.062		
Std. Error of Mean	2.549		
Coefficient of Variation	0.261		
Skewness	-0.161		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.946	Shapiro Wilk Test Statistic	0.923
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	35.57	95% H-UCL	37.33
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	43.02
95% Adjusted-CLT UCL (Chen-1995)	34.95	97.5% Chebyshev (MVUE) UCL	48.24
95% Modified-t UCL (Johnson-1978)	35.55	99% Chebyshev (MVUE) UCL	58.49

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	10.59	Data appear Normal at 5% Significance Level	
Theta Star	2.918		
MLE of Mean	30.9		
MLE of Standard Deviation	9.495		
nu star	211.8		
Approximate Chi Square Value (.05)	179.1	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	35.09
Adjusted Chi Square Value	173.9	95% Jackknife UCL	35.57
		95% Standard Bootstrap UCL	34.92
Anderson-Darling Test Statistic	0.399	95% Bootstrap-t UCL	35.5
Anderson-Darling 5% Critical Value	0.725	95% Hall's Bootstrap UCL	34.72
Kolmogorov-Smirnov Test Statistic	0.219	95% Percentile Bootstrap UCL	35
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL	34.6
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	42.01
		97.5% Chebyshev(Mean, Sd) UCL	46.82
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	56.27
95% Approximate Gamma UCL (Use when n >= 40)	36.54		
95% Adjusted Gamma UCL (Use when n < 40)	37.64		

Potential UCL to Use	Use 95% Student's-t UCL	35.57

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Cadmium (mg/kg)

General Statistics

Number of Valid Data	10	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	5
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.23	Minimum Detected	-1.47
Maximum Detected	5.4	Maximum Detected	1.686
Mean of Detected	1.454	Mean of Detected	-0.422
SD of Detected	2.228	SD of Detected	1.315
Minimum Non-Detect	0.65	Minimum Non-Detect	-0.431
Maximum Non-Detect	0.65	Maximum Non-Detect	-0.431

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.659	Shapiro Wilk Test Statistic	0.855
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.89	Mean	-0.773
SD	1.6	SD	0.952
95% DL/2 (t) UCL	1.817	95% H-Stat (DL/2) UCL	1.883

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.828
		SD in Log Scale	1.097
		Mean in Original Scale	0.906
		SD in Original Scale	1.602
		95% t UCL	1.835
		95% Percentile Bootstrap UCL	1.876
		95% BCA Bootstrap UCL	2.415
		95% H-UCL	2.671

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.434	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.351	
nu star	4.339	

		Nonparametric Statistics	
A-D Test Statistic	0.613		
5% A-D Critical Value	0.698	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.698	Mean	0.872
5% K-S Critical Value	0.367	SD	1.525
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.54
		95% KM (t) UCL	1.862
Assuming Gamma Distribution		95% KM (z) UCL	1.76
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.807
Minimum	0.000001	95% KM (bootstrap t) UCL	9.088
Maximum	5.4	95% KM (BCA) UCL	1.906
Mean	0.941	95% KM (Percentile Bootstrap) UCL	1.88
Median	0.32	95% KM (Chebyshev) UCL	3.226
SD	1.631	97.5% KM (Chebyshev) UCL	4.245
k star	0.227	99% KM (Chebyshev) UCL	6.246
Theta star	4.151		
Nu star	4.535	Potential UCLs to Use	
AppChi2	0.944	95% KM (t) UCL	1.862
95% Gamma Approximate UCL (Use when n >= 40)	4.523		
95% Adjusted Gamma UCL (Use when n < 40)	6.133		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead (mg/kg)

General Statistics

Number of Valid Data	10	Number of Detected Data	8
Number of Distinct Detected Data	6	Number of Non-Detect Data	2
		Percent Non-Detects	20.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.27	Minimum Detected	-1.309
Maximum Detected	6.5	Maximum Detected	1.872
Mean of Detected	1.509	Mean of Detected	-0.104
SD of Detected	2.055	SD of Detected	0.996
Minimum Non-Detect	0.65	Minimum Non-Detect	-0.431
Maximum Non-Detect	0.65	Maximum Non-Detect	-0.431

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.593	Shapiro Wilk Test Statistic	0.899
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.272	Mean	-0.308
SD	1.88	SD	0.978
95% DL/2 (t) UCL	2.362	95% H-Stat (DL/2) UCL	3.215

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.242	Mean in Log Scale	-0.297
SD	2.769	SD in Log Scale	0.978
95% MLE (t) UCL	1.847	Mean in Original Scale	1.279
95% MLE (Tiku) UCL	2.239	SD in Original Scale	1.877
		95% t UCL	2.366
		95% Percentile Bootstrap UCL	2.403
		95% BCA Bootstrap UCL	2.994
		95% H UCL	3.249

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.775	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	1.946		
nu star	12.4		

A-D Test Statistic	0.732	Nonparametric Statistics	
5% A-D Critical Value	0.734	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.734	Mean	1.279
5% K-S Critical Value	0.301	SD	1.78
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.602
		95% KM (t) UCL	2.382
Assuming Gamma Distribution		95% KM (z) UCL	2.269
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.367
Minimum	0.000001	95% KM (bootstrap t) UCL	4.817
Maximum	6.5	95% KM (BCA) UCL	2.496
Mean	1.238	95% KM (Percentile Bootstrap) UCL	2.419
Median	0.675	95% KM (Chebyshev) UCL	3.903
SD	1.902	97.5% KM (Chebyshev) UCL	5.038
k star	0.326	99% KM (Chebyshev) UCL	7.268
Theta star	3.794		
Nu star	6.524	Potential UCLs to Use	
AppChi2	1.914	95% KM (Chebyshev) UCL	3.903
95% Gamma Approximate UCL (Use when n >= 40)	4.22		
95% Adjusted Gamma UCL (Use when n < 40)	5.342		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Mercury (mg/kg)

General Statistics

Number of Valid Data	10	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	3
		Percent Non-Detects	30.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.019	Minimum Detected	-3.963
Maximum Detected	0.036	Maximum Detected	-3.324
Mean of Detected	0.0251	Mean of Detected	-3.709
SD of Detected	0.00647	SD of Detected	0.243
Minimum Non-Detect	0.017	Minimum Non-Detect	-4.075
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	3
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	7
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	30.00%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.872	Shapiro Wilk Test Statistic	0.904
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0203	Mean	-4.015
SD	0.00948	SD	0.531
95% DL/2 (t) UCL	0.0257	95% H-Stat (DL/2) UCL	0.031

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0214	Mean in Log Scale	-3.896
SD	0.00789	SD in Log Scale	0.362
95% MLE (t) UCL	0.026	Mean in Original Scale	0.0216
95% MLE (Tiku) UCL	0.0263	SD in Original Scale	0.00784
		95% t UCL	0.0261
		95% Percentile Bootstrap UCL	0.0256
		95% BCA Bootstrap UCL	0.0259
		95% H UCL	0.0278

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	11.08	Data appear Normal at 5% Significance Level
Theta Star	0.00227	
nu star	155.1	

		Nonparametric Statistics	
A-D Test Statistic	0.423		
5% A-D Critical Value	0.707	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.707	Mean	0.0233
5% K-S Critical Value	0.311	SD	0.00575
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00196
		95% KM (t) UCL	0.0269
Assuming Gamma Distribution		95% KM (z) UCL	0.0265
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0267
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0315
Maximum	0.036	95% KM (BCA) UCL	0.0273
Mean	0.0185	95% KM (Percentile Bootstrap) UCL	0.0267
Median	0.0205	95% KM (Chebyshev) UCL	0.0319
SD	0.0121	97.5% KM (Chebyshev) UCL	0.0356
k star	0.464	99% KM (Chebyshev) UCL	0.0428
Theta star	0.0398		
Nu star	9.273	Potential UCLs to Use	
AppChi2	3.493	95% KM (t) UCL	0.0269
95% Gamma Approximate UCL (Use when n >= 40)	0.049	95% KM (Percentile Bootstrap) UCL	0.0267
95% Adjusted Gamma UCL (Use when n < 40)	0.0589		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Silver (mg/kg)

General Statistics

Number of Valid Data	10	Number of Detected Data	6
Number of Distinct Detected Data	5	Number of Non-Detect Data	4
		Percent Non-Detects	40.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.19	Minimum Detected	-1.661
Maximum Detected	0.49	Maximum Detected	-0.713
Mean of Detected	0.372	Mean of Detected	-1.032
SD of Detected	0.105	SD of Detected	0.338
Minimum Non-Detect	0.035	Minimum Non-Detect	-3.352
Maximum Non-Detect	0.35	Maximum Non-Detect	-1.05

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	60.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.914	Shapiro Wilk Test Statistic	0.839
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.277	Mean	-1.546
SD	0.152	SD	0.973
95% DL/2 (t) UCL	0.365	95% H-Stat (DL/2) UCL	0.919

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.431	Mean in Log Scale	-1.259
SD	0.0367	SD in Log Scale	0.409
95% MLE (t) UCL	0.453	Mean in Original Scale	0.306
95% MLE (Tiku) UCL	0.465	SD in Original Scale	0.119
		95% t UCL	0.375
		95% Percentile Bootstrap UCL	0.364
		95% BCA Bootstrap UCL	0.371
		95% H UCL	0.411

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	6.156	Data appear Normal at 5% Significance Level
Theta Star	0.0604	
nu star	73.87	

		Nonparametric Statistics	
A-D Test Statistic	0.494		
5% A-D Critical Value	0.698	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.698	Mean	0.312
5% K-S Critical Value	0.332	SD	0.11
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0415
		95% KM (t) UCL	0.388
Assuming Gamma Distribution		95% KM (z) UCL	0.38
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.399
Minimum	0.000001	95% KM (bootstrap t) UCL	0.375
Maximum	0.49	95% KM (BCA) UCL	0.423
Mean	0.276	95% KM (Percentile Bootstrap) UCL	0.416
Median	0.3	95% KM (Chebyshev) UCL	0.493
SD	0.163	97.5% KM (Chebyshev) UCL	0.571
k star	0.413	99% KM (Chebyshev) UCL	0.725
Theta star	0.669		
Nu star	8.254	Potential UCLs to Use	
AppChi2	2.883	95% KM (t) UCL	0.388
95% Gamma Approximate UCL (Use when n >= 40)	0.79	95% KM (Percentile Bootstrap) UCL	0.416
95% Adjusted Gamma UCL (Use when n < 40)	0.965		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Zinc (mg/kg)

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	8

Raw Statistics		Log-transformed Statistics	
Minimum	14	Minimum of Log Data	2.639
Maximum	27	Maximum of Log Data	3.296
Mean	21.2	Mean of log Data	3.026
Geometric Mean	20.62	SD of log Data	0.253
Median	21.5		
SD	5.116		
Std. Error of Mean	1.618		
Coefficient of Variation	0.241		
Skewness	-0.157		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.892	Shapiro Wilk Test Statistic	0.891
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	24.17	95% H-UCL	25.05
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	28.65
95% Adjusted-CLT UCL (Chen-1995)	23.78	97.5% Chebyshev (MVUE) UCL	31.87
95% Modified-t UCL (Johnson-1978)	24.15	99% Chebyshev (MVUE) UCL	38.19

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	12.72	Data appear Normal at 5% Significance Level	
Theta Star	1.666		
MLE of Mean	21.2		
MLE of Standard Deviation	5.943		
nu star	254.5		
Approximate Chi Square Value (.05)	218.5	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	23.86
Adjusted Chi Square Value	212.7	95% Jackknife UCL	24.17
		95% Standard Bootstrap UCL	23.68
Anderson-Darling Test Statistic	0.461	95% Bootstrap-t UCL	23.96
Anderson-Darling 5% Critical Value	0.725	95% Hall's Bootstrap UCL	23.38
Kolmogorov-Smirnov Test Statistic	0.175	95% Percentile Bootstrap UCL	23.7
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL	23.6
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	28.25
		97.5% Chebyshev(Mean, Sd) UCL	31.3
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	37.3
95% Approximate Gamma UCL (Use when n >= 40)	24.69		
95% Adjusted Gamma UCL (Use when n < 40)	25.36		

Potential UCL to Use	Use 95% Student's-t UCL	24.17

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Cadmium (mg/kg)

General Statistics

Number of Valid Data	10	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	5
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.23	Minimum Detected	-1.47
Maximum Detected	5.4	Maximum Detected	1.686
Mean of Detected	1.454	Mean of Detected	-0.422
SD of Detected	2.228	SD of Detected	1.315
Minimum Non-Detect	0.65	Minimum Non-Detect	-0.431
Maximum Non-Detect	0.65	Maximum Non-Detect	-0.431

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.659	Shapiro Wilk Test Statistic	0.855
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.89	Mean	-0.773
SD	1.6	SD	0.952
95% DL/2 (t) UCL	1.817	95% H-Stat (DL/2) UCL	1.883

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.828
		SD in Log Scale	1.097
		Mean in Original Scale	0.906
		SD in Original Scale	1.602
		95% t UCL	1.835
		95% Percentile Bootstrap UCL	1.876
		95% BCA Bootstrap UCL	2.415
		95% H-UCL	2.671

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.434	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.351	
nu star	4.339	

		Nonparametric Statistics	
A-D Test Statistic	0.613		
5% A-D Critical Value	0.698	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.698	Mean	0.872
5% K-S Critical Value	0.367	SD	1.525
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.54
		95% KM (t) UCL	1.862
Assuming Gamma Distribution		95% KM (z) UCL	1.76
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.807
Minimum	0.000001	95% KM (bootstrap t) UCL	9.088
Maximum	5.4	95% KM (BCA) UCL	1.906
Mean	0.941	95% KM (Percentile Bootstrap) UCL	1.88
Median	0.32	95% KM (Chebyshev) UCL	3.226
SD	1.631	97.5% KM (Chebyshev) UCL	4.245
k star	0.227	99% KM (Chebyshev) UCL	6.246
Theta star	4.151		
Nu star	4.535	Potential UCLs to Use	
AppChi2	0.944	95% KM (t) UCL	1.862
95% Gamma Approximate UCL (Use when n >= 40)	4.523		
95% Adjusted Gamma UCL (Use when n < 40)	6.133		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Small Mammals

Total PCB Aroclors (µg/kg)

General Statistics

Number of Valid Data	8	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	4
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	150	Minimum Detected	5.011
Maximum Detected	440	Maximum Detected	6.087
Mean of Detected	277.5	Mean of Detected	5.549
SD of Detected	124.5	SD of Detected	0.457
Minimum Non-Detect	99	Minimum Non-Detect	4.595
Maximum Non-Detect	100	Maximum Non-Detect	4.605

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	50.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.973	Shapiro Wilk Test Statistic	0.999
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	163.6	Mean	4.728
SD	146.5	SD	0.927
95% DL/2 (t) UCL	261.7	95% H-Stat (DL/2) UCL	542.5

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	109.1	Mean in Log Scale	4.817
SD	203.7	SD in Log Scale	0.863
95% MLE (t) UCL	245.6	Mean in Original Scale	169.6
95% MLE (Tiku) UCL	277	SD in Original Scale	141.8
		95% t UCL	264.6
		95% Percentile Bootstrap UCL	255.4
		95% BCA Bootstrap UCL	264.4
		95% H UCL	492.9

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.828	Data appear Normal at 5% Significance Level
Theta Star	151.8	
nu star	14.63	

		Nonparametric Statistics	
A-D Test Statistic	0.197		
5% A-D Critical Value	0.658	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.658	Mean	213.8
5% K-S Critical Value	0.396	SD	99.37
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	40.57
		95% KM (t) UCL	290.6
Assuming Gamma Distribution		95% KM (z) UCL	280.5
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	287.1
Minimum	0.000001	95% KM (bootstrap t) UCL	298
Maximum	440	95% KM (BCA) UCL	440
Mean	138.8	95% KM (Percentile Bootstrap) UCL	335
Median	75	95% KM (Chebyshev) UCL	390.6
SD	169.2	97.5% KM (Chebyshev) UCL	467.1
k star	0.14	99% KM (Chebyshev) UCL	617.4
Theta star	991.1		
Nu star	2.24	Potential UCLs to Use	
AppChi2	0.188	95% KM (t) UCL	290.6
95% Gamma Approximate UCL (Use when n >= 40)	1651	95% KM (Percentile Bootstrap) UCL	335
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg)

General Statistics			
Number of Valid Observations	14	Number of Distinct Observations	14
Raw Statistics		Log-transformed Statistics	
Minimum	240	Minimum of Log Data	5.481
Maximum	1800	Maximum of Log Data	7.496
Mean	754.3	Mean of log Data	6.462
Geometric Mean	640	SD of log Data	0.596
Median	655		
SD	459.2		
Std. Error of Mean	122.7		
Coefficient of Variation	0.609		
Skewness	1.113		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.893	Shapiro Wilk Test Statistic	0.978
Shapiro Wilk Critical Value	0.874	Shapiro Wilk Critical Value	0.874
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	971.6	95% H-UCL	1099
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1297
95% Adjusted-CLT UCL (Chen-1995)	995.1	97.5% Chebyshev (MVUE) UCL	1533
95% Modified-t UCL (Johnson-1978)	977.7	99% Chebyshev (MVUE) UCL	1995
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.563	Data appear Normal at 5% Significance Level	
Theta Star	294.3		
MLE of Mean	754.3		
MLE of Standard Deviation	471.1		
nu star	71.77		
Approximate Chi Square Value (.05)	53.26	Nonparametric Statistics	
Adjusted Level of Significance	0.0312	95% CLT UCL	956.1
Adjusted Chi Square Value	51.15	95% Jackknife UCL	971.6
		95% Standard Bootstrap UCL	947.2
Anderson-Darling Test Statistic	0.233	95% Bootstrap-t UCL	1040
Anderson-Darling 5% Critical Value	0.742	95% Hall's Bootstrap UCL	1012
Kolmogorov-Smirnov Test Statistic	0.121	95% Percentile Bootstrap UCL	959.3
Kolmogorov-Smirnov 5% Critical Value	0.23	95% BCA Bootstrap UCL	971.4
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1289
		97.5% Chebyshev(Mean, Sd) UCL	1521
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1975
95% Approximate Gamma UCL (Use when n >= 40)	1016		
95% Adjusted Gamma UCL (Use when n < 40)	1058		
Potential UCL to Use		Use 95% Student's-t UCL	971.6

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Dieldrin (µg/kg)

General Statistics

Number of Valid Data	14	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	8
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	6	Minimum Detected	1.792
Maximum Detected	21	Maximum Detected	3.045
Mean of Detected	16	Mean of Detected	2.699
SD of Detected	5.477	SD of Detected	0.467
Minimum Non-Detect	9.4	Minimum Non-Detect	2.241
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	9
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	64.29%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.869	Shapiro Wilk Test Statistic	0.762
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	9.675	Mean	2.068
SD	6.622	SD	0.637
95% DL/2 (t) UCL	12.81	95% H-Stat (DL/2) UCL	14.44

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	18.01	Mean in Log Scale	2.243
SD	2.449	SD in Log Scale	0.53
95% MLE (t) UCL	19.17	Mean in Original Scale	10.77
95% MLE (Tiku) UCL	19.95	SD in Original Scale	5.908
		95% t UCL	13.57
		95% Percentile Bootstrap UCL	13.38
		95% BCA Bootstrap UCL	13.58
		95% H UCL	14.65

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	3.595	Data appear Normal at 5% Significance Level
Theta Star	4.451	
nu star	43.14	

		Nonparametric Statistics	
A-D Test Statistic	0.642		
5% A-D Critical Value	0.698	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.698	Mean	10.29
5% K-S Critical Value	0.333	SD	5.933
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.737
		95% KM (t) UCL	13.36
Assuming Gamma Distribution		95% KM (z) UCL	13.14
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	14.85
Minimum	0.000001	95% KM (bootstrap t) UCL	12.72
Maximum	21	95% KM (BCA) UCL	18.29
Mean	9.911	95% KM (Percentile Bootstrap) UCL	18
Median	8.169	95% KM (Chebyshev) UCL	17.86
SD	7.052	97.5% KM (Chebyshev) UCL	21.13
k star	0.284	99% KM (Chebyshev) UCL	27.57
Theta star	34.87		
Nu star	7.958	Potential UCLs to Use	
AppChi2	2.71	95% KM (t) UCL	13.36
95% Gamma Approximate UCL (Use when n >= 40)	29.1	95% KM (Percentile Bootstrap) UCL	18
95% Adjusted Gamma UCL (Use when n < 40)	33.98		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Total PCB Aroclors (µg/kg)

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	8

Raw Statistics		Log-transformed Statistics	
Minimum	630	Minimum of Log Data	6.446
Maximum	5400	Maximum of Log Data	8.594
Mean	3273	Mean of log Data	7.918
Geometric Mean	2747	SD of log Data	0.7
Median	3800		
SD	1670		
Std. Error of Mean	528.1		
Coefficient of Variation	0.51		
Skewness	-0.327		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.922	Shapiro Wilk Test Statistic	0.863
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	4241	95% H-UCL	6336
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	6803
95% Adjusted-CLT UCL (Chen-1995)	4083	97.5% Chebyshev (MVUE) UCL	8271
95% Modified-t UCL (Johnson-1978)	4232	99% Chebyshev (MVUE) UCL	11154

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.175	Data appear Normal at 5% Significance Level	
Theta Star	1505		
MLE of Mean	3273		
MLE of Standard Deviation	2219		
nu star	43.5		
Approximate Chi Square Value (.05)	29.38	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	4142
Adjusted Chi Square Value	27.37	95% Jackknife UCL	4241
		95% Standard Bootstrap UCL	4102
Anderson-Darling Test Statistic	0.533	95% Bootstrap-t UCL	4182
Anderson-Darling 5% Critical Value	0.732	95% Hall's Bootstrap UCL	4011
Kolmogorov-Smirnov Test Statistic	0.276	95% Percentile Bootstrap UCL	4060
Kolmogorov-Smirnov 5% Critical Value	0.268	95% BCA Bootstrap UCL	4030
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	5575
		97.5% Chebyshev(Mean, Sd) UCL	6571
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	8528
95% Approximate Gamma UCL (Use when n >= 40)	4847		
95% Adjusted Gamma UCL (Use when n < 40)	5201		

Potential UCL to Use	Use 95% Student's-t UCL	4241

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Chen's and Johnson's methods provide
adjustments for positvely skewed data sets.

Dieldrin (µg/kg)

General Statistics

Number of Valid Data	10	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	4
		Percent Non-Detects	40.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	7	Minimum Detected	1.946
Maximum Detected	63	Maximum Detected	4.143
Mean of Detected	34	Mean of Detected	3.289
SD of Detected	21.83	SD of Detected	0.831
Minimum Non-Detect	9.8	Minimum Non-Detect	2.282
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	60.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.944	Shapiro Wilk Test Statistic	0.921
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	23.79	Mean	2.813
SD	20.98	SD	0.894
95% DL/2 (t) UCL	35.95	95% H-Stat (DL/2) UCL	58.85

Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	46.46	Mean in Log Scale	2.845
SD	13.81	SD in Log Scale	0.86
95% MLE (t) UCL	54.47	Mean in Original Scale	24.06
95% MLE (Tiku) UCL	58.96	SD in Original Scale	20.78
		95% t UCL	36.11
		95% Percentile Bootstrap UCL	34.59
		95% BCA Bootstrap UCL	36.47
		95% H UCL	56.02

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.241	Data appear Normal at 5% Significance Level
Theta Star	27.39	
nu star	14.9	

		Nonparametric Statistics	
A-D Test Statistic	0.267		
5% A-D Critical Value	0.703	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.703	Mean	24
5% K-S Critical Value	0.335	SD	19.82
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	6.941
		95% KM (t) UCL	36.72
Assuming Gamma Distribution		95% KM (z) UCL	35.42
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	36.08
Minimum	0.000001	95% KM (bootstrap t) UCL	38.41
Maximum	63	95% KM (BCA) UCL	42.6
Mean	22.72	95% KM (Percentile Bootstrap) UCL	40
Median	15.28	95% KM (Chebyshev) UCL	54.26
SD	22.25	97.5% KM (Chebyshev) UCL	67.35
k star	0.215	99% KM (Chebyshev) UCL	93.07
Theta star	105.5		
Nu star	4.305	Potential UCLs to Use	
AppChi2	0.846	95% KM (t) UCL	36.72
95% Gamma Approximate UCL (Use when n >= 40)	115.6	95% KM (Percentile Bootstrap) UCL	40
95% Adjusted Gamma UCL (Use when n < 40)	158.5		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

APPENDIX I

Tissue Residue Evaluation

Critical Body Residue Data - Fish

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_ Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.006	MG/KG	Growth	ED08	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=length Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.006	MG/KG	Growth	ED08	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=length Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	5.32	MG/KG	Growth	ED09	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	5.32	MG/KG	Growth	ED09	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.06	MG/KG	Growth	ED11	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.06	MG/KG	Growth	ED11	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.78	MG/KG	Growth	ED11	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=length Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.78	MG/KG	Growth	ED11	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=length Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	5.32	MG/KG	Growth	ED12	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=length Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	5.32	MG/KG	Growth	ED12	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=length Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.78	MG/KG	Growth	ED16	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.78	MG/KG	Growth	ED16	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	5.32	MG/KG	Growth	ED16	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	5.32	MG/KG	Growth	ED16	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.78	MG/KG	Growth	ED19	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.

2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.78	MG/KG	Growth	ED19	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.06	MG/KG	Growth	ED21	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=wt Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.06	MG/KG	Growth	ED21	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=wt Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.06	MG/KG	Growth	ED21	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=wt Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	5.32	MG/KG	Growth	ED29	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=wt Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	5.32	MG/KG	Growth	ED29	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=wt Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2011	Erickson RJ, DR Mount, TL Highland, JR Hockett, CT Jenson	Aquat Toxicol 104:108-115	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	1.1	MG/KG	Mortality	LD06	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1990	McGeachy SM, DG Dixon	Can J Fish Aquat Sci 47:2228-2234	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	3.05	MG/KG	Mortality	LD30	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Test at 5 C
1981	Dixion DG, JB Sprague	J Fish Biol 18:579-589	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	0.4	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1981	Dixion DG, JB Sprague	J Fish Biol 18:579-589	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	2.6	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1981	Dixion DG, JB Sprague	J Fish Biol 18:579-589	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	3	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1981	Dixion DG, JB Sprague	J Fish Biol 18:579-589	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.7	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
2011	Erickson RJ, DR Mount, TL Highland, JR Hockett, CT Jenson	Aquat Toxicol 104:108-115	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	0.72	MG/KG	Mortality	LD56	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
2011	Erickson RJ, DR Mount, TL Highland, JR Hockett, CT Jenson	Aquat Toxicol 104:108-115	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	2.56	MG/KG	Mortality	LD56	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1990	McGeachy SM, DG Dixon	Can J Fish Aquat Sci 47:2228-2234	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	1.5	MG/KG	Mortality	LD7	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Test at 15 C
2011	Erickson RJ, DR Mount, TL Highland, JR Hockett, CT Jenson	Aquat Toxicol 104:108-115	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	15.4	MG/KG	Mortality	LD88	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1990	McGeachy SM, DG Dixon	Can J Fish Aquat Sci 47:2228-2234	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	1.5	MG/KG	Mortality	LOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Test at 15 C
1966	Gilderhus, P.A.	Trans Am Fish Soc 095:289-296	Lepomis macrochirus	Bluegill	Arsenic	7440-38-2	1.72	MG/KG	Reproduction	LOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Abnormal ovary and oocyte development. Weekly applications of sodium arsenite herbicide in artificial pond.
1966	Gilderhus, P.A.	Trans Am Fish Soc 095:289-296	Lepomis macrochirus	Bluegill	Arsenic	7440-38-2	2.24	MG/KG	Growth	LOED	Combined	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Decrease in weight gain. One application of sodium arsenite herbicide in artificial pond.
1966	Gilderhus, P.A.	Trans Am Fish Soc 095:289-296	Lepomis macrochirus	Bluegill	Arsenic	7440-38-2	2.24	MG/KG	Mortality	LOED	Combined	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Increase in mortality. One application of sodium arsenite herbicide in artificial pond.
1990	McGeachy SM, DG Dixon	Can J Fish Aquat Sci 47:2228-2234	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	3.05	MG/KG	Mortality	LOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Test at 5 C
1966	Gilderhus, P.A.	Trans Am Fish Soc 095:289-296	Lepomis macrochirus	Bluegill	Arsenic	7440-38-2	11.6	MG/KG	Growth	LOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Decrease in weight. Weekly appplications of sodium arsenite herbicide in artificial pond.
1966	Gilderhus, P.A.	Trans Am Fish Soc 095:289-296	Lepomis macrochirus	Bluegill	Arsenic	7440-38-2	11.6	MG/KG	Mortality	LOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Increased mortality. Weekly appplications of sodium arsenite herbicide in artificial pond.
1981	Dixon, D.G. and J.B. Sprague	J. Fish Biol. 18: 579-589	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	4.7	MG/KG	Mortality	NA	Absorption	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	Pre-exposure To Arsenic For 7 Days Produced Significant Increase In LC50 (reduced Sensitivity To Exposure) At Shortest Time Interval Tested
1990	McGeachy SM, DG Dixon	Can J Fish Aquat Sci 47:2228-2234	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	0.5	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Test at 15 C
1980	Barrows, M.E., S.R. Petrocelli, K.J. Macek and J.J. Carroll	p. 379-392 in Haque, R., ed. Dynamics, Exposure and Hazard Assessment of Toxic Chemicals	Lepomis macrochirus	Bluegill	Arsenic	7440-38-2	0.52	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No Effect On Mortality

1966	Gilderhus, P.A.	Trans Am Fish Soc 095:289-296	Lepomis macrochirus	Bluegill	Arsenic	7440-38-2	0.53	MG/KG	Reproduction	NOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Normal ovary and oocyte development. Weekly applications of sodium arsenite herbicide in artificial pond.
1990	McGeachy SM, DG Dixon	Can J Fish Aquat Sci 47:2228-2234	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	0.85	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Test at 5 C
1966	Gilderhus, P.A.	Trans Am Fish Soc 095:289-296	Lepomis macrochirus	Bluegill	Arsenic	7440-38-2	1.8	MG/KG	Growth	NOED	Combined	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No difference in weight gain. Weekly application of sodium arsenite herbicide in artificial pond.
1966	Gilderhus, P.A.	Trans Am Fish Soc 095:289-296	Lepomis macrochirus	Bluegill	Arsenic	7440-38-2	1.8	MG/KG	Mortality	NOED	Combined	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No increase in mortality. Weekly application of sodium arsenite herbicide in artificial pond.
1981	Dixon, D.G. and J.B. Sprague	J. Fish Biol. 18: 579-589	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	3	MG/KG	Growth	NOED	Absorption	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	No significant difference in weight gain.
1981	Dixon, D.G. and J.B. Sprague	J. Fish Biol. 18: 579-589	Oncorhynchus mykiss	Trout - Rainbow	Arsenic	7440-38-2	3	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	No mortality.
1966	Gilderhus, P.A.	Trans Am Fish Soc 095:289-296	Lepomis macrochirus	Bluegill	Arsenic	7440-38-2	5.5	MG/KG	Growth	NOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No difference in weight. Monthly applications of sodium arsenite herbicide in artificial pond.
1966	Gilderhus, P.A.	Trans Am Fish Soc 095:289-296	Lepomis macrochirus	Bluegill	Arsenic	7440-38-2	5.5	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No increase in mortality. Monthly applications of sodium arsenite herbicide in artificial pond.
1976	Sorensen EMB	Bull Environ Contam Toxicol 15:756-761	Lepomis cyanellus	Green sunfish	Arsenic	7440-38-2	108.2	MG/KG	Mortality	NOED	Water	Whole Body	NA	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Large fish
1976	Sorensen EMB	Bull Environ Contam Toxicol 15:756-761	Lepomis cyanellus	Green sunfish	Arsenic	7440-38-2	116.3	MG/KG	Growth	NOED	Water	Whole Body	NA	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Weight and Length
1976	Sorensen EMB	Bull Environ Contam Toxicol 15:756-761	Lepomis cyanellus	Green sunfish	Arsenic	7440-38-2	116.3	MG/KG	Mortality	NOED	Water	Whole Body	NA	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Large fish

Lowest LOED = 0.4 Not using
Highest NOED = 116.3

Year	Author	Publication Source	Species Scientific Name	Species Common Name	nalyte Nam	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	cies Body I	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2002	Hansen, J.A., P.G. Welsh, J. Lipton, M.J. Suedkamp	Aquat Toxicol 58:165-174	Salvelinus confluentus	Bull Trout	Cadmium	7440-43-9	0.032	MG/KG	Growth	LOED	Water	Whole Body	Fry	Not Specified	Not Specified	Weight
2002	Hansen, J.A., P.G. Welsh, J. Lipton, M.J. Suedkamp	Aquat Toxicol 58:165-174	Salvelinus confluentus	Bull Trout	Cadmium	7440-43-9	0.183	MG/KG	Growth	LOED	Water	Whole Body	Fry	Not Specified	Not Specified	Weight
1978	Beattie, J.H. and D. Pascoe	J. Fish. Biol. 13:631-637.	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.21	MG/KG	Mortality	LOED	Absorption	Whole Body	Egg-embryo	Cool streams	Carnivore-juv fish, inverts	Hatching Alevins Unable To Break Free From Egg Membrane, Died
1976	Benoit, D.A., E.N. Leonard, G.M. Christensen, and J.T. Fiandt	Trans Am Fish Soc 004, pp. 550-560	Salvelinus fontinalis	Trout - Brook	Cadmium	7440-43-9	0.25	MG/KG	Growth	LOED	Absorption	Whole Body	Egg	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	Decreased weight gain at 12 weeks.
1978	Spehar, R.L., Leonard, E.N., Defoe, D.L.	Trans Am Fish Soc 107(2): 354-360	Jordanella floridae	American flagfish	Cadmium	7440-43-9	0.4	MG/KG	Mortality	LOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burden Est. From Graph, Fish Initially Exposed As Embryos
1978	Spehar, R.L., Leonard, E.N., Defoe, D.L.	Trans Am Fish Soc 107(2): 354-360	Jordanella floridae	American flagfish	Cadmium	7440-43-9	0.4	MG/KG	Mortality	LOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burden Est. From Graph, Fish Not Exposed As Embryos
1977	Pascoe, D., and F.L. Mattey	J. Fish. Biol. 11, 207-215	Gasterosteus aculeatus	Three-spined Stickleback	Cadmium	7440-43-9	0.9	MG/KG	Mortality	LOED	Absorption	Whole Body	Adult	Shore zone northern hemisphere	Indiscriminate on smaller invertebrates, small fish fry,fish eggs diatoms	At least 80% mortality.
1982	Hatakeyama S, M Yasuno	Bull Environ Contam Toxicol 29:159-166	Poecilia reticulata	Guppy	Cadmium	7440-43-9	1	MG/KG	Growth	LOED	Water	Whole Body	Juvenile	Native to West Indies, n. South America; est. in AB, AZ, ID, NV, TX, WY, possibly CA; generally uncommon	Feeds on detritus, small invertebrates	Growth in Length
1982	Hatakeyama, S. and M. Yasuno	Bull Environ Contam Toxicol 29:159-166	Poecilia reticulata	Guppy	Cadmium	7440-43-9	1	MG/KG	Growth	LOED	Ingestion	Whole Body	Immature	Native to West Indies, n. South America; est. in AB, AZ, ID, NV, TX, WY, possibly CA; generally uncommon	Feeds on detritus, small invertebrates	Reduction In Body Length Within 10 Days
1982	Hatakeyama, S. and M. Yasuno	Bull Environ Contam Toxicol 29:159-166	Poecilia reticulata	Guppy	Cadmium	7440-43-9	1.2	MG/KG	Mortality	LOED	Ingestion	Whole Body	Immature	Native to West Indies, n. South America; est. in AB, AZ, ID, NV, TX, WY, possibly CA; generally uncommon	Feeds on detritus, small invertebrates	14% Reduction In Survival
1976	Spehar, R.L.	J Fish Res Bd Can 33	Jordanella floridae	American flagfish	Cadmium	7440-43-9	20	MG/KG	Growth	LOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Total Length Of Females
1987	Hamilton, S.J., Mehrle, P.M., and J.R. Jones	Trans Am Fish Soc 116: 551-560	Salvelinus fontinalis	Trout - Brook	Cadmium	7440-43-9	144	MG/KG	Mortality	LOED	Absorption	Whole Body	Immature	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	Significantly Reduced Survival At Lowest Test Concentration, Exp_conc = <3.6
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	5.00E-06	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	5.00E-06	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	7.00E-06	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	7.00E-06	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	1.50E-05	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	1.50E-05	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	1.80E-05	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	1.80E-05	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food

2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	3.00E-05	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	H2O Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	3.00E-05	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	H2O Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	3.80E-05	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	H2O Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	3.80E-05	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	H2O Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	6.50E-05	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	H2O Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	6.50E-05	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	H2O Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	8.00E-05	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	H2O Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	8.00E-05	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	H2O Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.0001	MG/KG	Growth	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.0001	MG/KG	Mortality	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.00015	MG/KG	Growth	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.00015	MG/KG	Mortality	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.0002	MG/KG	Growth	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.0002	MG/KG	Mortality	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca 60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.000275	MG/KG	Growth	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Food Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.000275	MG/KG	Mortality	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Food Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.0003	MG/KG	Growth	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.0003	MG/KG	Mortality	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	+ Ca60 mg/g in food
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.000325	MG/KG	Growth	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Food Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.000325	MG/KG	Mortality	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Food Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.00045	MG/KG	Growth	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Food Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.00045	MG/KG	Mortality	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Food Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.0005	MG/KG	Growth	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Food Cd
2005	Franklin NM, CN Glover, JA Nicol, CM Wood	Environ Tox & Chem 24:2954-2964	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.0005	MG/KG	Mortality	NOED	Food	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Food Cd

1976	Benoit, D.A., E.N. Leonard, G.M. Christensen, and J.T. Fiandt	Trans Am Fish Soc 004, pp. 550-560	Salvelinus fontinalis	Trout - Brook	Cadmium	7440-43-9	0.026	MG/KG	Mortality	NOED	Absorption	Whole Body	Egg	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	No effect on hatchability and survival of embryos. Parents exposed to 3.4 ug/L for up to 38 weeks.
1976	Benoit, D.A., E.N. Leonard, G.M. Christensen, and J.T. Fiandt	Trans Am Fish Soc 004, pp. 550-560	Salvelinus fontinalis	Trout - Brook	Cadmium	7440-43-9	0.042	MG/KG	Mortality	NOED	Absorption	Whole Body	Egg	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	No effect on hatchability and survival of 3rd generation embryos. Parents exposed to 3.4 ug/L for up to 105 weeks.
1972	Kumada H, S Kimura, M Yokote, Y Matida	Bull Fresh Fish Res 22:157-165	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.07	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1978	Spehar, R.L., Leonard, E.N., Defoe, D.L.	Trans Am Fish Soc 107(2): 354-360	Jordanella floridae	American flagfish	Cadmium	7440-43-9	0.09	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burden Est. From Graph, Fish Initially Exposed As Embryos
2002	Hansen, J.A., P.G. Welsh, J. Lipton, M.J. Suedkamp	Aquat Toxicol 58:165-174	Salvelinus confluentus	Bull Trout	Cadmium	7440-43-9	0.114	MG/KG	Mortality	NOED	Water	Whole Body	Fry	Not Specified	Not Specified	
1972	Kumada H, S Kimura, M Yokote, Y Matida	Bull Fresh Fish Res 22:157-165	Triborodon hakonensis	Dace	Cadmium	7440-43-9	0.17	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Not Specified	Not Specified	
1992	Handy, R.D.	Arch Environ Contam Toxicol 22:74-81	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.25	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Cool streams	Carnivore-juv fish, inverts	No Significant Effect On Mortality. Residue calculated at 6 hours exposure.
1978	Spehar, R.L., Leonard, E.N., Defoe, D.L.	Trans Am Fish Soc 107(2): 354-360	Jordanella floridae	American flagfish	Cadmium	7440-43-9	0.4	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burden Est. From Graph, Fish Not Exposed As Embryos
1972	Kumada H, S Kimura, M Yokote, Y Matida	Bull Fresh Fish Res 22:157-165	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.44	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1982	Hatakeyama, S. and M. Yasuno	Bull Environ Contam Toxicol 29:159-166	Poecilia reticulata	Guppy	Cadmium	7440-43-9	0.5	MG/KG	Growth	NOED	Ingestion	Whole Body	Immature	Native to West Indies, n. South America; est. in AB, AZ, ID, NV, TX, WY, possibly CA; generally uncommon	Feeds on detritus, small invertebrates	No difference in body length.
1994	Cope WG, JG Wiener, and GJ Atchison	Environ Sci Tech 13(4):553-562	Lepomis macrochirus	Bluegill	Cadmium	7440-43-9	0.52	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1994	Cope WG, JG Wiener, and GJ Atchison	Environ Sci Tech 13(4):553-562	Lepomis macrochirus	Bluegill	Cadmium	7440-43-9	0.52	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1994	Cope WG, JG Wiener, and GJ Atchison	Environ Sci Tech 13(4):553-562	Lepomis macrochirus	Bluegill	Cadmium	7440-43-9	0.52	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1994	Cope WG, JG Wiener, and GJ Atchison	Environ Sci Tech 13(4):553-562	Lepomis macrochirus	Bluegill	Cadmium	7440-43-9	0.52	MG/KG	Survival	NOED	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
2001	Hollis, L., C. Hogstrand, C.M. Wood	Arch Environ Contam Toxicol 41:468-474	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.9	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
2001	Hollis, L., C. Hogstrand, C.M. Wood	Arch Environ Contam Toxicol 41:468-474	Oncorhynchus mykiss	Trout - Rainbow	Cadmium	7440-43-9	0.9	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Rate
1982	Hatakeyama, S. and M. Yasuno	Bull Environ Contam Toxicol 29:159-166	Poecilia reticulata	Guppy	Cadmium	7440-43-9	1	MG/KG	Mortality	NOED	Ingestion	Whole Body	Immature	Native to West Indies, n. South America; est. in AB, AZ, ID, NV, TX, WY, possibly CA; generally uncommon	Feeds on detritus, small invertebrates	No increase in mortality.
1989	Douben PET	Arch Environ Contam Toxicol 18:579-586	Nomacheilus barbatulus	Stone Loach	Cadmium	7440-43-9	2.3	MG/KG	Mortality	NOED	Water	Whole Body	NS	Not Specified	Not Specified	Initial average weight was 2.7g
1995	Shazili NAM	Bull Environ Contam Toxicol 54:22-28	Lates calcarifer	Seabass; Barramundi; Giant Perch	Cadmium	7440-43-9	2.5	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Not Specified	Not Specified	20 ppt Seawater
1982	Hatakeyama, S. and M. Yasuno	Bull Environ Contam Toxicol 29:159-166	Poecilia reticulata	Guppy	Cadmium	7440-43-9	5	MG/KG	Growth	NOED	Absorption	Whole Body	Immature	Native to West Indies, n. South America; est. in AB, AZ, ID, NV, TX, WY, possibly CA; generally uncommon	Feeds on detritus, small invertebrates	No difference in body length..
1982	Hatakeyama, S. and M. Yasuno	Bull Environ Contam Toxicol 29:159-166	Poecilia reticulata	Guppy	Cadmium	7440-43-9	5	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Native to West Indies, n. South America; est. in AB, AZ, ID, NV, TX, WY, possibly CA; generally uncommon	Feeds on detritus, small invertebrates	No increase in mortality.
1978	Spehar, R.L., Leonard, E.N., Defoe, D.L.	Trans Am Fish Soc 107(2): 354-360	Jordanella floridae	American flagfish	Cadmium	7440-43-9	6	MG/KG	Growth	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burden Est. From Graph
1978	Spehar, R.L., Leonard, E.N., Defoe, D.L.	Trans Am Fish Soc 107(2): 354-360	Jordanella floridae	American flagfish	Cadmium	7440-43-9	6	MG/KG	Reproduction	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burden Est. From Graph

1976	Spehar, R.L.	J Fish Res Bd Can 33	Jordanella floridae	American flagfish	Cadmium	7440-43-9	10	MG/KG	Growth	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Total Length Of Females
1976	Spehar, R.L.	J Fish Res Bd Can 33	Jordanella floridae	American flagfish	Cadmium	7440-43-9	35	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	
1987	Hamilton, SJ, PM Mehrle, and JR Jones	Trans Am Fish Soc 116:551-560	Salvelinus fontinalis	Trout - Brook	Cadmium	7440-43-9	751	MG/KG	Growth	NOED	Water	Whole Body	Fry	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	

Lowest LOED = 0.032
Highest NOED = 751

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1996	Stouthart XJHX, JLM Haans, RAC Lock, SE Wendelaar Bonga	Environ Tox & Chem 15:376-383	Cyprinus carpio	Common carp	Copper	7440-50-8	11.44	MG/KG	Mortality	LD14	Water	Whole Body	Larval	Warm lakes, ponds, streams	Omnivore-plants, detritus	pH 7.6
1996	Stouthart XJHX, JLM Haans, RAC Lock, SE Wendelaar Bonga	Environ Tox & Chem 15:376-383	Cyprinus carpio	Common carp	Copper	7440-50-8	20.34	MG/KG	Mortality	LD29	Water	Whole Body	Egg	Warm lakes, ponds, streams	Omnivore-plants, detritus	pH 6.3
1996	Stouthart XJHX, JLM Haans, RAC Lock, SE Wendelaar Bonga	Environ Tox & Chem 15:376-383	Cyprinus carpio	Common carp	Copper	7440-50-8	8.9	MG/KG	Mortality	LD47	Water	Whole Body	Larval	Warm lakes, ponds, streams	Omnivore-plants, detritus	pH 6.3
1996	Stouthart XJHX, JLM Haans, RAC Lock, SE Wendelaar Bonga	Environ Tox & Chem 15:376-383	Cyprinus carpio	Common carp	Copper	7440-50-8	101.68	MG/KG	Mortality	LD81	Water	Whole Body	Larval	Warm lakes, ponds, streams	Omnivore-plants, detritus	pH 6.3
2002	Hansen, JA, J Lipton, PG Welsh, J Morris, D Cacela, MJ Suedkamp	Aquat Toxicol 58:175-188	Oncorhynchus mykiss	Trout - Rainbow	Copper	7440-50-8	1.96	MG/KG	Growth	LOED	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	weight
2002	Hansen, JA, J Lipton, PG Welsh, J Morris, D Cacela, MJ Suedkamp	Aquat Toxicol 58:175-188	Oncorhynchus mykiss	Trout - Rainbow	Copper	7440-50-8	2.6	MG/KG	Mortality	LOED	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	
1994	Mount, D.R., A.K. Barth, T.D.Garrison, K.A. Barten, and J.R. Hockett	Environ Tox & Chem 13(12):2031-2041	Oncorhynchus mykiss	Trout - Rainbow	Copper	7440-50-8	4.48	MG/KG	Survival	LOED	Combined	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	
2002	Hansen J.A., P.G. Welsh, J. Lipton, D. Cacela	Trans Am Fish Soc 131:690-697	Salvelinus confluentus	Bull Trout	Copper	7440-50-8	7.58	MG/KG	Mortality	LOED	Water	Whole Body	Fry	Not Specified	Not Specified	
1996	Stouthart XJHX, JLM Haans, RAC Lock, SE Wendelaar Bonga	Environ Tox & Chem 15:376-383	Cyprinus carpio	Common carp	Copper	7440-50-8	11.44	MG/KG	Mortality	LOED	Water	Whole Body	Larval	Warm lakes, ponds, streams	Omnivore-plants, detritus	pH 7.6
2002	Flik, G., X.J.H.X. Stouthart, F.A.T. Spanings, R.A.C. Lock, J.C. Fenwick, S.E.W. Bonga	Aquat Toxicol 56:167-176	Cyprinus carpio	Common carp	Copper	7440-50-8	11.7	MG/KG	Mortality	LOED	Water	Whole Body	Egg	Warm lakes, ponds, streams	Omnivore-plants, detritus	Embryo whole body sampled.
2002	Hansen J.A., P.G. Welsh, J. Lipton, D. Cacela	Trans Am Fish Soc 131:690-697	Salvelinus confluentus	Bull Trout	Copper	7440-50-8	19.79	MG/KG	Mortality	LOED	Water	Whole Body	Fry	Not Specified	Not Specified	
2002	Hansen J.A., P.G. Welsh, J. Lipton, D. Cacela	Trans Am Fish Soc 131:690-697	Salvelinus confluentus	Bull Trout	Copper	7440-50-8	19.79	MG/KG	Mortality	LOED	Water	Whole Body	Fry	Not Specified	Not Specified	
1996	Stouthart XJHX, JLM Haans, RAC Lock, SE Wendelaar Bonga	Environ Tox & Chem 15:376-383	Cyprinus carpio	Common carp	Copper	7440-50-8	20.34	MG/KG	Mortality	LOED	Water	Whole Body	Egg	Warm lakes, ponds, streams	Omnivore-plants, detritus	pH 6.3
2011	Hoang TC, RL Pryor, GM Rand, and RA Frakes	Ecotox & Environ Saf 74:1011-1020	Gambusia affinis	Mosquito fish	Copper	7440-50-8	1.506	MG/KG	Mortality	NOED	Combined	Whole Body	Juvenile	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	AGLR sediments;tissue determined at 150 d; tissue burdens not significantly diff than reference; Data compared with reference site EQUUS
2002	Hansen, JA, J Lipton, PG Welsh, J Morris, D Cacela, MJ Suedkamp	Aquat Toxicol 58:175-188	Oncorhynchus mykiss	Trout - Rainbow	Copper	7440-50-8	1.68	MG/KG	Growth	NOED	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	weight
2001	Kamunda CN, M Grosell, JNA Lott, and CM Wood	Can J Fish Aquat Sci 58:293-305	Oncorhynchus mykiss	Trout - Rainbow	Copper	7440-50-8	1.72	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
2001	Kamunda CN, M Grosell, JNA Lott, and CM Wood	Can J Fish Aquat Sci 58:293-305	Oncorhynchus mykiss	Trout - Rainbow	Copper	7440-50-8	1.72	MG/KG	Mortality	NOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
2002	Hansen, JA, J Lipton, PG Welsh, J Morris, D Cacela, MJ Suedkamp	Aquat Toxicol 58:175-188	Oncorhynchus mykiss	Trout - Rainbow	Copper	7440-50-8	2	MG/KG	Mortality	NOED	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	
1996	Stouthart XJHX, JLM Haans, RAC Lock, SE Wendelaar Bonga	Environ Tox & Chem 15:376-383	Cyprinus carpio	Common carp	Copper	7440-50-8	5.08	MG/KG	Mortality	NOED	Water	Whole Body	Larval	Warm lakes, ponds, streams	Omnivore-plants, detritus	pH 7.6
2001	Kamunda CN, M Grosell, JNA Lott, and CM Wood	Can J Fish Aquat Sci 58:293-305	Oncorhynchus mykiss	Trout - Rainbow	Copper	7440-50-8	5.24	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
2001	Kamunda CN, M Grosell, JNA Lott, and CM Wood	Can J Fish Aquat Sci 58:293-305	Oncorhynchus mykiss	Trout - Rainbow	Copper	7440-50-8	5.24	MG/KG	Mortality	NOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
2011	Hoang TC, RL Pryor, GM Rand, and RA Frakes	Ecotox & Environ Saf 74:1011-1020	Gambusia affinis	Mosquito fish	Copper	7440-50-8	5.69	MG/KG	Reproduction	NOED	Combined	Whole Body	Juvenile	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	SRB sediments; tissue burdens not significantly diff than reference Data compared with reference site EQUUS

2011	Hoang TC, RL Pryor, GM Rand, and RA Frakes	Ecotox & Environ Saf 74:1011-1020	Gambusia affinis	Mosquito fish	Copper	7440-50-8	7.53	MG/KG	Growth	NOED	Combined	Whole Body	Juvenile	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	Standard length, AGLR sediments;tissue determined at 150 d; tissue burdens not significantly diff than reference; Data compared with reference site EQUUS
2011	Hoang TC, RL Pryor, GM Rand, and RA Frakes	Ecotox & Environ Saf 74:1011-1020	Gambusia affinis	Mosquito fish	Copper	7440-50-8	7.53	MG/KG	Reproduction	NOED	Combined	Whole Body	Juvenile	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	AGLR sediments;tissue determined at 150 d; tissue burdens not significantly diff than reference; Data compared with reference site EQUUS
1996	Stouthart XJHX, JLM Haans, RAC Lock, SE Wendelaar Bonga	Environ Tox & Chem 15:376-383	Cyprinus carpio	Common carp	Copper	7440-50-8	8.9	MG/KG	Mortality	NOED	Water	Whole Body	Egg	Warm lakes, ponds, streams	Omnivore-plants, detritus	pH 6.3
2007	Hoyle I, BJ Shaw, RD Handy	Aquat Toxicol 83:62-72	Clarias gariepinus	Sharptooth Catfish	Copper	7440-50-8	16.27	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Not Specified	Not Specified	Weight
2007	Hoyle I, BJ Shaw, RD Handy	Aquat Toxicol 83:62-72	Clarias gariepinus	Sharptooth Catfish	Copper	7440-50-8	16.27	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Not Specified	Not Specified	SGR
2002	Hansen J.A., P.G. Welsh, J. Lipton, D. Cacela	Trans Am Fish Soc 131:690-697	Salvelinus confluentus	Bull Trout	Copper	7440-50-8	19.79	MG/KG	Growth	NOED	Water	Whole Body	Fry	Not Specified	Not Specified	Length
2002	Hansen J.A., P.G. Welsh, J. Lipton, D. Cacela	Trans Am Fish Soc 131:690-697	Salvelinus confluentus	Bull Trout	Copper	7440-50-8	19.79	MG/KG	Growth	NOED	Water	Whole Body	Fry	Not Specified	Not Specified	Weight

Lowest LOED = 1.96
Highest NOED = 19.79

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Lead	7439-92-1	0.278	MG/KG	Growth	ED11	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=length Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Lead	7439-92-1	0.278	MG/KG	Growth	ED11	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=length Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Lead	7439-92-1	0.278	MG/KG	Growth	ED16	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Lead	7439-92-1	0.278	MG/KG	Growth	ED16	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Lead	7439-92-1	0.278	MG/KG	Growth	ED19	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Lead	7439-92-1	0.278	MG/KG	Growth	ED19	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Growth rate (%/d) Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Lead	7439-92-1	0.278	MG/KG	Growth	ED30	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=wt Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
2004	Hansen JA; J Lipton; PG Welsh; D Cacela; B MacConnell	Environ Tox & Chem 23:1902-1911	Oncorhynchus mykiss	Trout - Rainbow	Lead	7439-92-1	0.278	MG/KG	Growth	ED30	Ingestion	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	growth=wt Fed trout oligochaetes reared in contaminated sediments. Exposed to As and/or Pb. Concluded As was primarily responsible for the toxicity exhibited. Histopathic measurements were taken but were not quantified.
1976	Holcombe, G.W., D.A. Benoit, E.N. Leonard and J.M. Mckim	J Fish Res Bd Can 33:1731-1741.	Salvelinus fontinalis	Trout - Brook	Lead	7439-92-1	4	MG/KG	Growth	LOED	Absorption	Whole Body	Egg-embryo	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	Reduced weight gain in third generation. First and second generations exposed to 119 ug/L for up to 2 years.
1976	Holcombe, G.W., D.A. Benoit, E.N. Leonard and J.M. Mckim	J Fish Res Bd Can 33:1731-1741.	Salvelinus fontinalis	Trout - Brook	Lead	7439-92-1	2.55	MG/KG	Growth	NOED	Absorption	Whole Body	Egg-embryo	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	No effect on weight gain in third generation. First and second generation exposed to 58 ug/L for up to 2 years.
1976	Holcombe GW, DA Benoit, EN Leonard, JM McKim	J Fish Res Board Can 33:1731-1741	Salvelinus fontinalis	Trout - Brook	Lead	7439-92-1	4.02	MG/KG	Growth	NOED	Water	Whole Body	Egg	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	F2 Offspring with Spinal Deformations were counted as unsucessful, discarded and removed from the Growth calculations
1976	Holcombe, G.W., D.A. Benoit, E.N. Leonard and J.M. Mckim	J Fish Res Bd Can 33:1731-1741.	Salvelinus fontinalis	Trout - Brook	Lead	7439-92-1	4.02	MG/KG	Mortality	NOED	Absorption	Whole Body	Egg-embryo	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	No effect on mortality after hatch in third generation. First and second generation exposed to 119 ug/L for up to 2 years.

Lowest LOED = 0.278
Highest NOED = 4.02

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1979	Heisinger, J.F., C.D. Hansen, and J.H. Kim.	Arch Environ Contam Toxicol 08:279-283	Carassius auratus	Goldfish	Mercury	7439-97-6	7	MG/KG	Mortality	LD100	Absorption	Whole Body	Adult	Widespread in US (introduced), warm lakes, ponds, quiet streams, particularly in weedy situations	Feeds on detritus, small invertebrates, organic ooze	No fish with residues above 7 mg/kg survived.
1979	Hawryshyn, C.W. and W.C. Mackay	Bull Environ Contam Toxicol 23:79-86	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	15	MG/KG	Mortality	LD100	Injection	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	100% Mortality In 15 Days
1979	Birge WJ, JA Black, AG Westerman, JE Hudson	The Biogeochemistry of Mercury, pg 629-655	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	90.2	MG/KG	Mortality	LD100	Absorption	Whole Body	Embryo	Cool streams	Carnivore-juv fish, inverts	Duration = 4d posthatch
1977	Noel-Lambot, F. and J.M. Bouquegneau.	Bull Environ Contam Toxicol 18(4):418-424	Anguilla anguilla	European eel	Mercury	7439-97-6	15.3	MG/KG	Mortality	LD25	Absorption	Whole Body	NA	Not Specified	Not Specified	No increase in mortality. Freshwater eel adapted to seawater for test.
1979	Birge WJ, JA Black, AG Westerman, JE Hudson	The Biogeochemistry of Mercury, pg 629-655	Ictalurus punctatus	Catfish-Channel	Mercury	7439-97-6	0.06	MG/KG	Mortality	LD50	Water	Whole Body	Embryo	Rapid water streams	Omnivore	Duration = 4d posthatch
1979	Hawryshyn, CW, WC Mackay	Bull Environ Contam Toxicol 23:79-86	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	1.02	MG/KG	Mortality	LD50	Injection	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	IP injection, anterior to pelvic fins.
1979	Hawryshyn, C.W. and W.C. Mackay	Bull Environ Contam Toxicol 23:79-86	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	5.1	MG/KG	Mortality	LD50	Injection	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	15 Day LD50 For Single Intraperitoneal Injection
1970	Mieltinen, E Blankenstein, K Rissanen, M Valtonen	FAO Tech Conference 99:171-172	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	11.9	MG/KG	Mortality	LD50	Ingestion	Whole Body	NS	Cool streams	Carnivore-juv fish, inverts	300g initial average weight
1970	Mieltinen, E Blankenstein, K Rissanen, M Valtonen	FAO Tech Conference 99:171-172	Esox lucius	Northern Pike	Mercury	7439-97-6	15	MG/KG	Mortality	LD50	Ingestion	Whole Body	NS	Open waters of lakes, ponds, streams	Small fish, occasional small muskrat, duckling or frog	300g initial average weight
1998	Vollestad LA, E Fjeld, T Haugen, SA Oxnevad	Environ Pollut 101:349-354	Thymallus thymallus	Grayling	Mercury	7439-97-6	3.8	MG/KG	Mortality	LD53	Water	Whole Body	Egg	NS	Not Specified	
1979	Birge WJ, JA Black, AG Westerman, JE Hudson	The Biogeochemistry of Mercury, pg 629-655	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	26.9	MG/KG	Mortality	LD76	Absorption	Whole Body	Embryo	Cool streams	Carnivore-juv fish, inverts	Duration = 4d posthatch
1979	Heisinger, J.F., C.D. Hansen, and J.H. Kim.	Arch Environ Contam Toxicol 08:279-283	Carassius auratus	Goldfish	Mercury	7439-97-6	5.6	MG/KG	Mortality	LD80	Absorption	Whole Body	Adult	Widespread in US (introduced), warm lakes, ponds, quiet streams, particularly in weedy situations	Feeds on detritus, small invertebrates, organic ooze	Residues measured in surviving fish only.
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	1.31	MG/KG	Growth	LOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	1.36	MG/KG	Growth	LOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	30-day Exposure: Progeny Of Exposed Fish
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	1.36	MG/KG	Growth	LOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	Weight Of Females
1979	Hawryshyn, C.W. and W.C. Mackay	Bull Environ Contam Toxicol 23:79-86	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	2	MG/KG	Mortality	LOED	Injection	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	Increase in mortality.
1996	Friedmann, A.S., M.C. Watzin, T. Brinck-Johnsen and J.C. Leiter	Aquat Toxicol 35:265-278	Stizostedion vitreum	Walleye	Mercury	7439-97-6	2.37	MG/KG	Growth	LOED	Ingestion	Whole Body	Immature	Great Lakes region, upper Mississippi north to Assiniboia, east toVT, PA, GA, AB; in clear water with rocks, gravel, sand bottom	Carnivorous; largely on various minnows, occasionally young whitefish	Significant Reduction In Length And Weight Of Males, But Not Females
1998	Vollestad LA, E Fjeld, T Haugen, SA Oxnevad	Environ Pollut 101:349-354	Thymallus thymallus	Grayling	Mercury	7439-97-6	3.8	MG/KG	Reproduction	LOED	Water	Whole Body	Egg	NS	Not Specified	Hatching Success
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	4.18	MG/KG	Mortality	LOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	4.76	MG/KG	Growth	LOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	
1975	Wobeser, G.	J Fish Res Bd Can 32(11), 2015-2023.	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	10	MG/KG	Mortality	LOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Increase in mortality. Residue is injected dose (i.p.).
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	18.8	MG/KG	Growth	LOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	Weight Of Males
1990	Wiener, J.G., Fitzgerald, W.F., Watras, C.J., Rada, R.G.	Environ Tox & Chem 09:909-918	Perca flavescens	Yellow perch	Mercury	7439-97-6	0.135	MG/KG	Growth	NOED	Combined	Whole Body	Adult	East US to NS streams, lakes	Carnivore-aquatic insects, fish, inverts	Controlled Field Study; Two Years But Only 1-year Old Fish Analyzed; Basin Treated By Reducing Ph From About 6 To 5.6
1985	Boudou, A. and F. Ribeyre	Water Air Soil Pollut. 26:137-148.	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	0.14	MG/KG	Mortality	NOED	Ingestion	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	No Effect On Mortality
1979	Kudo, A. and D.C. Mortimer.	Environ Pollut 019:239-245.	Poecilia reticulata	Guppy	Mercury	7439-97-6	0.2	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Native to West Indies, n. South America; est. in AB, AZ, ID, NV, TX, WY, possibly CA; generally uncommon	Feeds on detritus, small invertebrates	No increase in mortality.
1996	Friedmann, A.S., M.C. Watzin, T. Brinck-Johnsen and J.C. Leiter	Aquat Toxicol 35:265-278	Stizostedion vitreum	Walleye	Mercury	7439-97-6	0.25	MG/KG	Growth	NOED	Ingestion	Whole Body	Immature	Great Lakes region, upper Mississippi north to Assiniboia, east toVT, PA, GA, AB; in clear water with rocks, gravel, sand bottom	Carnivorous; largely on various minnows, occasionally young whitefish	No Effect On Length Or Weight
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	0.32	MG/KG	Growth	NOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	30-day Exposure: Progeny Of Exposed Fish
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	0.32	MG/KG	Growth	NOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	Weight Of Females

1985	Boudou, A. and F. Ribeyre	Water Air Soil Pollut. 26:137-148.	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	0.47	MG/KG	Mortality	NOED	Ingestion	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	No Effect On Mortality
1977	Noel-Lambot, F. and J.M. Bouquegneau.	Bull Environ Contam Toxicol 18(4):418-424	Anguilla anguilla	European eel	Mercury	7439-97-6	0.56	MG/KG	Mortality	NOED	Absorption	Whole Body	NA	Not Specified	Not Specified	No increase in mortality. Freshwater eel adapted to seawater for test.
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	0.8	MG/KG	Growth	NOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	
1978	Phillips GR, DR Buhler	Trans Am Fish Soc 107-853-861	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	0.99	MG/KG	Growth	NOED	Combined	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1978	Phillips GR, DR Buhler	Trans Am Fish Soc 107-853-861	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	2.28	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1996	Friedmann, A.S., M.C. Watzin, T. Brinck-Johnsen and J.C. Leiter	Aquat Toxicol 35:265-278	Stizostedion vitreum	Walleye	Mercury	7439-97-6	2.37	MG/KG	Mortality	NOED	Ingestion	Whole Body	Immature	Great Lakes region, upper Mississippi north to Assiniboia, east toVT, PA, GA, AB; in clear water with rocks, gravel, sand bottom	Carnivorous; largely on various minnows, occasionally young whitefish	No Statistically Significant Increase In Mortality
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	2.64	MG/KG	Growth	NOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	2.75	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	
1978	Phillips GR, DR Buhler	Trans Am Fish Soc 107-853-861	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	2.96	MG/KG	Growth	NOED	Combined	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1998	Vollestad LA, E Fjeld, T Haugen, SA Oxnevad	Environ Pollut 101:349-354	Thymallus thymallus	Grayling	Mercury	7439-97-6	3.8	MG/KG	Growth	NOED	Water	Whole Body	Egg	NS	Not Specified	
1979	Heisinger, J.F., C.D. Hansen, and J.H. Kim.	Arch Environ Contam Toxicol 08:279-283	Carassius auratus	Goldfish	Mercury	7439-97-6	6.2	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Widespread in US (introduced), warm lakes, ponds, quiet streams, particularly in weedy situations	Feeds on detritus, small invertebrates, organic ooze	No significant increase in mortality.
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	7.6	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	
1982	Snarski, V.M., Olson, G.F.	Aquat Toxicol 2:143-156	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	9.41	MG/KG	Growth	NOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	Weight Of Males
1975	Olson GF, DJ Mount, VM Snarski, TW Thorslund	Bull Environ Contam Toxicol 14:129-134	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	10.69	MG/KG	Growth	NOED	Water	Whole Body	Embryo	Lakes, ponds, streams	Not Specified	
1975	Olson GF, DJ Mount, VM Snarski, TW Thorslund	Bull Environ Contam Toxicol 14:129-134	Pimephales promelas	Fathead minnow	Mercury	7439-97-6	10.69	MG/KG	Survival	NOED	Water	Whole Body	Embryo	Lakes, ponds, streams	Not Specified	
1984	Niimi AJ, L Lowe-Jinde	Arch Environ Contam Toxicol 13:303-311	Oncorhynchus mykiss	Trout - Rainbow	Mercury	7439-97-6	12	MG/KG	Survival	NOED	Water	Whole Body	NA	Cool streams	Carnivore-juv fish, inverts	

Lowest LOED = 0.06
Highest NOED = 12

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2006	Muscatello JR, PM Bennett, KT Himbeault, AM Belknap, DM Janz	Environ Sci Technol 40:6506-6512	Esox lucius	Northern Pike	Selenium	7782-49-2	1	MG/KG	Reproduction	ED01	Combined	Whole Body	Adult	Open waters of lakes, ponds, streams	Small fish, occasional small muskrat, duckling or frog	Calculated ED values for total deformities in embryos. Estimates made from adult muscle tissue and extrapolated to whole-body Eggs are from adult females collected at Delta lake which is considered the med selenium contaminated site.
2006	Muscatello JR, PM Bennett, KT Himbeault, AM Belknap, DM Janz	Environ Sci Technol 40:6506-6512	Esox lucius	Northern Pike	Selenium	7782-49-2	1.64	MG/KG	Reproduction	ED05	Combined	Whole Body	Adult	Open waters of lakes, ponds, streams	Small fish, occasional small muskrat, duckling or frog	Calculated ED values for total deformities in embryos. Estimates made from adult muscle tissue and extrapolated to whole-body Eggs are from adult females collected at Delta lake which is considered the med selenium contaminated site.
1986	Gillespie RB, PC Baumann	Trans Am Fish Soc 115:208-213	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	5.64	MG/KG	Reproduction	ED100	Water	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Larval Abnormalities,HxH cross Residue measured in Larvae Exp_concentration recorded from Hyco Reservoir. 1982
2006	Muscatello JR, PM Bennett, KT Himbeault, AM Belknap, DM Janz	Environ Sci Technol 40:6506-6512	Esox lucius	Northern Pike	Selenium	7782-49-2	3.54	MG/KG	Reproduction	ED20	Combined	Whole Body	Adult	Open waters of lakes, ponds, streams	Small fish, occasional small muskrat, duckling or frog	Calculated ED values for total deformities in embryos. Estimates made from adult muscle tissue and extrapolated to whole-body Eggs are from adult females collected at Delta lake which is considered the med selenium contaminated site.
1986	Bennett, W.N., A.S. Brooks and M.E. Boraas	Arch Environ Contam Toxicol 15:513-517	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	10.3	MG/KG	Growth	ED28	Ingestion	Whole Body	Larval	Lakes, ponds, streams	Not Specified	28% Reduction in weight gain. Larval uptake of 1.46 ng selenium per day.
2006	Tashjian DH, SJ The, A Sogmonyan, SSO Hung	Aquat Toxicol. 1:313-327	Acipenser transmontanus	White sturgeon	Selenium	7782-49-2	4.5	MG/KG	Growth	ED33	Ingestion	Whole Body	Juvenile	Not Specified	Not Specified	BWI
2006	Tashjian DH, SJ The, A Sogmonyan, SSO Hung	Aquat Toxicol. 1:313-327	Acipenser transmontanus	White sturgeon	Selenium	7782-49-2	6.88	MG/KG	Growth	ED62	Ingestion	Whole Body	Juvenile	Not Specified	Not Specified	BWI
1986	Gillespie RB, PC Baumann	Trans Am Fish Soc 115:208-213	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	5.64	MG/KG	Reproduction	ED88	Water	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Larval Abnormalities,HxH cross Exp_concentration recorded from Hyco Reservoir. Residues measured in Larvae. 1983
2006	Tashjian DH, SJ The, A Sogmonyan, SSO Hung	Aquat Toxicol. 1:313-327	Acipenser transmontanus	White sturgeon	Selenium	7782-49-2	5.5	MG/KG	Growth	ED90	Ingestion	Whole Body	Juvenile	Not Specified	Not Specified	BWI
1978	Gissel-Nielsen M and G Gissel-Nielsen	Agri Environ.	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	2.1	MG/KG	Mortality	LD100	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	
1978	Gissel-Nielsen M and G Gissel-Nielsen	Agri Environ.	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	2.2	MG/KG	Mortality	LD100	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	
1978	Gissel-Nielsen M and G Gissel-Nielsen	Agri Environ.	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	3.6	MG/KG	Mortality	LD100	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	
1978	Gissel-Nielsen M and G Gissel-Nielsen	Agri Environ.	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	3.6	MG/KG	Mortality	LD100	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	
1978	Gissel-Nielsen M and G Gissel-Nielsen	Agri Environ.	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	5.8	MG/KG	Mortality	LD100	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	
1993	Cleveland L, EE Little, DR Buckler, and RH Wiedmeyer	Aquat Toxicol	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	2.38	MG/KG	Mortality	LD15	Ingestion	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1993	Cleveland L, EE Little, DR Buckler, and RH Wiedmeyer	Aquat Toxicol	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	0.98	MG/KG	Mortality	LD18	Ingestion	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1993	Cleveland L, EE Little, DR Buckler, and RH Wiedmeyer	Aquat Toxicol	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	0.68	MG/KG	Mortality	LD20	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1993	Cleveland L, EE Little, DR Buckler, and RH Wiedmeyer	Aquat Toxicol	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	0.9	MG/KG	Mortality	LD21	Ingestion	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1978	Gissel-Nielsen M and G Gissel-Nielsen	Agri Environ.	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	1.25	MG/KG	Mortality	LD30	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	
1993	Cleveland L, EE Little, DR Buckler, and RH Wiedmeyer	Aquat Toxicol	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	0.8	MG/KG	Mortality	LD40	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1993	Cleveland L, EE Little, DR Buckler, and RH Wiedmeyer	Aquat Toxicol	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	1.04	MG/KG	Mortality	LD47	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1978	Gissel-Nielsen M and G Gissel-Nielsen	Agri Environ.	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	1.04	MG/KG	Mortality	LD50	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	
1993	Cleveland L, EE Little, DR Buckler, and RH Wiedmeyer	Aquat Toxicol	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	1.42	MG/KG	Mortality	LD55	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	

1978	Gissel-Nielsen M and G Gissel-Nielsen	Agri Environ.	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	1.68	MG/KG	Mortality	LD75	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	
1993	Cleveland L, EE Little, DR Buckler, and RH Wiedmeyer	Aquat Toxicol	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	2.96	MG/KG	Mortality	LD88	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1993	Coyle JJ, DR Buckler, CG Ingersoll, JF Fairchild, and TW May	Environ Tox & Chem 12:551-565	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	3.6	MG/KG	Mortality	LD92	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Reduced survival of newly hatched larvae; Results support field observations that food chain accumulation of Se can severely reduce reproductive success of bluegills; there was diferential uptake into reproductive organs
1986	Bertram, P.E. and A.S. Brooks.	Wat. Res. 20(7):877-884.	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	0.18	MG/KG	Growth	LOED	Absorption	Whole Body	Adult	Lakes, ponds, streams	Not Specified	Decrease weight gain.
2003	Hamilton SJ	Ecotoxicol Environ Saf 56:201-210	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	0.92	MG/KG	Growth	LOED	NS	Whole Body	NS	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Review paper Cleveland et al 1993
1993	Lemly, A.D.	Aquat Toxicol 27:133-158	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	1.2	MG/KG	Growth	LOED	Combined	Whole Body	Immature	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Reduced weight to length ratio. Exposure at 4 degrees C. Concurrent epxosure to 5 ug inorganic Se/L in water and 5.1 ug Seleno-L-Methionine/g in food.
1989	Ogle, R.S. and A.W. Knight	Arch Environ Contam Toxicol 18:795-803	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	1.4	MG/KG	Growth	LOED	Ingestion	Whole Body	Adult	Lakes, ponds, streams	Not Specified	Significant decrease in body weight gain.
1993	Lemly, A.D.	Aquat Toxicol 27:133-158	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	1.6	MG/KG	Mortality	LOED	Combined	Whole Body	Immature	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	35% Increase in mortality. Exposure at 4 degrees C. Concurrent epxosure to 5 ug inorganic Se/L in water and 5.1 ug Seleno-L-Methionine/g in food.
1992	Hermanutz, R.O., Allen, K.N., Roush, T.H., and S.F. Hedtke	Environ Tox & Chem 11: 217-224	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	4.6	MG/KG	Mortality	LOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1986	Bennett, W.N., A.S. Brooks and M.E. Boraas	Arch Environ Contam Toxicol 15:513-517	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	8.6	MG/KG	Growth	LOED	Ingestion	Whole Body	Larval	Lakes, ponds, streams	Not Specified	46% Reduction in weight gain. Larval uptake was 1.46 ng selenium per day.
1996	Dobbs, M.G., D.S. Cherry and J. Cairns, Jr.	Environ Tox & Chem 15:340-347	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	12	MG/KG	Growth	LOED	Combined	Whole Body	Larval	Lakes, ponds, streams	Not Specified	Significant reduction in weight.
1996	Dobbs, M.G., D.S. Cherry and J. Cairns, Jr.	Environ Tox & Chem 15:340-347	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	17.8	MG/KG	Mortality	LOED	Combined	Whole Body	Larval	Lakes, ponds, streams	Not Specified	Mortality
1992	Hermanutz, R.O., Allen, K.N., Roush, T.H., and S.F. Hedtke	Environ Tox & Chem 11: 217-224	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	4.6	MG/KG	Growth	NA	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1992	Hermanutz, R.O., Allen, K.N., Roush, T.H., and S.F. Hedtke	Environ Tox & Chem 11: 217-224	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	4.6	MG/KG	Reproduction	NA	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Measurable But Not Statistically Significant Reduced Survival Of Embryos And Larvae
1992	Hermanutz, R.O., Allen, K.N., Roush, T.H., and S.F. Hedtke	Environ Tox & Chem 11: 217-224	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	4.6	MG/KG	Reproduction	NA	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Measurable But Not Statistically Significant Reduced Survival Of Embryos And Larvae
1996	Tessier, C. and J-S. Blais.	Ecotoxicol Environ Saf 33:246-252.	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	0.12	MG/KG	Growth	NOED	Absorption	Whole Body	Adult	Lakes, ponds, streams	Not Specified	No difference in weight gain.
1986	Bertram, P.E. and A.S. Brooks.	Wat. Res. 20(7):877-884.	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	0.24	MG/KG	Growth	NOED	Ingestion	Whole Body	Adult	Lakes, ponds, streams	Not Specified	No significant difference in weight gain.
2003	Hamilton SJ	Ecotoxicol Environ Saf 56:201-210	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	0.36	MG/KG	Survival	NOED		Whole Body	NS	Cool streams	Carnivore-juv fish, inverts	Review paper Data from Hodson et al 1980
2003	Hamilton SJ	Ecotoxicol Environ Saf 56:201-210	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	0.36	MG/KG	Growth	NOED		Whole Body	NS	Cool streams	Carnivore-juv fish, inverts	Review paper Data from Hodson et al 1980
1986	Bertram, P.E. and A.S. Brooks.	Wat. Res. 20(7):877-884.	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	0.44	MG/KG	Growth	NOED	Combined	Whole Body	Adult	Lakes, ponds, streams	Not Specified	No significant difference in weight gain. Exposure to 43.5 ug/L in water and 7.32 ug/g in diet.
2003	Hamilton SJ	Ecotoxicol Environ Saf 56:201-210	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	0.44	MG/KG	Mortality	NOED	NS	Whole Body	NS	Lakes, ponds, streams	Not Specified	Review paper Data from Betram and Brooks 1986
1978	Gissel-Nielsen M and G Gissel-Nielsen	Agri Environ.	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	0.46	MG/KG	Survival	NOED	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	
1993	Cleveland L, EE Little, DR Buckler, and RH Wiedmeyer	Aquat Toxicol	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	0.5	MG/KG	Mortality	NOED	Ingestion	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Condition Index
1986	Gillespie RB, PC Baumann	Trans Am Fish Soc 115:208-213	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	0.62	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Larval Abnormalities, RxR cross, Residues measured in the Larvae. Exp_concentration at Roxboro
1993	Cleveland L, EE Little, DR Buckler, and RH Wiedmeyer	Aquat Toxicol	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	0.66	MG/KG	Mortality	NOED	Ingestion	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Condition Index
2003	Hamilton SJ	Ecotoxicol Environ Saf 56:201-210	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	0.66	MG/KG	Growth	NOED	NS	Whole Body	NS	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Review paper Cleveland et al 1993
1993	Cleveland L, EE Little, DR Buckler, and RH Wiedmeyer	Aquat Toxicol	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	0.8	MG/KG	Survival	NOED	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	

1989	Ogle, R.S. and A.W. Knight	Arch Environ Contam Toxicol 18:795-803	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	1.14	MG/KG	Growth	NOED	Ingestion	Whole Body	Adult	Lakes, ponds, streams	Not Specified	No significant difference in body weight.
1993	Lemly, A.D.	Aquat Toxicol 27:133-158	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	1.2	MG/KG	Growth	NOED	Combined	Whole Body	Immature	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No difference in body weight to length ratio. Exposure at 20 degrees C. Concurrent epxosure to 5 ug inorganic Se/L in water and 5.1 ug Seleno-L-Methionine/g in food.
1989	Ogle, R.S. and A.W. Knight	Arch Environ Contam Toxicol 18:795-803	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	1.5	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Adult	Lakes, ponds, streams	Not Specified	No significant difference in # spawns per pair and eggs per spawn.
1993	Lemly, A.D.	Aquat Toxicol 27:133-158	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	1.6	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No increase in mortality. Exposure at 20 degrees C. Concurrent epxosure to 5 ug inorganic Se/L in water and 5.1 ug Seleno-L-Methionine/g in food.
1993	Cleveland L, EE Little, DR Buckler, and RH Wiedmeyer	Aquat Toxicol	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	2.2	MG/KG	Mortality	NOED	Ingestion	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Condition Index
1980	Barrows, M.E., S.R. Petrocelli, K.J. Macek and J.J. Carroll	p. 379-392 in Haque, R., ed. Dynamics, Exposure and Hazard Assessment of Toxic Chemicals	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	2.4	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No Effect On Mortality
2004	Saiki MK, BA Martin, TW May	Arch Environ Contam Toxicol 47:363-369	Gambusia affinis	Mosquito fish	Selenium	7782-49-2	2.63	MG/KG	Reproduction	NOED	Combined	Whole Body	Adult	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	% Live Births
2006	Tashjian DH, SJ The, A Sogmonyan, SSO Hung	Aquat Toxicol. 1:313-327	Acipenser transmontanus	White sturgeon	Selenium	7782-49-2	2.94	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Not Specified	Not Specified	
1982	Lemly, A.D.	Aquat Toxicol 02:235-252.	Micropterus salmoides	Largemouth Bass	Selenium	7782-49-2	3.1	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Canada south to Florida, Texas, into Mexico; lakes, bayous, sluggish waters, moderate to shallow depths; mud-sand-gravel bottoms	Omnivorous; other fish, small animals	No mortality at 20 or 30 degrees C in soft or hard water.
1993	Coyle JJ, DR Buckler, CG Ingersoll, JF Fairchild, and TW May	Environ Tox & Chem 12:551-565	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	3.24	MG/KG	Growth	NOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No effect, length & weight; Results support field observations that food chain accumulation of Se can severely reduce reproductive success of bluegills; there was diferential uptake into reproductive organs
1993	Coyle JJ, DR Buckler, CG Ingersoll, JF Fairchild, and TW May	Environ Tox & Chem 12:551-565	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	3.6	MG/KG	Growth	NOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No effect, length & weight; Results support field observations that food chain accumulation of Se can severely reduce reproductive success of bluegills; there was diferential uptake into reproductive organs
1993	Coyle JJ, DR Buckler, CG Ingersoll, JF Fairchild, and TW May	Environ Tox & Chem 12:551-565	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	3.6	MG/KG	Reproduction	NOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No effect, # eggs/spawn; Results support field observations that food chain accumulation of Se can severely reduce reproductive success of bluegills; there was diferential uptake into reproductive organs
1993	Coyle JJ, DR Buckler, CG Ingersoll, JF Fairchild, and TW May	Environ Tox & Chem 12:551-565	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	3.6	MG/KG	Reproduction	NOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No effect, spawning frequency; Results support field observations that food chain accumulation of Se can severely reduce reproductive success of bluegills; there was diferential uptake into reproductive organs
1993	Coyle JJ, DR Buckler, CG Ingersoll, JF Fairchild, and TW May	Environ Tox & Chem 12:551-565	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	3.6	MG/KG	Reproduction	NOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No effect, % hatch; Results support field observations that food chain accumulation of Se can severely reduce reproductive success of bluegills; there was diferential uptake into reproductive organs
1993	Coyle JJ, DR Buckler, CG Ingersoll, JF Fairchild, and TW May	Environ Tox & Chem 12:551-565	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	3.6	MG/KG	Survival	NOED	Combined	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Results support field observations that food chain accumulation of Se can severely reduce reproductive success of bluegills; there was diferential uptake into reproductive organs

2004	Saiki MK, BA Martin, TW May	Arch Environ Contam Toxicol 47:363-369	Gambusia affinis	Mosquito fish	Selenium	7782-49-2	4.38	MG/KG	Reproduction	NOED	Combined	Whole Body	Fry	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	% Live Births
1982	Lemly, A.D.	Aquat Toxicol 02:235-252.	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	4.7	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No mortality at 20 or 30 degrees C in soft or hard water.
2006	Tashjian DH, SJ The, A Sogmonyan, SSO Hung	Aquat Toxicol. 1:313-327	Acipenser transmontanus	White sturgeon	Selenium	7782-49-2	5.5	MG/KG	Mortality	NOED	Ingestion	Whole Body	Juvenile	Not Specified	Not Specified	
1986	Bennett, W.N., A.S. Brooks and M.E. Boraas	Arch Environ Contam Toxicol 15:513-517	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	12.2	MG/KG	Mortality	NOED	Ingestion	Whole Body	Larval	Lakes, ponds, streams	Not Specified	No Effect On Mortality Larva uptake was 1.46 ng Se per day.
2004	SJ Hamilton	Sci Total Environ 326:1-31	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	0.86	MG/KG	Mortality	NS	Ingestion	Whole Body	NS	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	fish wt = 0.2g REF: Cleveland et al 1993
2004	SJ Hamilton	Sci Total Environ 326:1-31	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	1.04	MG/KG	Mortality	NS	Ingestion	Whole Body	NS	Cool streams	Carnivore-juv fish, inverts	fish wt = 1.3 g REF: Hilton et al 1980
2004	SJ Hamilton	Sci Total Environ 326:1-31	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	1.08	MG/KG	Growth	NS	Ingestion	Whole Body	NS	Lakes, ponds, streams	Not Specified	fish wt = 0.12 g REF: Ogle and Knight 1989
2004	SJ Hamilton	Sci Total Environ 326:1-31	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	1.1	MG/KG	Mortality	NS	Ingestion	Whole Body	NS	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	fish wt = 2.4g REF: Lemly 1993
2004	SJ Hamilton	Sci Total Environ 326:1-31	Xyrauchen texanus	Razorback sucker	Selenium	7782-49-2	1.18	MG/KG	Growth	NS	Water	Whole Body	NA	Not Specified	Not Specified	fish wt = 0.1g REF: Hamilton et al 2000
2004	SJ Hamilton	Sci Total Environ 326:1-31	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	1.3	MG/KG	Mortality	NS	Water	Whole Body	NA	Cool streams	Carnivore-juv fish, inverts	fish wt = 0.08g REF: Hunn et al 1987
2004	SJ Hamilton	Sci Total Environ 326:1-31	Xyrauchen texanus	Razorback sucker	Selenium	7782-49-2	1.74	MG/KG	Mortality	NS	Ingestion	Whole Body	NA	Not Specified	Not Specified	fish wt = 0.005g REF: Hamilton et al 1996
2004	SJ Hamilton	Sci Total Environ 326:1-31	Gila elegans	Bonytail	Selenium	7782-49-2	1.88	MG/KG	Growth	NS	Water	Whole Body	NA	Not Specified	Not Specified	fish wt = 0.1g REF: Hamilton et al 2000
2004	SJ Hamilton	Sci Total Environ 326:1-31	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	3.8	MG/KG	Reproduction	NS	Ingestion	Whole Body	Adult	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	fish wt = 2.4g REF: Coyle et al 1993
2004	SJ Hamilton	Sci Total Environ 326:1-31	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	5	MG/KG	Mortality	NS	Ingestion	Whole Body	NS	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	fish wt = 0.3 g REF: Bryson et al 1984
2002	Hamilton SJ	Aquat Toxicol 57:85-100	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	5.2	MG/KG	Mortality	NS	Water	Whole body	NS	Cool streams	Carnivore-juv fish, inverts	Test animals were 0.08 g; Hunn et. al. 1987
2002	Hamilton SJ	Aquat Toxicol 57:85-100	Oncorhynchus mykiss	Trout - Rainbow	Selenium	7782-49-2	5.2	MG/KG	Growth	NS	Water	Whole body	NS	Cool streams	Carnivore-juv fish, inverts	Test animals were 0.08 g; Hunn et. al. 1987
2002	Hamilton SJ	Aquat Toxicol 57:85-100	Xyrauchen texanus	Razorback sucker	Selenium	7782-49-2	5.4	MG/KG	Mortality	NS	Ingestion	Whole body	NS	Not Specified	Not Specified	zooplankton; Hamilton et al. 2001
2002	Hamilton SJ	Aquat Toxicol 57:85-100	Xyrauchen texanus	Razorback sucker	Selenium	7782-49-2	5.9	MG/KG	Growth	NS	Water	Whole body	NS	Not Specified	Not Specified	Reduced growth. Test animals were~0.1g; Hamilton et al. 2000. Selenium form: 8ug/l arsenic, 2520 ug/l boron, 40 ug/l copper, 20 ug/l molybdenum, 204 ug/l selenate, 32 ug/l selenite,132 ug/l uranium, 8 ug/l vanadium, 80 ug/l and simulation Green R, UT
2002	Hamilton SJ	Aquat Toxicol 57:85-100	Xyrauchen texanus	Razorback sucker	Selenium	7782-49-2	8.7	MG/KG	Mortality	NS	Ingestion	Whole body	NS	Not Specified	Not Specified	zooplankton; Hamilton et al. 1996
2002	Hamilton SJ	Aquat Toxicol 57:85-100	Gila elegans	Bonytail	Selenium	7782-49-2	9.4	MG/KG	Growth	NS	Water	Whole body	NS	Not Specified	Not Specified	Reduced growth. Test animals were~0.1g; Hamilton et al. 2000. Selenium form: 16ug/l arsenic, 5040 ug/l boron, 80 ug/l copper, 40 ug/l molybdenum, 408ug/l selenate, 64 ug/l selenite,264 ug/l uranium, 16 ug/l vanadium, 160 ug/l Zn, simulation Green R, UT
2004	SJ Hamilton	Sci Total Environ 326:1-31	Pimephales promelas	Fathead minnow	Selenium	7782-49-2	12.2	MG/KG	Growth	NS	Ingestion	Whole Body	NS	Lakes, ponds, streams	Not Specified	fish wt = 0.0001 g REF: Bennett et al 1986
2002	Hamilton SJ	Aquat Toxicol 57:85-100	Lepomis macrochirus	Bluegill	Selenium	7782-49-2	25	MG/KG	Mortality	NS	Ingestion	Whole body	NS	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	zooplankton; Bryson et al 1984

Lowest LOED = 0.18
Highest NOED = 12.2

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2007	Dethloff, G.M., R.B. Naddy, J.W. Gorsuch	Environmental Toxicology and Chemistry 26: 1717-1725	Oncorhynchus mykiss	Trout - Rainbow	Silver	7440-22-4	0.15	MG/KG	Growth	EC11	Absorption	Whole Body	Embryo	Cool streams	Carnivore-juv fish, inverts	NaCl ammeded water, whole body sodium = 331.1 mmol/kg dry weight
2007	Dethloff, G.M., R.B. Naddy, J.W. Gorsuch	Environmental Toxicology and Chemistry 26: 1717-1725	Oncorhynchus mykiss	Trout - Rainbow	Silver	7440-22-4	0.84	MG/KG	Growth	EC14	Absorption	Whole Body	Embryo	Cool streams	Carnivore-juv fish, inverts	NaCl ammeded water, whole body sodium = 320.1 mmol/kg dry weight
2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	0.36	MG/KG	Growth	ED15	Water	Whole Body	Larval	Lakes, ponds, streams	Not Specified	Short Term Chronic (STC) **100% Mortality at 2.0 ug/L; but no body burden
2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	0.536	MG/KG	Growth	ED32	Water	Whole Body	Egg	Lakes, ponds, streams	Not Specified	STC % Hatch
2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	0.114	MG/KG	Growth	ED33	Water	Whole Body	Egg	Lakes, ponds, streams	Not Specified	Early Life Stage (ELS)
2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	1.25	MG/KG	Growth	ED67	Water	Whole Body	Egg	Lakes, ponds, streams	Not Specified	STC % Hatch
2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	0.644	MG/KG	Growth	ED99	Water	Whole Body	Egg	Lakes, ponds, streams	Not Specified	Early Life Stage (ELS)
2001	Guadagnolo, C.M., C.J. Brauner, C.M. Wood	Environ Tox & Chem 20(3):553-560	Oncorhynchus mykiss	Trout - Rainbow	Silver	7440-22-4	0.24	MG/KG	Mortality	LD33	Water	Whole Body	Embryo	Cool streams	Carnivore-juv fish, inverts	
2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	0.644	MG/KG	Mortality	LD99	Water	Whole Body	Egg	Lakes, ponds, streams	Not Specified	Early Life Stage (ELS)
2002	Wood, C.M., M. Grosell, C. Hogstrand, H.Hansen	Aquat Toxicol 56:197-213	Oncorhynchus mykiss	Trout - Rainbow	Silver	7440-22-4	0.003	MG/KG	Mortality	NOED	Water	Whole Body	NS	Cool streams	Carnivore-juv fish, inverts	Highest Body Burden
1974	Coleman RL, JE Cearley	Bull Environ Contam Toxicol 12:53-61	Lepomis macrochirus	Bluegill	Silver	7440-22-4	0.044	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
1974	Coleman RL, JE Cearley	Bull Environ Contam Toxicol 12:53-61	Lepomis macrochirus	Bluegill	Silver	7440-22-4	0.044	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	0.114	MG/KG	Mortality	NOED	Water	Whole Body	Egg	Lakes, ponds, streams	Not Specified	Early Life Stage (ELS)
1974	Coleman RL, JE Cearley	Bull Environ Contam Toxicol 12:53-61	Lepomis macrochirus	Bluegill	Silver	7440-22-4	0.12	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	
2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	0.14	MG/KG	Growth	NOED	Water	Whole Body	Egg	Lakes, ponds, streams	Not Specified	Early Life Stage (ELS)

2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	0.18	MG/KG	Growth	NOED	Water	Whole Body	Larval	Lakes, ponds, streams	Not Specified	Short Term Chronic (STC) **100% Mortality at 2.0 ug/L; but no body burden
2001	Guadagnolo, C.M., C.J. Brauner, C.M. Wood	Environ Tox & Chem 20(3):553-560	Oncorhynchus mykiss	Trout - Rainbow	Silver	7440-22-4	0.24	MG/KG	Reproduction	NOED	Water	Whole Body	Embryo	Cool streams	Carnivore-juv fish, inverts	Time to 50% Hatching
2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	0.336	MG/KG	Growth	NOED	Water	Whole Body	Egg	Lakes, ponds, streams	Not Specified	STC % Hatch
2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	0.564	MG/KG	Mortality	NOED	Water	Whole Body	Larval	Lakes, ponds, streams	Not Specified	Short Term Chronic (STC) ***Caution: High variability in data
2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	0.644	MG/KG	Reproduction	NOED	Water	Whole Body	Egg	Lakes, ponds, streams	Not Specified	Early Life Stage (ELS) % Hatch
2007	Naddy RB, AB Rehner, GR McNerney, JW Gorsuch, JR Kramer, CM Wood	Environ Toxicol & Chem 26(9):1922-1930	Pimephales promelas	Fathead minnow	Silver	7440-22-4	1.25	MG/KG	Mortality	NOED	Water	Whole Body	Egg	Lakes, ponds, streams	Not Specified	STC % Hatch

Lowest LOED = 0.114
Highest NOED = 1.25

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Species TSN Code	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2000	Zyadah, MA, E Abdel-Baky	Bull Environ Contam Toxicol 64:740-747	Mugil cephalus	Striped mullet	170335	Zinc	7440-66-6	33.1	MG/KG	Mortality	LD100	Water	Whole Body	Fry	Both sides of temperate Atlantic, Cape Cod to Brazil; Monterey to Chile on west coast; in large schools in bays, lagoons	Bottom feeder, primarily detritus	Short M&M with little information Other=body without head
2000	Zyadah, MA, E Abdel-Baky	Bull Environ Contam Toxicol 64:740-747	Mugil cephalus	Striped mullet	170335	Zinc	7440-66-6	51.3	MG/KG	Mortality	LD30	Water	Whole Body	Fry	Both sides of temperate Atlantic, Cape Cod to Brazil; Monterey to Chile on west coast; in large schools in bays, lagoons	Bottom feeder, primarily detritus	Short M&M with little information Other=body without head
2000	Zyadah, MA, E Abdel-Baky	Bull Environ Contam Toxicol 64:740-747	Mugil cephalus	Striped mullet	170335	Zinc	7440-66-6	30.8	MG/KG	Mortality	LD50	Water	Whole Body	Fry	Both sides of temperate Atlantic, Cape Cod to Brazil; Monterey to Chile on west coast; in large schools in bays, lagoons	Bottom feeder, primarily detritus	Short M&M with little information Other=body without head
2000	Zyadah, MA, E Abdel-Baky	Bull Environ Contam Toxicol 64:740-747	Mugil cephalus	Striped mullet	170335	Zinc	7440-66-6	28.1	MG/KG	Mortality	LD60	Water	Whole Body	Fry	Both sides of temperate Atlantic, Cape Cod to Brazil; Monterey to Chile on west coast; in large schools in bays, lagoons	Bottom feeder, primarily detritus	Short M&M with little information Other=body without head
2000	Zyadah, MA, E Abdel-Baky	Bull Environ Contam Toxicol 64:740-747	Mugil cephalus	Striped mullet	170335	Zinc	7440-66-6	23.1	MG/KG	Mortality	LD70	Water	Whole Body	Fry	Both sides of temperate Atlantic, Cape Cod to Brazil; Monterey to Chile on west coast; in large schools in bays, lagoons	Bottom feeder, primarily detritus	Short M&M with little information Other=body without head
2000	Zyadah, MA, E Abdel-Baky	Bull Environ Contam Toxicol 64:740-747	Mugil cephalus	Striped mullet	170335	Zinc	7440-66-6	33.3	MG/KG	Mortality	LD70	Water	Whole Body	Fry	Both sides of temperate Atlantic, Cape Cod to Brazil; Monterey to Chile on west coast; in large schools in bays, lagoons	Bottom feeder, primarily detritus	Short M&M with little information Other=body without head
1979	Holcombe, G.W., Benoit,D.A. and E.N. Leonard	Trans Am Fish Soc 108:76-87	Salvelinus fontinalis	Trout - Brook	162003	Zinc	7440-66-6	4.5	MG/KG	Mortality	LOED	Absorption	Whole Body	Egg-embryo	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	Reduction in percentage of hatchability in second generation eggs. Residue in newly hatched larva.
1978	Spehar, R.L., Leonard, E.N., Defoe, D.L.	Trans Am Fish Soc 107(2): 354-360	Jordanella floridae	American flagfish	165694	Zinc	7440-66-6	50	MG/KG	Mortality	LOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burden Est. From Graph
1976	Spehar, R.L.	J Fish Res Bd Can 33	Jordanella floridae	American flagfish	165694	Zinc	7440-66-6	220	MG/KG	Growth	LOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burd. Est. From Graph, Total Length Of Females
1976	Spehar, R.L.	J Fish Res Bd Can 33	Jordanella floridae	American flagfish	165694	Zinc	7440-66-6	220	MG/KG	Mortality	LOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burd. Est. From Graph
1976	Spehar, R.L.	J Fish Res Bd Can 33	Jordanella floridae	American flagfish	165694	Zinc	7440-66-6	300	MG/KG	Growth	LOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burd. Est. From Graph, Total Length Of Males
1981	Pierson, K.B.	Can J Fish Aquat Sci 38	Poecilia reticulata	Guppy	165903	Zinc	7440-66-6	0.284	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	Native to West Indies, n. South America; est. in AB, AZ, ID, NV, TX, WY, possibly CA; generally uncommon	Feeds on detritus, small invertebrates	
1979	Holcombe, G.W., Benoit,D.A. and E.N. Leonard	Trans Am Fish Soc 108:76-87	Salvelinus fontinalis	Trout - Brook	162003	Zinc	7440-66-6	3.9	MG/KG	Mortality	NOED	Absorption	Whole Body	Egg-embryo	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	No reduction in percentage of eggs hatching in second generation. Residue in newly hatched larva.
1978	Spehar, R.L., Leonard, E.N., Defoe, D.L.	Trans Am Fish Soc 107(2): 354-360	Jordanella floridae	American flagfish	165694	Zinc	7440-66-6	50	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burden Est. From Graph
1978	Spehar, R.L., Leonard, E.N., Defoe, D.L.	Trans Am Fish Soc 107(2): 354-360	Jordanella floridae	American flagfish	165694	Zinc	7440-66-6	58	MG/KG	Growth	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burden Est. From Graph
1978	Spehar, R.L., Leonard, E.N., Defoe, D.L.	Trans Am Fish Soc 107(2): 354-360	Jordanella floridae	American flagfish	165694	Zinc	7440-66-6	58	MG/KG	Reproduction	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burden Est. From Graph
1976	Spehar, R.L.	J Fish Res Bd Can 33	Jordanella floridae	American flagfish	165694	Zinc	7440-66-6	190	MG/KG	Growth	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burd. Est. From Graph, Total Length Of Females

1976	Spehar, R.L.	J Fish Res Bd Can 33	Jordanella floridae	American flagfish	165694	Zinc	7440-66-6	220	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burd. Est. From Graph
1976	Spehar, R.L.	J Fish Res Bd Can 33	Jordanella floridae	American flagfish	165694	Zinc	7440-66-6	230	MG/KG	Growth	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burd. Est. From Graph, Total Length Of Males
1976	Spehar, R.L.	J Fish Res Bd Can 33	Jordanella floridae	American flagfish	165694	Zinc	7440-66-6	300	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	Peninsular Florida north to St. Johns and Ochlockonee River drainages; in vegetated sloughs, lakes, sluggish streams	Feeds on detritus, small invertebrates	Body Burd. Est. From Graph

Lowest LOED = 4.5
Highest NOED = 300

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1998	Orn, S., P.L. Anderson, L. Forlin, M. Tysklind, L. Norrgren	Arch Environ Contam Toxicol 35:53-57	Danio rerio	Zebra Danio	PCBs	1336-36-3	1.1	MG/KG	Reproduction	ED47	Ingestion	Whole Body	Adult	Not Specified	Not Specified	PCBs 41, 51, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184, 193 - Ovary weight
1998	Orn, S., P.L. Anderson, L. Forlin, M. Tysklind, L. Norrgren	Arch Environ Contam Toxicol 35:53-57	Danio rerio	Zebra Danio	PCBs	1336-36-3	2.7	MG/KG	Reproduction	ED54	Ingestion	Whole Body	Adult	Not Specified	Not Specified	PCBs 41, 51, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184, 193 - Ovary weight
1998	Orn, S., P.L. Anderson, L. Forlin, M. Tysklind, L. Norrgren	Arch Environ Contam Toxicol 35:53-57	Danio rerio	Zebra Danio	PCBs	1336-36-3	2.7	MG/KG	Growth	ED59	Ingestion	Whole Body	Adult	Not Specified	Not Specified	PCBs 41, 51, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184, 193 - weight
1980	Bengtsson, B.E.	Water Res. 14:681-687.	Phoxinus phoxinus	Minnow	PCBs	1336-36-3	170	MG/KG	Reproduction	ED83	Ingestion	Whole Body	Adult	Not Specified	Not Specified	83% Reduction in hatchability of eggs. Residues measured 2 months before spawning.
1998	Orn, S., P.L. Anderson, L. Forlin, M. Tysklind, L. Norrgren	Arch Environ Contam Toxicol 35:53-57	Danio rerio	Zebra Danio	PCBs	1336-36-3	1.1	MG/KG	Mortality	LD07	Ingestion	Whole Body	Adult	Not Specified	Not Specified	PCBs 41, 51, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184, 193 - no significance calculated
1998	Orn, S., P.L. Anderson, L. Forlin, M. Tysklind, L. Norrgren	Arch Environ Contam Toxicol 35:53-57	Danio rerio	Zebra Danio	PCBs	1336-36-3	2.7	MG/KG	Mortality	LD18	Ingestion	Whole Body	Adult	Not Specified	Not Specified	PCBs 41, 51, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184, 193 - no significance calculated
1972	Hattula, M.I. and O. Karlog	Acta Pharmacol. Toxicol. 31:238-240.	Carassius auratus	Goldfish	PCBs	1336-36-3	250	mg/kg	Mortality	LD50	Absorption	Whole Body	NA	Widespread in US (introduced), warm lakes, ponds, quiet streams, particularly in weedy situations	Feeds on detritus, small invertebrates, organic ooze	50% mortality in 22 days.
1972	Hattula, M.I. and O. Karlog	Acta Pharmacol. Toxicol. 31:238-240.	Carassius auratus	Goldfish	PCBs	1336-36-3	324	MG/KG	Mortality	LD50	Absorption	Whole Body	Immature	Widespread in US (introduced), warm lakes, ponds, quiet streams, particularly in weedy situations	Feeds on detritus, small invertebrates, organic ooze	50% mortality in 5 days.
1998	Orn, S., P.L. Anderson, L. Forlin, M. Tysklind, L. Norrgren	Arch Environ Contam Toxicol 35:53-57	Danio rerio	Zebra Danio	PCBs	1336-36-3	0.14	MG/KG	Growth	LOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	PCBs 41, 51, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184, 193 - weight
2002	Meador JP, TK Collier and JE Stein	Aquatic Conserv: Mar. Freshw Ecosyst. 12:493-516	Salvelinus fontinalis	Trout - Brook	PCBs	1336-36-3	0.15	MG/KG	Mortality	LOED	Combined	Whole Body	NS	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	LOER: Increased mortality tissue = 3.6 ug/g lipid REF: Berlin et al 1981
2002	Meador JP, TK Collier and JE Stein	Aquatic Conserv: Mar. Freshw Ecosyst. 12:493-516	Oncorhynchus mykiss	Trout - Rainbow	PCBs	1336-36-3	0.28	MG/KG	Mortality	LOED	Water	Whole Body	NS	Cool streams	Carnivore-juv fish, inverts	LOER: Dec. LC50 to toxics tissue = 3.1 ug/g lipid REF: Bills et al 1981
2002	Meador JP, TK Collier and JE Stein	Aquatic Conserv: Mar. Freshw Ecosyst. 12:493-516	Oncorhynchus mykiss	Trout - Rainbow	PCBs	1336-36-3	0.46	MG/KG	Mortality	LOED	Water	Whole Body	NS	Cool streams	Carnivore-juv fish, inverts	LOER: Dec LC50 to toxics tissue = 5.1 ug/g lipid REF: Bills and Marking 1977
1998	Orn, S., P.L. Anderson, L. Forlin, M. Tysklind, L. Norrgren	Arch Environ Contam Toxicol 35:53-57	Danio rerio	Zebra Danio	PCBs	1336-36-3	1.1	MG/KG	Mortality	LOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	PCBs 41, 51, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184, 193 - no significance calculated
1998	Orn, S., P.L. Anderson, L. Forlin, M. Tysklind, L. Norrgren	Arch Environ Contam Toxicol 35:53-57	Danio rerio	Zebra Danio	PCBs	1336-36-3	1.1	MG/KG	Reproduction	LOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	PCBs 41, 51, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184, 193 - Ovary weight
1981	Mac, M.J. and J.G. Seelye	Bull Environ Contam Toxicol 27:359-367	Salvelinus namaycush	Trout -Lake	PCBs	1336-36-3	1.8	MG/KG	Growth	LOED	Combined	Whole Body	Fry	Deep waters of cold northern lakes	Carnivore-adults piscivorous	PCB With No Acetone Carrier; Enhanced Growth (weight and length). Concurrent exposure to 0.72 ug PCB/g food starting day 22.
1981	Mac, M.J. and J.G. Seelye	Bull Environ Contam Toxicol 27:359-367	Salvelinus namaycush	Trout -Lake	PCBs	1336-36-3	2.4	MG/KG	Growth	LOED	Combined	Whole Body	Fry	Deep waters of cold northern lakes	Carnivore-adults piscivorous	PCB Dosed With Acetone Carrier; Enhanced Growth (weight and length). Concurrent exposure to 0.72 ug PCB/g in food starting day 22.
2002	Meador JP, TK Collier and JE Stein	Aquatic Conserv: Mar. Freshw Ecosyst. 12:493-516	Salvelinus fontinalis	Trout - Brook	PCBs	1336-36-3	12.5	MG/KG	Mortality	LOED	Water	Whole Body	NS	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	LOER: Increased Mortality tissue =298 ug/g lipid REF: Mauck et al 1978
1976	Hansen, L.G., W.B. Wiekhorst and J. Simon	J Fish Res Bd Can 33:1343-1352.	Ictalurus punctatus	Catfish-Channel	PCBs	1336-36-3	14.3	MG/KG	Growth	LOED	Ingestion	Whole Body	Immature	Rapid water streams	Omnivore	40% Reduction in body weight. Increased liver/body weight ratio.
1980	Bengtsson, B.E.	Water Res. 14:681-687.	Phoxinus phoxinus	Minnow	PCBs	1336-36-3	15	MG/KG	Reproduction	LOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	Reduction in time to hatch. Fry death within 1 week of hatching. Spawning induced at higher water temperatures. Residues measured 2 months before spawning.
1980	Bengtsson, B.E.	Water Res. 14:681-687.	Phoxinus phoxinus	Minnow	PCBs	1336-36-3	70	MG/KG	Mortality	LOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	Doubling Of Mortality Rate Compared To Controls After 300 Days
2002	Meador JP, TK Collier and JE Stein	Aquatic Conserv: Mar. Freshw Ecosyst. 12:493-516	Oncorhynchus mykiss	Trout - Rainbow	PCBs	1336-36-3	150	MG/KG	Growth	LOED	Ingestion	Whole Body	NS	Cool streams	Carnivore-juv fish, inverts	LOER: Dec growth; dec hormones tissue =1667 ug/g lipid REF: Cleland et al 1988
1980	Bengtsson, B.E.	Water Res. 14:681-687.	Phoxinus phoxinus	Minnow	PCBs	1336-36-3	180	MG/KG	Growth	LOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	Significantly increased growth at 79 days. Residue measured at 82 days.
1998	Orn, S., P.L. Anderson, L. Forlin, M. Tysklind, L. Norrgren	Arch Environ Contam Toxicol 35:53-57	Danio rerio	Zebra Danio	PCBs	1336-36-3	0.14	MG/KG	Mortality	NOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	PCBs 41, 51, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184, 193
1998	Orn, S., P.L. Anderson, L. Forlin, M. Tysklind, L. Norrgren	Arch Environ Contam Toxicol 35:53-57	Danio rerio	Zebra Danio	PCBs	1336-36-3	0.14	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	PCBs 41, 51, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184, 193 - Ovary weight

1981	Mac, M.J. and J.G. Seelye	Bull Environ Contam Toxicol 27:359-367	Salvelinus namaycush	Trout -Lake	PCBs	1336-36-3	0.76	MG/KG	Growth	NOED	Absorption	Whole Body	Fry	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Pcb Dosed With and Without Acetone Carrier; No Effect On Growth (weight or length)
1980	Bengtsson, B.E.	Water Res. 14:681-687.	Phoxinus phoxinus	Minnow	PCBs	1336-36-3	1.6	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	No significant reduction in time to hatch. Residues measured 2 months before spawning.
1981	Mac, M.J. and J.G. Seelye	Bull Environ Contam Toxicol 27:359-367	Salvelinus namaycush	Trout -Lake	PCBs	1336-36-3	1.8	MG/KG	Mortality	NOED	Combined	Whole Body	Fry	Deep waters of cold northern lakes	Carnivore-adults piscivorous	PCB With No Acetone Carrier; No Effect On Mortality. Concurrent exposure to 0.72 ug PCB/g in food starting day 22.
1998	Orn, S., P.L. Anderson, L. Forlin, M. Tysklind, L. Norrgren	Arch Environ Contam Toxicol 35:53-57	Danio rerio	Zebra Danio	PCBs	1336-36-3	1.9	MG/KG	Growth	NOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	PCBs 41, 51, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184, 193 - weight
1998	Orn, S., P.L. Anderson, L. Forlin, M. Tysklind, L. Norrgren	Arch Environ Contam Toxicol 35:53-57	Danio rerio	Zebra Danio	PCBs	1336-36-3	1.9	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	PCBs 41, 51, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184, 193 - Ovary weight
1981	Mac, M.J. and J.G. Seelye	Bull Environ Contam Toxicol 27:359-367	Salvelinus namaycush	Trout -Lake	PCBs	1336-36-3	2.4	MG/KG	Mortality	NOED	Combined	Whole Body	Fry	Deep waters of cold northern lakes	Carnivore-adults piscivorous	PCB Dosed With Acetone Carrier; No Effect On Mortality. Concurrent exposure to 0.72 ug PCB/g in food starting day 22.
1976	Hansen, L.G., W.B. Wiekhorst and J. Simon	J Fish Res Bd Can 33:1343-1352.	Ictalurus punctatus	Catfish-Channel	PCBs	1336-36-3	10.9	MG/KG	Mortality	NOED	Ingestion	Whole Body	Immature	Rapid water streams	Omnivore	No Effect On Mortality
1976	Hansen, L.G., W.B. Wiekhorst and J. Simon	J Fish Res Bd Can 33:1343-1352.	Ictalurus punctatus	Catfish-Channel	PCBs	1336-36-3	14.3	MG/KG	Mortality	NOED	Ingestion	Whole Body	Immature	Rapid water streams	Omnivore	No Effect On Mortality
2004	Reiser DW, ES Greenberg, TE Helser, M Branton, KD Jenkins	Environ Tox & Chem 23:1762-1773	Micropterus salmoides	Largemouth Bass	PCBs	1336-36-3	28	MG/KG	Survival	NOED	Combined	Whole Body	Juvenile	Canada south to Florida, Texas, into Mexico; lakes, bayous, sluggish waters, moderate to shallow depths; mud-sand-gravel bottoms	Omnivorous; other fish, small animals	Population effects - authors used 5 metrics to asssess population effect of PCBs: reproductive activity, relative abundance of YOY, YOY growth rate, adult growth rates, adult condition
2004	Reiser DW, ES Greenberg, TE Helser, M Branton, KD Jenkins	Environ Tox & Chem 23:1762-1773	Micropterus salmoides	Largemouth Bass	PCBs	1336-36-3	121	MG/KG	Survival	NOED	Combined	Whole Body	Adult	Canada south to Florida, Texas, into Mexico; lakes, bayous, sluggish waters, moderate to shallow depths; mud-sand-gravel bottoms	Omnivorous; other fish, small animals	Population effects - authors used 5 metrics to asssess population effect of PCBs: reproductive activity, relative abundance of YOY, YOY growth rate, adult growth rates, adult condition

Lowest LOED = 0.14
Highest NOED = 121

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	3.00E-05	MG/KG	Growth	ED13	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	3.00E-05	MG/KG	Growth	ED13	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	5.00E-05	MG/KG	Growth	ED13	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	5.00E-05	MG/KG	Growth	ED13	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1985	Branson DR, It Takahashi, WM Parker and GE Blau	Environ Tox & Chem 04:779-788	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00258	MG/KG	Growth	ED130	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Size of liver increased compared to controls; 42 d post exposure
1985	Branson DR, It Takahashi, WM Parker and GE Blau	Environ Tox & Chem 04:779-788	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00258	MG/KG	Growth	ED130	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Size of liver increased compared to controls; 42 d post exposure
1985	Branson DR, It Takahashi, WM Parker and GE Blau	Environ Tox & Chem 04:779-788	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00258	MG/KG	Growth	ED136	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Size of liver increased compared to controls; 64 d post exposure
1985	Branson DR, It Takahashi, WM Parker and GE Blau	Environ Tox & Chem 04:779-788	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00258	MG/KG	Growth	ED136	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Size of liver increased compared to controls; 64 d post exposure
1985	Branson DR, It Takahashi, WM Parker and GE Blau	Environ Tox & Chem 04:779-788	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00258	MG/KG	Growth	ED186	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Size of liver increased compared to controls; 118d post exposure
1985	Branson DR, It Takahashi, WM Parker and GE Blau	Environ Tox & Chem 04:779-788	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00258	MG/KG	Growth	ED186	Water	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Size of liver increased compared to controls; 118d post exposure
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00041	MG/KG	Growth	ED20	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00041	MG/KG	Growth	ED20	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00087	MG/KG	Growth	ED26	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00087	MG/KG	Growth	ED26	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	3.00E-05	MG/KG	Growth	ED27	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	3.00E-05	MG/KG	Growth	ED27	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle, P.M., D.R. Buckler, E.E. Little, L.M. Smith, J.D. Petty, P.H. Peterman, D.L. Stalling, G.M. DeGraeve, J.J. Coyle and W.J. Adam	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00452	MG/KG	Survival	ED50	Combined	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	Exp Conc Is The Mean of Measured Tcdd Conc

1988	Mehrle, P.M., D.R. Buckler, E.E. Little, L.M. Smith, J.D. Petty, P.H. Peterman, D.L. Stalling, G.M. DeGraeve, J.J. Coyle and W.J. Adam	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00452	MG/KG	Survival	ED50	Combined	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	Exp Conc Is The Mean of Measured Tcdd Conc
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00011	MG/KG	Growth	ED51	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	measured at end of depuration period (56d)
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00011	MG/KG	Growth	ED51	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	measured at end of depuration period (56d)
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	4.00E-05	MG/KG	Mortality	LD02	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Hatching Mortality
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	4.00E-05	MG/KG	Mortality	LD02	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Hatching Mortality
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	4.00E-05	MG/KG	Mortality	LD02	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Hatching Mortality
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	4.00E-05	MG/KG	Mortality	LD02	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Hatching Mortality
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	4.00E-05	MG/KG	Mortality	LD03	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Sac Fry Mortality
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	4.00E-05	MG/KG	Mortality	LD03	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Sac Fry Mortality
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	4.00E-05	MG/KG	Mortality	LD05	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Cumulative percent mortality equaled 22.5% - Control cumulative mortality was 18%.
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	4.00E-05	MG/KG	Mortality	LD05	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Cumulative percent mortality equaled 22.5% - Control cumulative mortality was 18%.
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.004	MG/KG	Mortality	LD09	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Egg mortality
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.004	MG/KG	Mortality	LD09	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Egg mortality
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.000119	MG/KG	Mortality	LD100	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs groups recieved one injection out of 7 graded doses of TCDD.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.000119	MG/KG	Mortality	LD100	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs groups recieved one injection out of 7 graded doses of TCDD.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.000145	MG/KG	Mortality	LD100	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	TCDD exposure resulted from feeding adult female trout for up to 149d prior to spawning. No significant differences were found between exp. dose and egg bioaccumulation.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.000145	MG/KG	Mortality	LD100	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	TCDD exposure resulted from feeding adult female trout for up to 149d prior to spawning. No significant differences were found between exp. dose and egg bioaccumulation.

1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.000154	MG/KG	Mortality	LD100	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs were treated with waterborne TCDD.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.000154	MG/KG	Mortality	LD100	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs were treated with waterborne TCDD.
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.001	MG/KG	Mortality	LD100	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Hatching onset to swimup
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.001	MG/KG	Mortality	LD100	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Hatching onset to swimup
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.004	MG/KG	Mortality	LD100	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Cumulative percent mortality equaled 100% - Control cumulative mortality was 18%.
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.004	MG/KG	Mortality	LD100	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Cumulative percent mortality equaled 100% - Control cumulative mortality was 18%.
1978	Yockim, R.S., Isensee, A.R., Jones, G.E.	Chemosphere 07:215-220	Ictalurus punctatus	Catfish-Channel	TCDD	1746-01-6	0.0044	MG/KG	Mortality	LD100	Absorption	Whole Body	NA	Rapid water streams	Omnivore	Model ecosystem exposure. 100% Mortality in 20 days.. Radiolabelled TCDD added to sediment and leached into water.
1978	Yockim, R.S., Isensee, A.R., Jones, G.E.	Chemosphere 07:215-220	Ictalurus punctatus	Catfish-Channel	2,3,7,8-TCDD	1746-01-6	0.0044	MG/KG	Mortality	LD100	Absorption	Whole Body	NA	Rapid water streams	Omnivore	Model ecosystem exposure. 100% Mortality in 20 days.. Radiolabelled TCDD added to sediment and leached into water.
1978	Isensee, A.R.	Ecol. Bull. (Stockholm) 27:255-262.	Gambusia affinis	Mosquito fish	TCDD	1746-01-6	0.0067	MG/KG	Mortality	LD100	Combined	Whole Body	Adult	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	Mesocosm study. Sediment treated with TCDD. Exposure concentration measured in water.
1978	Isensee, A.R.	Ecol. Bull. (Stockholm) 27:255-262.	Gambusia affinis	Mosquito fish	2,3,7,8-TCDD	1746-01-6	0.0067	MG/KG	Mortality	LD100	Combined	Whole Body	Adult	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	Mesocosm study. Sediment treated with TCDD. Exposure concentration measured in water.
1978	Yockim, R.S., Isensee, A.R., Jones, G.E.	Chemosphere 07:215-220	Gambusia affinis	Mosquito fish	TCDD	1746-01-6	0.0072	MG/KG	Mortality	LD100	Absorption	Whole Body	NA	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	Model ecosystem exposure. 100% Mortality in 15 days.. Radiolabelled TCDD added to sediment and leached into water.

1978	Yockim, R.S., Isensee, A.R., Jones, G.E.	Chemosphere 07:215-220	Gambusia affinis	Mosquito fish	2,3,7,8-TCDD	1746-01-6	0.0072	MG/KG	Mortality	LD100	Absorption	Whole Body	NA	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	Model ecosystem exposure. 100% Mortality in 15 days.. Radiolabelled TCDD added to sediment and leached into water.
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.0002	MG/KG	Mortality	LD25	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Hatching onset to swimup
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.0002	MG/KG	Mortality	LD25	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Hatching onset to swimup
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00068	MG/KG	Mortality	LD29	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00068	MG/KG	Mortality	LD29	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.004	MG/KG	Mortality	LD31	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Hatching Mortality
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.004	MG/KG	Mortality	LD31	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Hatching Mortality
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00014	MG/KG	Mortality	LD33	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00014	MG/KG	Mortality	LD33	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1991	Cook, PM, DW Kuehl, MK Walker, RE Peterson	Banbury Report 35: Biological Basis for Risk Assessment of Dioxins and Related Compounds	Cyprinus carpio	Common carp	TCDD	1746-01-6	2.22	MG/KG	Mortality	LD37	Water	Whole Body	Yearling	Warm lakes, ponds, streams	Omnivore-plants, detritus	140d Depuration
1991	Cook, PM, DW Kuehl, MK Walker, RE Peterson	Banbury Report 35: Biological Basis for Risk Assessment of Dioxins and Related Compounds	Cyprinus carpio	Common carp	2,3,7,8-TCDD	1746-01-6	2.22	MG/KG	Mortality	LD37	Water	Whole Body	Yearling	Warm lakes, ponds, streams	Omnivore-plants, detritus	140d Depuration
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00142	MG/KG	Mortality	LD43	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00142	MG/KG	Mortality	LD43	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.004	MG/KG	Mortality	LD45	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Sac Fry Mortality

1991	Spitsbergen JM, MK Walker, JR Olson, RE Peterson	Aquat Toxicol 19:41-72	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.004	MG/KG	Mortality	LD45	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Sac Fry Mortality
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00014	MG/KG	Mortality	LD47	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00014	MG/KG	Mortality	LD47	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	3.40E-05	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Elimination half-life for TCDD at this concentration was found to be 35d
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	3.40E-05	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Elimination half-life for TCDD at this concentration was found to be 35d
1993	Guiney, P., E. Zabel, R. Peterson, P. Cook, J. Casselman, J. Fitzsimons and H. Simonin	Presentation 519, 14th Annual Meeting, SETAC Houston, TX.	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	4.40E-05	MG/KG	Mortality	LD50	Absorption	Whole Body	Egg-embryo	Deep waters of cold northern lakes	Carnivore-adults piscivorous	50% Mortality of sac fry. LD50 range is 44 to 72 pg TCDD/g egg.
1993	Guiney, P., E. Zabel, R. Peterson, P. Cook, J. Casselman, J. Fitzsimons and H. Simonin	Presentation 519, 14th Annual Meeting, SETAC Houston, TX.	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	4.40E-05	MG/KG	Mortality	LD50	Absorption	Whole Body	Egg-embryo	Deep waters of cold northern lakes	Carnivore-adults piscivorous	50% Mortality of sac fry. LD50 range is 44 to 72 pg TCDD/g egg.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	5.50E-05	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Elimination half-life for TCDD at this concentration was found to be 37d
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	5.50E-05	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Elimination half-life for TCDD at this concentration was found to be 37d
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	5.80E-05	MG/KG	Mortality	LD50	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	TCDD exposure resulted from feeding adult female trout for up to 149d prior to spawning. No significant differences were found between exp. dose and egg bioaccumulation.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	5.80E-05	MG/KG	Mortality	LD50	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	TCDD exposure resulted from feeding adult female trout for up to 149d prior to spawning. No significant differences were found between exp. dose and egg bioaccumulation.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	6.90E-05	MG/KG	Mortality	LD50	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs groups recieved one injection out of 7 graded doses of TCDD.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	6.90E-05	MG/KG	Mortality	LD50	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs groups recieved one injection out of 7 graded doses of TCDD.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	8.00E-05	MG/KG	Mortality	LD50	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs were treated with waterborne TCDD.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	8.00E-05	MG/KG	Mortality	LD50	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs were treated with waterborne TCDD.
1995	Zabel EW, PM Cook, RE Peterson	Environ Tox & Chem 14:2175-2179	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	8.50E-05	MG/KG	Mortality	LD50	Water	Whole Body	Embryo	Deep waters of cold northern lakes	Carnivore-adults piscivorous	

1995	Zabel EW, PM Cook, RE Peterson	Environ Tox & Chem 14:2175-2179	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	8.50E-05	MG/KG	Mortality	LD50	Water	Whole Body	Embryo	Deep waters of cold northern lakes	Carnivore-adults piscivorous	
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.000121	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant sac fry wet weight increase at this TCDD concentration.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.000121	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant increase of sac fry mortality at this TCDD concentration.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.000121	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant sac fry wet weight increase at this TCDD concentration.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.000121	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant increase of sac fry mortality at this TCDD concentration.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.000226	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Fry ability to hatch significantly less at this TCDD concentration with 8.9%-10.5% of the embryos dying partially hatched. Significant increase of sac fry mortality at this TCDD concentration.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.000226	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Fry ability to hatch significantly less at this TCDD concentration with 8.9%-10.5% of the embryos dying partially hatched. Significant increase of sac fry mortality at this TCDD concentration.
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00023	MG/KG	Mortality	LD50	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	MC Strain
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00023	MG/KG	Mortality	LD50	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	MC Strain
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00024	MG/KG	Mortality	LD50	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	ER Strain
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00024	MG/KG	Mortality	LD50	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	ER Strain
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.0003	MG/KG	Mortality	LD50	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Hatching onset to swimup
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.0003	MG/KG	Mortality	LD50	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Hatching onset to swimup
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.000302	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant sac fry wet weight increase at this TCDD concentration. Significant decrease in sac fry length at this TCDD concentration.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.000302	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Fry ability to hatch significantly less at this TCDD concentration with 12.8%-20.8% of the embryos dying partially hatched. Significant increase of sac fry mortality at this TCDD concentration.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.000302	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant sac fry wet weight increase at this TCDD concentration. Significant decrease in sac fry length at this TCDD concentration.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.000302	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Fry ability to hatch significantly less at this TCDD concentration with 12.8%-20.8% of the embryos dying partially hatched. Significant increase of sac fry mortality at this TCDD concentration.
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000374	MG/KG	Mortality	LD50	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	AR Strain
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.000374	MG/KG	Mortality	LD50	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	AR Strain

1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000488	MG/KG	Mortality	LD50	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	EL Strain
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.000488	MG/KG	Mortality	LD50	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	EL Strain
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.00065	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	95% Confidence interval 60-71ppt)
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.00065	MG/KG	Mortality	LD50	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	95% Confidence interval 60-71ppt)
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Cyprinus carpio	Common carp	TCDD	1746-01-6	0.003	MG/KG	Mortality	LD50	Injection	Whole Body	NA	Warm lakes, ponds, streams	Omnivore-plants, detritus	80 Day LD50 For Mortality
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Cyprinus carpio	Common carp	2,3,7,8-TCDD	1746-01-6	0.003	MG/KG	Mortality	LD50	Injection	Whole Body	NA	Warm lakes, ponds, streams	Omnivore-plants, detritus	80 Day LD50 For Mortality
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Perca flavescens	Yellow perch	TCDD	1746-01-6	0.003	MG/KG	Mortality	LD50	Injection	Whole Body	NA	East US to NS streams, lakes	Carnivore-aquatic insects, fish, inverts	80 Day LD50 For Mortality
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Perca flavescens	Yellow perch	2,3,7,8-TCDD	1746-01-6	0.003	MG/KG	Mortality	LD50	Injection	Whole Body	NA	East US to NS streams, lakes	Carnivore-aquatic insects, fish, inverts	80 Day LD50 For Mortality
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Ictalurus melas	Black Bullhead	TCDD	1746-01-6	0.005	MG/KG	Mortality	LD50	Injection	Whole Body	NA	Quiet and slow moving waters	Aquatic invertebrates, including aquatic insects and their larvae	80 Day LD50 For Mortality
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Ictalurus melas	Black Bullhead	2,3,7,8-TCDD	1746-01-6	0.005	MG/KG	Mortality	LD50	Injection	Whole Body	NA	Quiet and slow moving waters	Aquatic invertebrates, including aquatic insects and their larvae	80 Day LD50 For Mortality
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.01	MG/KG	Mortality	LD50	Injection	Whole Body	NA	Cool streams	Carnivore-juv fish, inverts	80 Day LD50 For Mortality
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.01	MG/KG	Mortality	LD50	Injection	Whole Body	NA	Cool streams	Carnivore-juv fish, inverts	80 Day LD50 For Mortality
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Micropterus salmoides	Largemouth Bass	TCDD	1746-01-6	0.011	MG/KG	Mortality	LD50	Injection	Whole Body	NA	Canada south to Florida, Texas, into Mexico; lakes, bayous, sluggish waters, moderate to shallow depths; mud-sand-gravel bottoms	Omnivorous; other fish, small animals	80 Day LD50 For Mortality

1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Micropterus salmoides	Largemouth Bass	2,3,7,8-TCDD	1746-01-6	0.011	MG/KG	Mortality	LD50	Injection	Whole Body	NA	Canada south to Florida, Texas, into Mexico; lakes, bayous, sluggish waters, moderate to shallow depths; mud-sand-gravel bottoms	Omnivorous; other fish, small animals	80 Day LD50 For Mortality
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Lepomis macrochirus	Bluegill	TCDD	1746-01-6	0.016	MG/KG	Mortality	LD50	Injection	Whole Body	NA	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	80 Day LD50 For Mortality
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Lepomis macrochirus	Bluegill	2,3,7,8-TCDD	1746-01-6	0.016	MG/KG	Mortality	LD50	Injection	Whole Body	NA	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	80 Day LD50 For Mortality
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00087	MG/KG	Mortality	LD71	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00087	MG/KG	Mortality	LD71	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00086	MG/KG	Mortality	LD73	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1988	Mehrle PM, DR Buckler, EE Little, LM Smith, JD Petty, PH Peterman, DL Stalling, GM DeGraeve, JJ Coyle, and WJ Adams	Environ Tox & Chem 07:47-62	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00086	MG/KG	Mortality	LD73	Water	Whole Body	Larval	Cool streams	Carnivore-juv fish, inverts	
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.0004	MG/KG	Mortality	LD75	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Hatching onset to swimup
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.0004	MG/KG	Mortality	LD75	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Hatching onset to swimup
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	4.00E-05	MG/KG	Mortality	LOED	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs groups recieved one injection out of 7 graded doses of TCDD.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	4.00E-05	MG/KG	Mortality	LOED	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs groups recieved one injection out of 7 graded doses of TCDD.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	5.00E-05	MG/KG	Mortality	LOED	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	TCDD exposure resulted from feeding adult female trout for up to 149d prior to spawning. No significant differences were found between exp. dose and egg bioaccumulation.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	5.00E-05	MG/KG	Mortality	LOED	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	TCDD exposure resulted from feeding adult female trout for up to 149d prior to spawning. No significant differences were found between exp. dose and egg bioaccumulation.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	5.50E-05	MG/KG	Mortality	LOED	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs were treated with waterborne TCDD.

1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	5.50E-05	MG/KG	Growth	LOED	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant increase in sac fry weight at this TCDD concentration
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	5.50E-05	MG/KG	Mortality	LOED	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant increase in mortality at this concentration - the lowest concentration to do so. (Called LOAEL in the paper.)
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	5.50E-05	MG/KG	Mortality	LOED	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs were treated with waterborne TCDD.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	5.50E-05	MG/KG	Growth	LOED	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant increase in sac fry weight at this TCDD concentration
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	5.50E-05	MG/KG	Mortality	LOED	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant increase in mortality at this concentration - the lowest concentration to do so. (Called LOAEL in the paper.)
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.000226	MG/KG	Growth	LOED	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant sac fry wet weight increase at this TCDD concentration. Significant decrease in sac fry length at this TCDD concentration.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	0.000226	MG/KG	Growth	LOED	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant sac fry wet weight increase at this TCDD concentration. Significant decrease in sac fry length at this TCDD concentration.
1985	Branson, D.R., L.T. Takahashi, W.M. Parker and G.E. Blau	Environ Tox & Chem 04:779-788	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00065	MG/KG	Growth	LOED	Absorption	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	Reduced Growth, Exposed Fish Weighed 50 G Vs. 130 G For Controls
1985	Branson, D.R., L.T. Takahashi, W.M. Parker and G.E. Blau	Environ Tox & Chem 04:779-788	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00065	MG/KG	Growth	LOED	Absorption	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	Liver/body weight ratio nearly twice that of controls.
1985	Branson, D.R., L.T. Takahashi, W.M. Parker and G.E. Blau	Environ Tox & Chem 04:779-788	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00065	MG/KG	Mortality	LOED	Absorption	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	Lethal To 7 Of 90 Fish Over 139 Days
1985	Branson, D.R., L.T. Takahashi, W.M. Parker and G.E. Blau	Environ Tox & Chem 04:779-788	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00065	MG/KG	Growth	LOED	Absorption	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	Reduced Growth, Exposed Fish Weighed 50 G Vs. 130 G For Controls
1985	Branson, D.R., L.T. Takahashi, W.M. Parker and G.E. Blau	Environ Tox & Chem 04:779-788	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00065	MG/KG	Growth	LOED	Absorption	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	Liver/body weight ratio nearly twice that of controls.
1985	Branson, D.R., L.T. Takahashi, W.M. Parker and G.E. Blau	Environ Tox & Chem 04:779-788	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00065	MG/KG	Mortality	LOED	Absorption	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	Lethal To 7 Of 90 Fish Over 139 Days
1994	Tietge, J.E.	Society of Environmental Toxicology and Chemistry 15th Annual Meeting Abstract	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	0.0012	MG/KG	Reproduction	LOED	Ingestion	Whole Body	Immature	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	Significant Delay In Spawning; TCDD-spiked Diet To Produce Desired Body Burden; Abstract With Minimal Information
1994	Tietge, J.E.	Society of Environmental Toxicology and Chemistry 15th Annual Meeting Abstract	Salvelinus fontinalis	Trout - Brook	2,3,7,8-TCDD	1746-01-6	0.0012	MG/KG	Reproduction	LOED	Ingestion	Whole Body	Immature	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	Significant Delay In Spawning; TCDD-spiked Diet To Produce Desired Body Burden; Abstract With Minimal Information
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.005	MG/KG	Growth	LOED	Injection	Whole Body	NA	Cool streams	Carnivore-juv fish, inverts	Significant Reduction In Body Weight
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.005	MG/KG	Growth	LOED	Injection	Whole Body	NA	Cool streams	Carnivore-juv fish, inverts	Significant Reduction In Body Weight
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Perca flavescens	Yellow perch	TCDD	1746-01-6	0.005	MG/KG	Growth	LOED	Injection	Whole Body	NA	East US to NS streams, lakes	Carnivore-aquatic insects, fish, inverts	Significant Reduction In Body Weight

1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Perca flavescens	Yellow perch	2,3,7,8-TCDD	1746-01-6	0.005	MG/KG	Growth	LOED	Injection	Whole Body	NA	East US to NS streams, lakes	Carnivore-aquatic insects, fish, inverts	Significant Reduction In Body Weight
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Lepomis macrochirus	Bluegill	TCDD	1746-01-6	0.025	MG/KG	Growth	LOED	Injection	Whole Body	NA	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Significant Reduction In Body Weight
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Lepomis macrochirus	Bluegill	2,3,7,8-TCDD	1746-01-6	0.025	MG/KG	Growth	LOED	Injection	Whole Body	NA	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	Significant Reduction In Body Weight
1977	Hawkes, C.L. and L.A. Norris.	Trans Am Fish Soc 106:641-645.	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	1.38	MG/KG	Growth	LOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Weight loss.
1977	Hawkes, C.L. and L.A. Norris.	Trans Am Fish Soc 106:641-645.	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	1.38	MG/KG	Mortality	LOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Over 90% mortality.
1977	Hawkes, C.L. and L.A. Norris.	Trans Am Fish Soc 106:641-645.	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	1.38	MG/KG	Growth	LOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Weight loss.
1977	Hawkes, C.L. and L.A. Norris.	Trans Am Fish Soc 106:641-645.	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	1.38	MG/KG	Mortality	LOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	Over 90% mortality.
1997	Fisk, A. T., A. L. Yarechewski, D. A. Metner, R. E. Evans, W. L. Lockhart, and D. C. G. Muir	Aquat Toxicol	Coregonus clupeaformis	Lake Whitefish	TCDD	1746-01-6	0.085	MG/KG	Growth	NA	Ingestion	Whole Body	Early Juvenile	East US to NS streams, lakes	Carnivore-aquatic insects, fish	Growth study, see histological study
1997	Fisk, A. T., A. L. Yarechewski, D. A. Metner, R. E. Evans, W. L. Lockhart, and D. C. G. Muir	Aquat Toxicol	Coregonus clupeaformis	Lake Whitefish	2,3,7,8-TCDD	1746-01-6	0.085	MG/KG	Growth	NA	Ingestion	Whole Body	Early Juvenile	East US to NS streams, lakes	Carnivore-aquatic insects, fish	Growth study, see histological study
1997	Fisk, A. T., A. L. Yarechewski, D. A. Metner, R. E. Evans, W. L. Lockhart, and D. C. G. Muir	Aquat Toxicol	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.15	MG/KG	Growth	NA	Ingestion	Whole Body	Early Juvenile	Cool streams	Carnivore-juv fish, inverts	Growth study , see histologogical study
1997	Fisk, A. T., A. L. Yarechewski, D. A. Metner, R. E. Evans, W. L. Lockhart, and D. C. G. Muir	Aquat Toxicol	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.15	MG/KG	Growth	NA	Ingestion	Whole Body	Early Juvenile	Cool streams	Carnivore-juv fish, inverts	Growth study , see histologogical study
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	2.30E-05	MG/KG	Mortality	NOED	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	TCDD exposure resulted from feeding adult female trout for up to 149d prior to spawning. No significant differences were found between exp. dose and egg bioaccumulation.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	2.30E-05	MG/KG	Mortality	NOED	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	TCDD exposure resulted from feeding adult female trout for up to 149d prior to spawning. No significant differences were found between exp. dose and egg bioaccumulation.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	3.40E-05	MG/KG	Mortality	NOED	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Egg groups received one injection out of 7 graded doses of TCDD.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	3.40E-05	MG/KG	Growth	NOED	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	No significant sac fry wet weight change at this TCDD concentration.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	3.40E-05	MG/KG	Mortality	NOED	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	No significant mortality at this TCDD concentration.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	3.40E-05	MG/KG	Mortality	NOED	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Egg groups received one injection out of 7 graded doses of TCDD.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	3.40E-05	MG/KG	Growth	NOED	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	No significant sac fry wet weight change at this TCDD concentration.
1991	Walker MK, JM Spitsbergen, JR Olson, RE Peterson	Can J Fish Aquat Sci 48:875-883	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	3.40E-05	MG/KG	Mortality	NOED	Water	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	No significant mortality at this TCDD concentration.

1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	4.40E-05	MG/KG	Mortality	NOED	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs were treated with waterborne TCDD.
1994	Walker MK, PM Cook, AR Batterman, BC Butterworth, C Berini, JJ Libal, LC Hufnagle, RE Peterson	Can J Fish Aquat Sci 51:1410-1419	Salvelinus namaycush	Trout - Lake	2,3,7,8-TCDD	1746-01-6	4.40E-05	MG/KG	Mortality	NOED	Ingestion	Whole Body	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Eggs were treated with waterborne TCDD.
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.0001	MG/KG	Mortality	NOED	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Sac Fry and hatching fry
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.0001	MG/KG	Mortality	NOED	Injection	Whole Body	Fry	Cool streams	Carnivore-juv fish, inverts	Sac Fry and hatching fry
1986	Kleeman, J.M., J.R. Olson, S.M. Chen and R.E. Peterson	Toxicol Appl Pharmacol 083:402-411.	Perca flavescens	Yellow perch	TCDD	1746-01-6	0.000143	MG/KG	Growth	NOED	Ingestion	Whole Body	Immature	East US to NS streams, lakes	Carnivore-aquatic insects, fish, inverts	No Effect On Growth. Residue measured at end of exposure period.
1986	Kleeman, J.M., J.R. Olson, S.M. Chen and R.E. Peterson	Toxicol Appl Pharmacol 083:402-411.	Perca flavescens	Yellow perch	TCDD	1746-01-6	0.000143	MG/KG	Mortality	NOED	Ingestion	Whole Body	Immature	East US to NS streams, lakes	Carnivore-aquatic insects, fish, inverts	No Effect On Mortality. Residue measured at end of exposure period.
1986	Kleeman, J.M., J.R. Olson, S.M. Chen and R.E. Peterson	Toxicol Appl Pharmacol 083:402-411.	Perca flavescens	Yellow perch	2,3,7,8-TCDD	1746-01-6	0.000143	MG/KG	Growth	NOED	Ingestion	Whole Body	Immature	East US to NS streams, lakes	Carnivore-aquatic insects, fish, inverts	No Effect On Growth. Residue measured at end of exposure period.
1986	Kleeman, J.M., J.R. Olson, S.M. Chen and R.E. Peterson	Toxicol Appl Pharmacol 083:402-411.	Perca flavescens	Yellow perch	2,3,7,8-TCDD	1746-01-6	0.000143	MG/KG	Mortality	NOED	Ingestion	Whole Body	Immature	East US to NS streams, lakes	Carnivore-aquatic insects, fish, inverts	No Effect On Mortality. Residue measured at end of exposure period.
1986	Kleeman, J.M., J.R. Olson, S.M. Chen and R.E. Peterson	Toxicol Appl Pharmacol 083:391-401.	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00025	MG/KG	Growth	NOED	Ingestion	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	No Effect On Growth. Residue measured at end of exposure period.
1986	Kleeman, J.M., J.R. Olson, S.M. Chen and R.E. Peterson	Toxicol Appl Pharmacol 083:391-401.	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00025	MG/KG	Mortality	NOED	Ingestion	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	No Effect On Mortality. Residue measured at end of exposure period.
1986	Kleeman, J.M., J.R. Olson, S.M. Chen and R.E. Peterson	Toxicol Appl Pharmacol 083:391-401.	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00025	MG/KG	Growth	NOED	Ingestion	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	No Effect On Growth. Residue measured at end of exposure period.
1986	Kleeman, J.M., J.R. Olson, S.M. Chen and R.E. Peterson	Toxicol Appl Pharmacol 083:391-401.	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.00025	MG/KG	Mortality	NOED	Ingestion	Whole Body	Immature	Cool streams	Carnivore-juv fish, inverts	No Effect On Mortality. Residue measured at end of exposure period.
1994	Tietge, J.E.	Society of Environmental Toxicology and Chemistry 15th Annual Meeting Abstract	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	0.0006	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Immature	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	No Delay In Spawning; TCDD-spiked Diet To Produce Desired Body Burden; Abstract With Minimal Information
1994	Tietge, J.E.	Society of Environmental Toxicology and Chemistry 15th Annual Meeting Abstract	Salvelinus fontinalis	Trout - Brook	2,3,7,8-TCDD	1746-01-6	0.0006	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Immature	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	No Delay In Spawning; TCDD-spiked Diet To Produce Desired Body Burden; Abstract With Minimal Information
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Ictalurus melas	Black Bullhead	TCDD	1746-01-6	0.001	MG/KG	Mortality	NOED	Injection	Whole Body	NA	Quiet and slow moving waters	Aquatic invertebrates, including aquatic insects and their larvae	No significant increase in mortality.
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Ictalurus melas	Black Bullhead	2,3,7,8-TCDD	1746-01-6	0.001	MG/KG	Mortality	NOED	Injection	Whole Body	NA	Quiet and slow moving waters	Aquatic invertebrates, including aquatic insects and their larvae	No significant increase in mortality.

1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Lepomis macrochirus	Bluegill	TCDD	1746-01-6	0.001	MG/KG	Mortality	NOED	Injection	Whole Body	NA	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No significant increase in mortality.
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Lepomis macrochirus	Bluegill	2,3,7,8-TCDD	1746-01-6	0.001	MG/KG	Mortality	NOED	Injection	Whole Body	NA	Vegetation in lakes, ponds, streams	Carnivore-aquatic insects, fish, inverts	No significant increase in mortality.
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Cyprinus carpio	Common carp	TCDD	1746-01-6	0.001	MG/KG	Mortality	NOED	Injection	Whole Body	NA	Warm lakes, ponds, streams	Omnivore-plants, detritus	No significant increase in mortality.
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Cyprinus carpio	Common carp	2,3,7,8-TCDD	1746-01-6	0.001	MG/KG	Mortality	NOED	Injection	Whole Body	NA	Warm lakes, ponds, streams	Omnivore-plants, detritus	No significant increase in mortality.
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Micropterus salmoides	Largemouth Bass	TCDD	1746-01-6	0.001	MG/KG	Mortality	NOED	Injection	Whole Body	NA	Canada south to Florida, Texas, into Mexico; lakes, bayous, sluggish waters, moderate to shallow depths; mud-sand-gravel bottoms	Omnivorous; other fish, small animals	No significant increase in mortality.
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Micropterus salmoides	Largemouth Bass	2,3,7,8-TCDD	1746-01-6	0.001	MG/KG	Mortality	NOED	Injection	Whole Body	NA	Canada south to Florida, Texas, into Mexico; lakes, bayous, sluggish waters, moderate to shallow depths; mud-sand-gravel bottoms	Omnivorous; other fish, small animals	No significant increase in mortality.
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.001	MG/KG	Mortality	NOED	Injection	Whole Body	NA	Cool streams	Carnivore-juv fish, inverts	No significant increase in mortality.
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.001	MG/KG	Mortality	NOED	Injection	Whole Body	NA	Cool streams	Carnivore-juv fish, inverts	No significant increase in mortality.
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Perca flavescens	Yellow perch	TCDD	1746-01-6	0.001	MG/KG	Mortality	NOED	Injection	Whole Body	NA	East US to NS streams, lakes	Carnivore-aquatic insects, fish, inverts	No significant increase in mortality.
1988	Kleeman, J.M., J.R. Olson and R.E. Peterson	Fundam. Appl. Toxicol. 10:206-213.	Perca flavescens	Yellow perch	2,3,7,8-TCDD	1746-01-6	0.001	MG/KG	Mortality	NOED	Injection	Whole Body	NA	East US to NS streams, lakes	Carnivore-aquatic insects, fish, inverts	No significant increase in mortality.
1994	Tietge, J.E.	Society of Environmental Toxicology and Chemistry 15th Annual Meeting Abstract	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	0.0012	MG/KG	Growth	NOED	Ingestion	Whole Body	Immature	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	No Significant Growth Effect At Highest Target Body Burden; TCDD-spiked Diet To Produce Desired Body Burden; Abstract With Minimal Information
1994	Tietge, J.E.	Society of Environmental Toxicology and Chemistry 15th Annual Meeting Abstract	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	0.0012	MG/KG	Mortality	NOED	Ingestion	Whole Body	Immature	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	No Significant Mortality At Highest Target Body Burden; TCDD-spiked Diet To Produce Desired Body Burden; Abstract With Minimal Information

1994	Tietge, J.E.	Society of Environmental Toxicology and Chemistry 15th Annual Meeting Abstract	Salvelinus fontinalis	Trout - Brook	2,3,7,8-TCDD	1746-01-6	0.0012	MG/KG	Growth	NOED	Ingestion	Whole Body	Immature	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	No Significant Growth Effect At Highest Target Body Burden; TCDD-spiked Diet To Produce Desired Body Burden; Abstract With Minimal Information
1994	Tietge, J.E.	Society of Environmental Toxicology and Chemistry 15th Annual Meeting Abstract	Salvelinus fontinalis	Trout - Brook	2,3,7,8-TCDD	1746-01-6	0.0012	MG/KG	Mortality	NOED	Ingestion	Whole Body	Immature	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	No Significant Mortality At Highest Target Body Burden; TCDD-spiked Diet To Produce Desired Body Burden; Abstract With Minimal Information
1977	Hawkes, C.L. and L.A. Norris.	Trans Am Fish Soc 106:641-645.	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.0016	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	No difference in growth (weight).
1977	Hawkes, C.L. and L.A. Norris.	Trans Am Fish Soc 106:641-645.	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.0016	MG/KG	Mortality	NOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	No increase in mortality.
1977	Hawkes, C.L. and L.A. Norris.	Trans Am Fish Soc 106:641-645.	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.0016	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	No difference in growth (weight).
1977	Hawkes, C.L. and L.A. Norris.	Trans Am Fish Soc 106:641-645.	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.0016	MG/KG	Mortality	NOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	No increase in mortality.
1991	Janz, D.M. and C.D. Metcalfe	Environ Tox & Chem 10:917-923.	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.005	MG/KG	Mortality	NOED	Injection	Whole Body	NA	Cool streams	Carnivore-juv fish, inverts	Internal Dose Used As Tissue Concentration; No Mortality At 72 H At Highest Test Dose
1991	Janz, D.M. and C.D. Metcalfe	Environ Tox & Chem 10:917-923.	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.005	MG/KG	Mortality	NOED	Injection	Whole Body	NA	Cool streams	Carnivore-juv fish, inverts	Internal Dose Used As Tissue Concentration; No Mortality At 72 H At Highest Test Dose
1975	Isensee, A.R. and G.E. Jones	Environ Sci Tech 09:668-672	Ictalurus punctatus	Catfish-Channel	TCDD	1746-01-6	0.14	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Rapid water streams	Omnivore	No effect on survival. Model ecosystem.
1975	Isensee, A.R. and G.E. Jones	Environ Sci Tech 09:668-672	Ictalurus punctatus	Catfish-Channel	2,3,7,8-TCDD	1746-01-6	0.14	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Rapid water streams	Omnivore	No effect on survival. Model ecosystem.
1975	Isensee AR, GE Jones	Environ Sci Tech 09:668-672	Ictalurus punctatus	Catfish-Channel	TCDD	1746-01-6	0.19	MG/KG	Mortality	NOED	Absorption	Whole Body	Juvenile	Rapid water streams	Omnivore	
1975	Isensee AR, GE Jones	Environ Sci Tech 09:668-672	Ictalurus punctatus	Catfish-Channel	2,3,7,8-TCDD	1746-01-6	0.19	MG/KG	Mortality	NOED	Absorption	Whole Body	Juvenile	Rapid water streams	Omnivore	
1986	Kleeman JM, JR Olson, SM Chen, RE Peterson	Toxicol Appl Pharmacol 083:391-401	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.25	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1986	Kleeman JM, JR Olson, SM Chen, RE Peterson	Toxicol Appl Pharmacol 083:391-401	Oncorhynchus mykiss	Trout - Rainbow	2,3,7,8-TCDD	1746-01-6	0.25	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Cool streams	Carnivore-juv fish, inverts	
1975	Isensee, A.R. and G.E. Jones	Environ Sci Tech 09:668-672	Gambusia affinis	Mosquito fish	TCDD	1746-01-6	0.44	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	No effect on survival. Model ecosystem.
1975	Isensee, A.R. and G.E. Jones	Environ Sci Tech 09:668-672	Gambusia affinis	Mosquito fish	2,3,7,8-TCDD	1746-01-6	0.44	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	No effect on survival. Model ecosystem.

1975	Isensee AR, GE Jones	Environ Sci Tech 09:668-672	Gambusia affinis	Mosquito fish	TCDD	1746-01-6	0.9	MG/KG	Mortality	NOED	Absorption	Whole Body	NS	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	
1975	Isensee AR, GE Jones	Environ Sci Tech 09:668-672	Gambusia affinis	Mosquito fish	2,3,7,8-TCDD	1746-01-6	0.9	MG/KG	Mortality	NOED	Absorption	Whole Body	NS	Brackish and freshwater marshes and lagoons of south Atlantic and Gulf coasts, north to southern Illinois;	Swim near surface feeding chiefly on insects and small crustacea	

Lowest LOED = 3.00E-05
Highest NOED = 9.00E-01

Critical Body Residue Data - Invertebrate

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Helisoma campanulata	Snail	Arsenic	7440-38-2	4.2	MG/KG	Mortality	ED16	Combined	Whole Body	Adult	Not Specified	Not Specified	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph
2008	Irving EC, RB Lowell, JM Culp, K Liber, Q Xie, R Kerrich	Environ. Tox & Chem 27(3):583-590	Baetis tricaudatus	Mayfly	Arsenic	7440-38-2	0.249	MG/KG	Growth	ED43	Water	Whole Body	Nymph			As (V), High DO, change in body mass
2008	Irving EC, RB Lowell, JM Culp, K Liber, Q Xie, R Kerrich	Environ. Tox & Chem 27(3):583-590	Baetis tricaudatus	Mayfly	Arsenic	7440-38-2	0.6186	MG/KG	Growth	ED47	Water	Whole Body	Nymph			As (V), Low DO, change in body mass
2008	Irving EC, RB Lowell, JM Culp, K Liber, Q Xie, R Kerrich	Environ. Tox & Chem 27(3):583-590	Baetis tricaudatus	Mayfly	Arsenic	7440-38-2	0.6186	MG/KG	Growth	ED48	Water	Whole Body	Nymph			As (V), Low DO, change in thorax length
2008	Irving EC, RB Lowell, JM Culp, K Liber, Q Xie, R Kerrich	Environ. Tox & Chem 27(3):583-590	Baetis tricaudatus	Mayfly	Arsenic	7440-38-2	0.249	MG/KG	Growth	ED60	Water	Whole Body	Nymph			As (V), High DO, change in thorax length
2008	Irving EC, RB Lowell, JM Culp, K Liber, Q Xie, R Kerrich	Environ. Tox & Chem 27(3):583-590	Baetis tricaudatus	Mayfly	Arsenic	7440-38-2	0.7326	MG/KG	Growth	ED73	Water	Whole Body	Nymph			As (III), High DO, change in thorax length
2008	Irving EC, RB Lowell, JM Culp, K Liber, Q Xie, R Kerrich	Environ. Tox & Chem 27(3):583-590	Baetis tricaudatus	Mayfly	Arsenic	7440-38-2	0.7326	MG/KG	Growth	ED90	Water	Whole Body	Nymph			As (III), High DO, change in body mass
2008	Irving EC, RB Lowell, JM Culp, K Liber, Q Xie, R Kerrich	Environ. Tox & Chem 27(3):583-590	Baetis tricaudatus	Mayfly	Arsenic	7440-38-2	0.9286	MG/KG	Growth	ED94	Water	Whole Body	Nymph			As (III), Low DO, change in body mass
1990	Lindsay, D.M. and J.G. Sanders	Environ Tox & Chem 09:391-395	Palaemonetes pugio	Shrimp - Grass	Arsenic	7440-38-2	1.15	MG/KG	Growth	NOED	Absorption	Whole Body	Juvenile	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	No effect on growth rate.
1990	Lindsay, D.M. and J.G. Sanders	Environ Tox & Chem 09:391-395	Palaemonetes pugio	Shrimp - Grass	Arsenic	7440-38-2	1.28	MG/KG	Growth	NOED	Combined	Whole Body	Juvenile	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	No effect on growth rate. Exposure to 10 ug/L arsenate in water and 14.6 ug/g in diet.
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Stagnicola emarginatus	Snail	Arsenic	7440-38-2	3.6	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Stagnicola emarginatus	Snail	Arsenic	7440-38-2	3.6	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Stagnicola emarginatus	Snail	Arsenic	7440-38-2	3.6	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Stagnicola emarginatus	Snail	Arsenic	7440-38-2	3.6	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Daphnia magna	Water flea	Arsenic	7440-38-2	3.8	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph, Tissues Exposed 21 D
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Daphnia magna	Water flea	Arsenic	7440-38-2	4	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph, Tissues Exposed 21 D
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Helisoma campanulata	Snail	Arsenic	7440-38-2	4	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph

1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Daphnia magna	Water flea	Arsenic	7440-38-2	4.4	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph, Tissues Exposed 21 D
1990	Lindsay DM, JG Sanders.	Environ Tox & Chem 09:391-395	Palaemonetes pugio	Shrimp - Grass	Arsenic	7440-38-2	5.72	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	Food was arsenic exposed Artemia sp.
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Helisoma campanulata	Snail	Arsenic	7440-38-2	5.8	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Pteronarcys dorsata	Giant Black Stonefly	Arsenic	7440-38-2	6	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Abundant in streams and rivers across northern half of continent south to Montana, Minnesota, and in Appalachians to Georgia	Larvae primarily detritivores, herbivores in mixed substrata, detritus, woody debris	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph
1990	Lindsay DM, JG Sanders.	Environ Tox & Chem 09:391-395	Palaemonetes pugio	Shrimp - Grass	Arsenic	7440-38-2	6.39	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	Food was arsenic exposed Artemia sp.
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Pteronarcys dorsata	Giant Black Stonefly	Arsenic	7440-38-2	7	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Abundant in streams and rivers across northern half of continent south to Montana, Minnesota, and in Appalachians to Georgia	Larvae primarily detritivores, herbivores in mixed substrata, detritus, woody debris	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Pteronarcys dorsata	Giant Black Stonefly	Arsenic	7440-38-2	8.4	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Abundant in streams and rivers across northern half of continent south to Montana, Minnesota, and in Appalachians to Georgia	Larvae primarily detritivores, herbivores in mixed substrata, detritus, woody debris	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Pteronarcys dorsata	Giant Black Stonefly	Arsenic	7440-38-2	8.4	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Abundant in streams and rivers across northern half of continent south to Montana, Minnesota, and in Appalachians to Georgia	Larvae primarily detritivores, herbivores in mixed substrata, detritus, woody debris	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Daphnia magna	Water flea	Arsenic	7440-38-2	9.8	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph, Tissues Exposed 21 D
1980	Spehar, R.L., Fiandt, J.T., Anderson, R.L., Defoe, D.L.	Arch Environ Contam Toxicol 09:53-63	Helisoma campanulata	Snail	Arsenic	7440-38-2	16	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	Mixture Of 4 Arsenic Cmpds, Est Body Burden From Graph

Lowest LOED = 0.249
Highest NOED = 16

Year	Author	Publication Source	cies Scientific Na	es Common N	nalyte Nam	CAS No	Conc_Wet	Conc_Units	Effect Class	icity Meas	xposure Rout	Species Body Part	es Start Life	Species Habitat	Species Feeding Behavior	Comments
1981	Hatakeyama S, M Yasuno	Ecotoxicol Environ Saf 05:341-380	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	0.708	MG/KG	Mortality	LOED	Ingestion	Whole Body	Other	Not Specified	Not Specified	
1977	Vernberg, W.B., Decoursey, P.J., Kelly, M., Johns, D.M.	Bull Environ Contam Toxicol 17:16-24	Palaemonetes pugio	Shrimp - Grass	Cadmium	7440-43-9	2.6	MG/KG	Mortality	LOED	Absorption	Whole Body	NA	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	20% Increase in mortality. Salinity 5 ppt.
1978	Marshall, J.S.	J Fish Res Bd Can 35:461-469.	Daphnia galeata mendotae	Cladoceran	Cadmium	7440-43-9	3.5	MG/KG	Mortality	LOED	Absorption	Whole Body	Populatio n	In lakes of northern part of continent, especially glaciated regions	Feeds on algae and similar organisms	430% Increase in prenatal mortality (aborted eggs and embryos).
1977	Vernberg, W.B., Decoursey, P.J., Kelly, M., Johns, D.M.	Bull Environ Contam Toxicol 17:16-24	Palaemonetes pugio	Shrimp - Grass	Cadmium	7440-43-9	4.6	MG/KG	Mortality	LOED	Absorption	Whole Body	NA	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	10% Increase in mortality. Salinity 10 ppt.
1983	Sundelin, B.	Mar Biol 74, 203-212 (1983)	Monoporeia affinis	Amphipod	Cadmium	7440-43-9	6	MG/KG	Reproduction	LOED	Combined	Whole Body	Adult	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	Percent Malformed Eggs
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	6	MG/KG	Mortality	LOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water Exp_Conc are nominal concentrations.
1977	Vernberg, W.B., Decoursey, P.J., Kelly, M., Johns, D.M.	Bull Environ Contam Toxicol 17:16-24	Palaemonetes pugio	Shrimp - Grass	Cadmium	7440-43-9	7	MG/KG	Mortality	LOED	Absorption	Whole Body	NA	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	25% Increase in mortality. Salinity 5 ppt.
1994	Postma, J.F., M.C. Buckert-de Jong, N. Staats, and C. Davids	Arch Environ Contam Toxicol 26:143-148	Chironomus riparius	Midge	Cadmium	7440-43-9	7.6	MG/KG	Mortality	LOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	Increased mortality.
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	7.8	MG/KG	Mortality	LOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water +20mg Humic Acid Exp_Conc are nominal concentrations
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	7.8	MG/KG	Mortality	LOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water +0.5 uM EDTA Exp_Conc are nominal concentrations
1978	Marshall, J.S.	J Fish Res Bd Can 35:461-469.	Daphnia galeata mendotae	Cladoceran	Cadmium	7440-43-9	8.6	MG/KG	Mortality	LOED	Absorption	Whole Body	Populatio n	In lakes of northern part of continent, especially glaciated regions	Feeds on algae and similar organisms	Significant decrease in average number of individuals and average biomass of population.
1981	Hatakeyama, S. and M. Yasuno	Ecotoxicol Environ Saf 05:341-350	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	10	MG/KG	Reproduction	LOED	Ingestion	Whole Body	Larval	Not Specified	Not Specified	Reduced Brood Size. Residue at 6 days.
1983	Sundelin, B.	Mar Biol 74, 203-212 (1983)	Monoporeia affinis	Amphipod	Cadmium	7440-43-9	11	MG/KG	Mortality	LOED	Combined	Whole Body	Adult	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	15.2	MG/KG	Mortality	LOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	10 % Tap Water + 90% glass-distilled Water Exp_Conc are nominal concentrations.
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	17.4	MG/KG	Mortality	LOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water + Sediment A Exp_Conc are nominal concentrations
1981	Hatakeyama, S. and M. Yasuno	Ecotoxicol Environ Saf 05:341-350	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	20	MG/KG	Growth	LOED	Ingestion	Whole Body	Larval	Not Specified	Not Specified	Reduced length. Residue at 6 days.
1981	Hatakeyama, S. and M. Yasuno	Ecotoxicol Environ Saf 05:341-350	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	20	MG/KG	Mortality	LOED	Ingestion	Whole Body	Larval	Not Specified	Not Specified	Reduced Survival. Residue at 6 days.
1979	Thorp, J.H., Giesy, J.P., Wineriter, S.A.	Arch Environ Contam Toxicol 08:449-456	Cambarus latimanus	Crayfish	Cadmium	7440-43-9	22	MG/KG	Mortality	LOED	Combined	Whole Body	Adult	Streams, lakes, swamps, North Carolina to Florida	Feeds on both plant and animal material	Significant increase in mortality. Feed contaminated with 0.17 ug Cd/g.
1990	Heinis, F., Timmermans, K.R., and W.R. Swain	Aquat Toxicol 16:73-86.	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	26	MG/KG	Growth	LOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	Significant decrease in larval weight and population biomass.
1990	Heinis, F., K.R. Timmermans, W.R. Swain.	Aquat Toxicol 16:73-86	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	30	MG/KG	Growth	LOED	Water	Whole Body	Larval	Not Specified	Not Specified	PCBs - 41, 512, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184 and 193 in a mixture with equal amounts of each. Dead larvae allowed to depurate overnight in clean water prior to bioconc analysis. Weight

1988	Abel, T. and F. Barlocher.	Journal of Applied Ecology, 25:223-231.	Gammarus fossarum	Amphipod	Cadmium	7440-43-9	48.4	MG/KG	Mortality	LOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	Increase in mortality. Soft water 4.4 mg/L Ca ion, pH 7.2. Artificial stream system.
1990	Heinis, F., K.R. Timmermans, W.R. Swain.	Aquat Toxicol 16:73-86	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	50	MG/KG	Growth	LOED	Water	Whole Body	Larval	Not Specified	Not Specified	PCBs - 41, 512, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184 and 193 in a mixture with equal amounts of each. Dead larvae allowed to depurate overnight in clean water prior to bioconc analysis. Biomass
1988	Abel, T. and F. Barlocher.	Journal of Applied Ecology, 25:223-231.	Gammarus fossarum	Amphipod	Cadmium	7440-43-9	52.8	MG/KG	Mortality	LOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	Increase in mortality. Hard water 83-87 mg/L Ca ion, pH 8.3. Artificial stream system.
1988	Abel, T. and F. Barlocher.	Journal of Applied Ecology, 25:223-231.	Gammarus fossarum	Amphipod	Cadmium	7440-43-9	53.4	MG/KG	Mortality	LOED	Water	Whole Body	Adult	Not Specified	Not Specified	Increase in mortality. Soft water 4.4 mg/L Ca ion, pH 7.2. Artificial stream system.
1988	Abel, T. and F. Barlocher.	Journal of Applied Ecology, 25:223-231.	Gammarus fossarum	Amphipod	Cadmium	7440-43-9	101.6	MG/KG	Mortality	LOED	Water	Whole Body	Adult	Not Specified	Not Specified	Increase in mortality. Hard water 83-87 mg/L Ca ion, pH 8.3. Artificial stream system.
1990	Heinis, F., K.R. Timmermans, W.R. Swain.	Aquat Toxicol 16:73-86	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	138	MG/KG	Mortality	LOED	Water	Whole Body	Larval	Not Specified	Not Specified	PCBs - 41, 512, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184 and 193 in a mixture with equal amounts of each. Dead larvae allowed to depurate overnight in clean water prior to bioconc analysis.
2002	Gillis, P.L., L.C. Diener, T.B. Reynoldson, D.G.Dixon	Environ Tox & Chem 21(9):1836-1844	Tubifex tubifex	Oligochaete sp.	Cadmium	7440-43-9	3415	MG/KG	Reproduction	LOED	Combined	Whole Body	Adult	Not Specified	Not Specified	# Young
2002	Gillis, P.L., L.C. Diener, T.B. Reynoldson, D.G.Dixon	Environ Tox & Chem 21(9):1836-1844	Tubifex tubifex	Oligochaete sp.	Cadmium	7440-43-9	3617	MG/KG	Reproduction	LOED	Combined	Whole Body	Adult	Not Specified	Not Specified	Number of Cocoons(all significant above this concentration)
2007	Sofyan A, G Rosita, DJ Price, WJ Birge	Environ Toxicol & Chem 26(3):470-477	Ceriodaphnia dubia	Water fleas	Cadmium	7440-43-9	0.026	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Adult	NS	NS	Dietary w/algae #Neonates/adult BMF range: 0.03-1.46 AAS; HNO3 digestion
1981	Hatakeyama S, M Yasuno	Ecotoxicol Environ Saf 05:341-380	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	0.5	MG/KG	Mortality	NOED	Ingestion	Whole Body	Other	Not Specified	Not Specified	Food is Cadmium fed Chlorella sp.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	0.59	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	0.61	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	0.61	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	0.84	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	0.84	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
1996	Rule, J.H., and R.W. Alden III	Environ Tox & Chem 15:466-471	Palaemonetes pugio	Shrimp - Grass	Cadmium	7440-43-9	0.9	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	Estimated Wet Weight
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	1	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	1	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water

1977	Vernberg, W.B., Decoursey, P.J., Kelly, M., Johns, D.M.	Bull Environ Contam Toxicol 17:16-24	Palaemonetes pugio	Shrimp - Grass	Cadmium	7440-43-9	1.6	MG/KG	Mortality	NOED	Absorption	Whole Body	NA	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	No increase in mortality. Salinity 30 ppt.
1984	Sundelin, B.	Ecotoxicological Testing for the Marine Environment, Vol. 2, 588 P, 1984	Monoporeia affinis	Amphipod	Cadmium	7440-43-9	2	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	Body Burden Est. From Graph
1983	Sundelin, B.	Mar Biol 74, 203-212 (1983)	Monoporeia affinis	Amphipod	Cadmium	7440-43-9	3	MG/KG	Reproduction	NOED	Combined	Whole Body	Adult	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	Percent Malformed Eggs
1989	Brown AF, D. Pascoe	J. Appl. Ecol 26:473-487	Pomphorhynchus laevis	Acanthocephalan paracite	Cadmium	7440-43-9	3.832	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	
1996	Tessier, C. and J-S. Blais.	Ecotoxicol Environ Saf 33:246-252.	Dreissena polymorpha	Mussel - Zebra	Cadmium	7440-43-9	4	MG/KG	Mortality	NOED	Absorption	Whole Body	NA	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No increase in mortality.
2003	Heugens EHW, T Jager, R Creyghton, MHS Kraak, AJ Hendriks, NM Van Straalen, and W Admiraal	Environ Sci Tech 37:2145-2151	Daphnia magna	Water flea	Cadmium	7440-43-9	4	MG/KG	Mortality	NOED	Water	Whole Body	Neonate	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	At 10 degrees C.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	4.53	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	4.53	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	4.6	MG/KG	Mortality	NOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water Exp_Conc are nominal concentrations
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	4.6	MG/KG	Mortality	NOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water +0.5 uM EDTA Exp_Conc are nominal concentrations
1994	Postma, J.F., M.C. Buckert-de Jong, N. Staats, and C. Davids	Arch Environ Contam Toxicol 26:143-148	Chironomus riparius	Midge	Cadmium	7440-43-9	5.6	MG/KG	Mortality	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No increase in mortality.
1978	Marshall, J.S.	J Fish Res Bd Can 35:461-469.	Daphnia galeata mendotae	Cladoceran	Cadmium	7440-43-9	5.7	MG/KG	Mortality	NOED	Absorption	Whole Body	Population	In lakes of northern part of continent, especially glaciated regions	Feeds on algae and similar organisms	No significant difference in average number of individuals and average biomass of population.
1983	Sundelin, B.	Mar Biol 74, 203-212 (1983)	Monoporeia affinis	Amphipod	Cadmium	7440-43-9	6	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	6.4	MG/KG	Mortality	NOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water +20mg Humic Acid Exp_Conc are nominal concentrations
1994	Postma, J.F., M.C. Buckert-de Jong, N. Staats, and C. Davids	Arch Environ Contam Toxicol 26:143-148	Chironomus riparius	Midge	Cadmium	7440-43-9	7.6	MG/KG	Growth	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No significant difference in weight gain measured in males as dry weight.
1994	Postma, J.F., M.C. Buckert-de Jong, N. Staats, and C. Davids	Arch Environ Contam Toxicol 26:143-148	Chironomus riparius	Midge	Cadmium	7440-43-9	7.6	MG/KG	Reproduction	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No significant difference in number of eggs per female.
1981	Hatakeyama, S. and M. Yasuno	Ecotoxicol Environ Saf 05:341-350	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	8	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Larval	Not Specified	Not Specified	No Effect On Brood Size. Residue at 6 days.
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	8.4	MG/KG	Mortality	NOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	10 % Tap Water + 90% glass-distilled Water Exp_Conc are nominal concnetrations
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	9.4	MG/KG	Mortality	NOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water + Sediment A Exp_Conc are nominal concentrations

1984	Sundelin, B.	Ecotoxicological Testing for the Marine Environment, Vol. 2, 588 P, 1984	Monoporeia affinis	Amphipod	Cadmium	7440-43-9	10	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	Body Burden Est. From Graph
1981	Hatakeyama, S. and M. Yasuno	Ecotoxicol Environ Saf 05:341-350	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	10	MG/KG	Mortality	NOED	Ingestion	Whole Body	Larval	Not Specified	Not Specified	No Effect On Survival. Residue at 6 days.
1995	Couillard Y, PGC Cambell, A Tessier, J Pellerin-Massicotte, JC Auclair	Can J Fish Aquat Sci 52:690-702	Anodonta grandis	Freshwater mussel	Cadmium	7440-43-9	11.5	MG/KG	Growth	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	Plastic enclosures within lake, Group transferred to polluted lake
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	12.4	MG/KG	Mortality	NOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water + Sediment B Exp_Conc are nominal concentrations
2001	Illes, J., R.D. Evans, G.C. Balch	Bull Environ Contam Toxicol 66:484-491	Hydropsyche sp.	Net-spinning Caddisfly	Cadmium	7440-43-9	12.4	MG/KG	Growth	NOED	Water	Whole Body	Larval	Not Specified	Not Specified	Raised Cadmium concentration with additional Disolved Organic Carbon. Weight
1979	Thorp, J.H., Giesy, J.P., Wineriter, S.A.	Arch Environ Contam Toxicol 08:449-456	Cambarus latimanus	Crayfish	Cadmium	7440-43-9	14.9	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Streams, lakes, swamps, North Carolina to Florida	Feeds on both plant and animal material	No significant increase in mortality. Feed contaminated with 0.17 ug Cd/g.
2001	Illes, J., R.D. Evans, G.C. Balch	Bull Environ Contam Toxicol 66:484-491	Hydropsyche sp.	Net-spinning Caddisfly	Cadmium	7440-43-9	15.6	MG/KG	Growth	NOED	Water	Whole Body	Larval	Not Specified	Not Specified	Raised Cadmium concentration without additional Disolved Organic Carbon. Weight
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	18.48	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	18.48	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
2001	Barfield, M.L., J.L. Farris, M.C. Black	J Toxicol Environ Health, Part A 63:495-510	Corbicula fluminea	Clam - Asiatic	Cadmium	7440-43-9	20	MG/KG	Mortality	NOED	Water	Whole Body	NS	Columbia River, WA south to Baja Cal., east to New Jersey south to Florida; silty clay, silty sand, shallow water to 18 m	Filter feeders; phytoplankton, detritus, bacteria, small zooplankters	Cellulase Enzyme Activity
1990	Heinis, F., Timmermans, K.R., and W.R. Swain	Aquat Toxicol 16:73-86.	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	20	MG/KG	Growth	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No significant difference in larval weight or population biomass.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	20.7	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	20.7	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	20.94	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	20.94	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	20.94	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
1979	Thorp, J.H., Giesy, J.P., Wineriter, S.A.	Arch Environ Contam Toxicol 08:449-456	Cambarus latimanus	Crayfish	Cadmium	7440-43-9	22	MG/KG	Growth	NOED	Combined	Whole Body	Adult	Streams, lakes, swamps, North Carolina to Florida	Feeds on both plant and animal material	No significant difference in length and weight. Feed contaminated with 0.17 ug Cd/g.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	24.81	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	24.81	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	25.08	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent

2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	25.08	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
1990	Heinis, F., K.R. Timmermans, W.R. Swain.	Aquat Toxicol 16:73-86	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	30	MG/KG	Growth	NOED	Water	Whole Body	Larval	Not Specified	Not Specified	PCBs - 41, 512, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184 and 193 in a mixture with equal amounts of each. Dead larvae allowed to depurate overnight in clean water prior to bioconc analysis. Biomass
1993	Mersch, J., E. Morhain, and C. Mouvet.	Chemosphere 27(8):1475-1485.	Dreissena polymorpha	Mussel - Zebra	Cadmium	7440-43-9	32	MG/KG	Mortality	NOED	Combined	Whole Body	NA	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No increase in mortality.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	37.18	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	41.49	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	41.49	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	41.8	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	41.8	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	42.92	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	42.92	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	49.87	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	49.87	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	50.84	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	50.84	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	52.74	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	52.74	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
1988	Abel, T. and F. Barlocher.	Journal of Applied Ecology, 25:223-231.	Gammarus fossarum	Amphipod	Cadmium	7440-43-9	53.4	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	No increase in mortality. Hard water 83-87 mg/L Ca ion, pH 8.3. Artificial stream system.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	71.15	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	71.15	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent

1990	Heinis, F., K.R. Timmermans, W.R. Swain.	Aquat Toxicol 16:73-86	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	74	MG/KG	Mortality	NOED	Water	Whole Body	Larval	Not Specified	Not Specified	PCBs - 41, 512, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184 and 193 in a mixture with equal amounts of each. Dead larvae allowed to depurate overnight in clean water prior to bioconc analysis.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	96.74	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
1994	Kraak, M.H.S., M. Touissaint, D. Lavy, and C. Davids.	Environ Pollut 084:139-143.	Dreissena polymorpha	Mussel - Zebra	Cadmium	7440-43-9	100	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No increase in mortality. Residue was determined from graph and is approximate.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	109.77	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	109.77	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
1992	Kraak, M.H.S., D. Lavy, W.M.H. Peeters, and C. Davids	Arch Environ Contam Toxicol 23:363-369.	Dreissena polymorpha	Mussel - Zebra	Cadmium	7440-43-9	114	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No increase in mortality.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	126.2	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	126.2	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
1990	Heinis, F., Timmermans, K.R., and W.R. Swain	Aquat Toxicol 16:73-86.	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	140	MG/KG	Mortality	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No Effect On Mortality In 96 Hours
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	142.6	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	142.6	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2002	Gillis, P.L., L.C. Diener, T.B. Reynoldson, D.G.Dixon	Environ Tox & Chem 21(9):1836-1844	Chironomus riparius	Midge	Cadmium	7440-43-9	236.1	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	
1991	Carlson, A.R., G.L. Phipps, V.R. Mattson, P.A. Kosian and A.M. Cotter	Environ Tox & Chem 10:1309-1319.	Helisoma sp.	Snail	Cadmium	7440-43-9	300	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Not Specified	Not Specified	No Effect On Mortality
1991	Carlson, A.R., G.L. Phipps, V.R. Mattson, P.A. Kosian and A.M. Cotter	Environ Tox & Chem 10:1309-1319.	Lumbriculus variegatus	Oligochaete	Cadmium	7440-43-9	310	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	No Effect On Mortality
1991	Carlson, A.R., G.L. Phipps, V.R. Mattson, P.A. Kosian and A.M. Cotter	Environ Tox & Chem 10:1309-1319.	Helisoma sp.	Snail	Cadmium	7440-43-9	460	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Not Specified	Not Specified	No Effect On Mortality
1977	Gillespie, R., T. Reisine and E.J. Massaro	Environ Res 13:364-36.	Orconectes propinquus	Crayfish	Cadmium	7440-43-9	534	MG/KG	Mortality	NOED	Absorption	Whole Body	NA	Not Specified	Not Specified	No significant difference in mortality. Only 1 of 15 dead at end of exposure period.
1977	Gillespie R, T Reisine, EJ Massaro	Environ Res 13:364-368	Orconectes propinquus	Crayfish	Cadmium	7440-43-9	540	MG/KG	Survival	NOED	Water	Whole Body	NS	Not Specified	Not Specified	Onconectes propinquus propinquus initial weight 0.2-1.5g

2002	Gillis, P.L., L.C. Diener, T.B. Reynoldson, D.G.Dixon	Environ Tox & Chem 21(9):1836-1844	Tubifex tubifex	Oligochaete sp.	Cadmium	7440-43-9	4554	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	MTLP concentration increase
2002	Gillis, P.L., L.C. Diener, T.B. Reynoldson, D.G.Dixon	Environ Tox & Chem 21(9):1836-1844	Tubifex tubifex	Oligochaete sp.	Cadmium	7440-43-9	4554	MG/KG	Reproduction	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	# of cocoons that hatched

Lowest LOED = 0.708
Highest NOED = 4554

Year	Author	Publication Source	cies Scientific Na	es Common N	nalyte Nam	CAS No	Conc_Wet	Conc_Units	Effect Class	icity Meas	xposure Rout	Species Body Part	es Start Life	Species Habitat	Species Feeding Behavior	Comments
1981	Hatakeyama S, M Yasuno	Ecotoxicol Environ Saf 05:341-380	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	0.708	MG/KG	Mortality	LOED	Ingestion	Whole Body	Other	Not Specified	Not Specified	
1977	Vernberg, W.B., Decoursey, P.J., Kelly, M., Johns, D.M.	Bull Environ Contam Toxicol 17:16-24	Palaemonetes pugio	Shrimp - Grass	Cadmium	7440-43-9	2.6	MG/KG	Mortality	LOED	Absorption	Whole Body	NA	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	20% Increase in mortality. Salinity 5 ppt.
1978	Marshall, J.S.	J Fish Res Bd Can 35:461-469.	Daphnia galeata mendotae	Cladoceran	Cadmium	7440-43-9	3.5	MG/KG	Mortality	LOED	Absorption	Whole Body	Populatio n	In lakes of northern part of continent, especially glaciated regions	Feeds on algae and similar organisms	430% Increase in prenatal mortality (aborted eggs and embryos).
1977	Vernberg, W.B., Decoursey, P.J., Kelly, M., Johns, D.M.	Bull Environ Contam Toxicol 17:16-24	Palaemonetes pugio	Shrimp - Grass	Cadmium	7440-43-9	4.6	MG/KG	Mortality	LOED	Absorption	Whole Body	NA	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	10% Increase in mortality. Salinity 10 ppt.
1983	Sundelin, B.	Mar Biol 74, 203-212 (1983)	Monoporeia affinis	Amphipod	Cadmium	7440-43-9	6	MG/KG	Reproduction	LOED	Combined	Whole Body	Adult	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	Percent Malformed Eggs
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	6	MG/KG	Mortality	LOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water Exp_Conc are nominal concentrations.
1977	Vernberg, W.B., Decoursey, P.J., Kelly, M., Johns, D.M.	Bull Environ Contam Toxicol 17:16-24	Palaemonetes pugio	Shrimp - Grass	Cadmium	7440-43-9	7	MG/KG	Mortality	LOED	Absorption	Whole Body	NA	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	25% Increase in mortality. Salinity 5 ppt.
1994	Postma, J.F., M.C. Buckert-de Jong, N. Staats, and C. Davids	Arch Environ Contam Toxicol 26:143-148	Chironomus riparius	Midge	Cadmium	7440-43-9	7.6	MG/KG	Mortality	LOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	Increased mortality.
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	7.8	MG/KG	Mortality	LOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water +20mg Humic Acid Exp_Conc are nominal concentrations
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	7.8	MG/KG	Mortality	LOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water +0.5 uM EDTA Exp_Conc are nominal concentrations
1978	Marshall, J.S.	J Fish Res Bd Can 35:461-469.	Daphnia galeata mendotae	Cladoceran	Cadmium	7440-43-9	8.6	MG/KG	Mortality	LOED	Absorption	Whole Body	Populatio n	In lakes of northern part of continent, especially glaciated regions	Feeds on algae and similar organisms	Significant decrease in average number of individuals and average biomass of population.
1981	Hatakeyama, S. and M. Yasuno	Ecotoxicol Environ Saf 05:341-350	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	10	MG/KG	Reproduction	LOED	Ingestion	Whole Body	Larval	Not Specified	Not Specified	Reduced Brood Size. Residue at 6 days.
1983	Sundelin, B.	Mar Biol 74, 203-212 (1983)	Monoporeia affinis	Amphipod	Cadmium	7440-43-9	11	MG/KG	Mortality	LOED	Combined	Whole Body	Adult	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	15.2	MG/KG	Mortality	LOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	10 % Tap Water + 90% glass-distilled Water Exp_Conc are nominal concentrations.
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	17.4	MG/KG	Mortality	LOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water + Sediment A Exp_Conc are nominal concentrations
1981	Hatakeyama, S. and M. Yasuno	Ecotoxicol Environ Saf 05:341-350	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	20	MG/KG	Growth	LOED	Ingestion	Whole Body	Larval	Not Specified	Not Specified	Reduced length. Residue at 6 days.
1981	Hatakeyama, S. and M. Yasuno	Ecotoxicol Environ Saf 05:341-350	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	20	MG/KG	Mortality	LOED	Ingestion	Whole Body	Larval	Not Specified	Not Specified	Reduced Survival. Residue at 6 days.
1979	Thorp, J.H., Giesy, J.P., Wineriter, S.A.	Arch Environ Contam Toxicol 08:449-456	Cambarus latimanus	Crayfish	Cadmium	7440-43-9	22	MG/KG	Mortality	LOED	Combined	Whole Body	Adult	Streams, lakes, swamps, North Carolina to Florida	Feeds on both plant and animal material	Significant increase in mortality. Feed contaminated with 0.17 ug Cd/g.
1990	Heinis, F., Timmermans, K.R., and W.R. Swain	Aquat Toxicol 16:73-86.	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	26	MG/KG	Growth	LOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	Significant decrease in larval weight and population biomass.
1990	Heinis, F., K.R. Timmermans, W.R. Swain.	Aquat Toxicol 16:73-86	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	30	MG/KG	Growth	LOED	Water	Whole Body	Larval	Not Specified	Not Specified	PCBs - 41, 512, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184 and 193 in a mixture with equal amounts of each. Dead larvae allowed to depurate overnight in clean water prior to bioconc analysis. Weight

1988	Abel, T. and F. Barlocher.	Journal of Applied Ecology, 25:223-231.	Gammarus fossarum	Amphipod	Cadmium	7440-43-9	48.4	MG/KG	Mortality	LOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	Increase in mortality. Soft water 4.4 mg/L Ca ion, pH 7.2. Artificial stream system.
1990	Heinis, F., K.R. Timmermans, W.R. Swain.	Aquat Toxicol 16:73-86	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	50	MG/KG	Growth	LOED	Water	Whole Body	Larval	Not Specified	Not Specified	PCBs - 41, 512, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184 and 193 in a mixture with equal amounts of each. Dead larvae allowed to depurate overnight in clean water prior to bioconc analysis. Biomass
1988	Abel, T. and F. Barlocher.	Journal of Applied Ecology, 25:223-231.	Gammarus fossarum	Amphipod	Cadmium	7440-43-9	52.8	MG/KG	Mortality	LOED	Ingestion	Whole Body	Adult	Not Specified	Not Specified	Increase in mortality. Hard water 83-87 mg/L Ca ion, pH 8.3. Artificial stream system.
1988	Abel, T. and F. Barlocher.	Journal of Applied Ecology, 25:223-231.	Gammarus fossarum	Amphipod	Cadmium	7440-43-9	53.4	MG/KG	Mortality	LOED	Water	Whole Body	Adult	Not Specified	Not Specified	Increase in mortality. Soft water 4.4 mg/L Ca ion, pH 7.2. Artificial stream system.
1988	Abel, T. and F. Barlocher.	Journal of Applied Ecology, 25:223-231.	Gammarus fossarum	Amphipod	Cadmium	7440-43-9	101.6	MG/KG	Mortality	LOED	Water	Whole Body	Adult	Not Specified	Not Specified	Increase in mortality. Hard water 83-87 mg/L Ca ion, pH 8.3. Artificial stream system.
1990	Heinis, F., K.R. Timmermans, W.R. Swain.	Aquat Toxicol 16:73-86	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	138	MG/KG	Mortality	LOED	Water	Whole Body	Larval	Not Specified	Not Specified	PCBs - 41, 512, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184 and 193 in a mixture with equal amounts of each. Dead larvae allowed to depurate overnight in clean water prior to bioconc analysis.
2002	Gillis, P.L., L.C. Diener, T.B. Reynoldson, D.G.Dixon	Environ Tox & Chem 21(9):1836-1844	Tubifex tubifex	Oligochaete sp.	Cadmium	7440-43-9	3415	MG/KG	Reproduction	LOED	Combined	Whole Body	Adult	Not Specified	Not Specified	# Young
2002	Gillis, P.L., L.C. Diener, T.B. Reynoldson, D.G.Dixon	Environ Tox & Chem 21(9):1836-1844	Tubifex tubifex	Oligochaete sp.	Cadmium	7440-43-9	3617	MG/KG	Reproduction	LOED	Combined	Whole Body	Adult	Not Specified	Not Specified	Number of Cocoons(all significant above this concentration)
2007	Sofyan A, G Rosita, DJ Price, WJ Birge	Environ Toxicol & Chem 26(3):470-477	Ceriodaphnia dubia	Water fleas	Cadmium	7440-43-9	0.026	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Adult	NS	NS	Dietary w/algae #Neonates/adult BMF range: 0.03-1.46 AAS; HNO3 digestion
1981	Hatakeyama S, M Yasuno	Ecotoxicol Environ Saf 05:341-380	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	0.5	MG/KG	Mortality	NOED	Ingestion	Whole Body	Other	Not Specified	Not Specified	Food is Cadmium fed Chlorella sp.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	0.59	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	0.61	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	0.61	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	0.84	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	0.84	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
1996	Rule, J.H., and R.W. Alden III	Environ Tox & Chem 15:466-471	Palaemonetes pugio	Shrimp - Grass	Cadmium	7440-43-9	0.9	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	Estimated Wet Weight
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	1	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	1	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water

1977	Vernberg, W.B., Decoursey, P.J., Kelly, M., Johns, D.M.	Bull Environ Contam Toxicol 17:16-24	Palaemonetes pugio	Shrimp - Grass	Cadmium	7440-43-9	1.6	MG/KG	Mortality	NOED	Absorption	Whole Body	NA	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	No increase in mortality. Salinity 30 ppt.
1984	Sundelin, B.	Ecotoxicological Testing for the Marine Environment, Vol. 2, 588 P, 1984	Monoporeia affinis	Amphipod	Cadmium	7440-43-9	2	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	Body Burden Est. From Graph
1983	Sundelin, B.	Mar Biol 74, 203-212 (1983)	Monoporeia affinis	Amphipod	Cadmium	7440-43-9	3	MG/KG	Reproduction	NOED	Combined	Whole Body	Adult	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	Percent Malformed Eggs
1989	Brown AF, D. Pascoe	J. Appl. Ecol 26:473-487	Pomphorhynchus laevis	Acanthocephalan paracite	Cadmium	7440-43-9	3.832	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	
1996	Tessier, C. and J-S. Blais.	Ecotoxicol Environ Saf 33:246-252.	Dreissena polymorpha	Mussel - Zebra	Cadmium	7440-43-9	4	MG/KG	Mortality	NOED	Absorption	Whole Body	NA	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No increase in mortality.
2003	Heugens EHW, T Jager, R Creyghton, MHS Kraak, AJ Hendriks, NM Van Straalen, and W Admiraal	Environ Sci Tech 37:2145-2151	Daphnia magna	Water flea	Cadmium	7440-43-9	4	MG/KG	Mortality	NOED	Water	Whole Body	Neonate	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	At 10 degrees C.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	4.53	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	4.53	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	4.6	MG/KG	Mortality	NOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water Exp_Conc are nominal concentrations
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	4.6	MG/KG	Mortality	NOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water +0.5 uM EDTA Exp_Conc are nominal concentrations
1994	Postma, J.F., M.C. Buckert-de Jong, N. Staats, and C. Davids	Arch Environ Contam Toxicol 26:143-148	Chironomus riparius	Midge	Cadmium	7440-43-9	5.6	MG/KG	Mortality	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No increase in mortality.
1978	Marshall, J.S.	J Fish Res Bd Can 35:461-469.	Daphnia galeata mendotae	Cladoceran	Cadmium	7440-43-9	5.7	MG/KG	Mortality	NOED	Absorption	Whole Body	Population	In lakes of northern part of continent, especially glaciated regions	Feeds on algae and similar organisms	No significant difference in average number of individuals and average biomass of population.
1983	Sundelin, B.	Mar Biol 74, 203-212 (1983)	Monoporeia affinis	Amphipod	Cadmium	7440-43-9	6	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	6.4	MG/KG	Mortality	NOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water +20mg Humic Acid Exp_Conc are nominal concentrations
1994	Postma, J.F., M.C. Buckert-de Jong, N. Staats, and C. Davids	Arch Environ Contam Toxicol 26:143-148	Chironomus riparius	Midge	Cadmium	7440-43-9	7.6	MG/KG	Growth	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No significant difference in weight gain measured in males as dry weight.
1994	Postma, J.F., M.C. Buckert-de Jong, N. Staats, and C. Davids	Arch Environ Contam Toxicol 26:143-148	Chironomus riparius	Midge	Cadmium	7440-43-9	7.6	MG/KG	Reproduction	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No significant difference in number of eggs per female.
1981	Hatakeyama, S. and M. Yasuno	Ecotoxicol Environ Saf 05:341-350	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	8	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Larval	Not Specified	Not Specified	No Effect On Brood Size. Residue at 6 days.
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	8.4	MG/KG	Mortality	NOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	10 % Tap Water + 90% glass-distilled Water Exp_Conc are nominal concnetrations
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	9.4	MG/KG	Mortality	NOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water + Sediment A Exp_Conc are nominal concentrations

1984	Sundelin, B.	Ecotoxicological Testing for the Marine Environment, Vol. 2, 588 P, 1984	Monoporeia affinis	Amphipod	Cadmium	7440-43-9	10	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	Body Burden Est. From Graph
1981	Hatakeyama, S. and M. Yasuno	Ecotoxicol Environ Saf 05:341-350	Moina macrocopa	Cladoceran	Cadmium	7440-43-9	10	MG/KG	Mortality	NOED	Ingestion	Whole Body	Larval	Not Specified	Not Specified	No Effect On Survival. Residue at 6 days.
1995	Couillard Y, PGC Cambell, A Tessier, J Pellerin-Massicotte, JC Auclair	Can J Fish Aquat Sci 52:690-702	Anodonta grandis	Freshwater mussel	Cadmium	7440-43-9	11.5	MG/KG	Growth	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	Plastic enclosures within lake, Group transferred to polluted lake
1991	Borgmann U, WP Norwood, IM Babirad	Can J Fish Aquat Sci 48:1055-1060	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	12.4	MG/KG	Mortality	NOED	Water	Whole Body	Embryo	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tap Water + Sediment B Exp_Conc are nominal concentrations
2001	Illes, J., R.D. Evans, G.C. Balch	Bull Environ Contam Toxicol 66:484-491	Hydropsyche sp.	Net-spinning Caddisfly	Cadmium	7440-43-9	12.4	MG/KG	Growth	NOED	Water	Whole Body	Larval	Not Specified	Not Specified	Raised Cadmium concentration with additional Disolved Organic Carbon. Weight
1979	Thorp, J.H., Giesy, J.P., Wineriter, S.A.	Arch Environ Contam Toxicol 08:449-456	Cambarus latimanus	Crayfish	Cadmium	7440-43-9	14.9	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Streams, lakes, swamps, North Carolina to Florida	Feeds on both plant and animal material	No significant increase in mortality. Feed contaminated with 0.17 ug Cd/g.
2001	Illes, J., R.D. Evans, G.C. Balch	Bull Environ Contam Toxicol 66:484-491	Hydropsyche sp.	Net-spinning Caddisfly	Cadmium	7440-43-9	15.6	MG/KG	Growth	NOED	Water	Whole Body	Larval	Not Specified	Not Specified	Raised Cadmium concentration without additional Disolved Organic Carbon. Weight
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	18.48	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	18.48	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
2001	Barfield, M.L., J.L. Farris, M.C. Black	J Toxicol Environ Health, Part A 63:495-510	Corbicula fluminea	Clam - Asiatic	Cadmium	7440-43-9	20	MG/KG	Mortality	NOED	Water	Whole Body	NS	Columbia River, WA south to Baja Cal., east to New Jersey south to Florida; silty clay, silty sand, shallow water to 18 m	Filter feeders; phytoplankton, detritus, bacteria, small zooplankters	Cellulase Enzyme Activity
1990	Heinis, F., Timmermans, K.R., and W.R. Swain	Aquat Toxicol 16:73-86.	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	20	MG/KG	Growth	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No significant difference in larval weight or population biomass.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	20.7	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	20.7	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	20.94	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	20.94	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	20.94	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
1979	Thorp, J.H., Giesy, J.P., Wineriter, S.A.	Arch Environ Contam Toxicol 08:449-456	Cambarus latimanus	Crayfish	Cadmium	7440-43-9	22	MG/KG	Growth	NOED	Combined	Whole Body	Adult	Streams, lakes, swamps, North Carolina to Florida	Feeds on both plant and animal material	No significant difference in length and weight. Feed contaminated with 0.17 ug Cd/g.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	24.81	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	24.81	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	25.08	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent

2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	25.08	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
1990	Heinis, F., K.R. Timmermans, W.R. Swain.	Aquat Toxicol 16:73-86	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	30	MG/KG	Growth	NOED	Water	Whole Body	Larval	Not Specified	Not Specified	PCBs - 41, 512, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184 and 193 in a mixture with equal amounts of each. Dead larvae allowed to depurate overnight in clean water prior to bioconc analysis. Biomass
1993	Mersch, J., E. Morhain, and C. Mouvet.	Chemosphere 27(8):1475-1485.	Dreissena polymorpha	Mussel - Zebra	Cadmium	7440-43-9	32	MG/KG	Mortality	NOED	Combined	Whole Body	NA	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No increase in mortality.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	37.18	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	41.49	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	41.49	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	41.8	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	41.8	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	42.92	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	42.92	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	49.87	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	49.87	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab reconsituted water
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	50.84	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	50.84	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	52.74	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	52.74	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
1988	Abel, T. and F. Barlocher.	Journal of Applied Ecology, 25:223-231.	Gammarus fossarum	Amphipod	Cadmium	7440-43-9	53.4	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	No increase in mortality. Hard water 83-87 mg/L Ca ion, pH 8.3. Artificial stream system.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	71.15	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	71.15	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent

1990	Heinis, F., K.R. Timmermans, W.R. Swain.	Aquat Toxicol 16:73-86	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	74	MG/KG	Mortality	NOED	Water	Whole Body	Larval	Not Specified	Not Specified	PCBs - 41, 512, 60, 68, 91, 99, 104, 112, 115, 126, 143, 153, 169, 184 and 193 in a mixture with equal amounts of each. Dead larvae allowed to depurate overnight in clean water prior to bioconc analysis.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	96.74	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
1994	Kraak, M.H.S., M. Touissaint, D. Lavy, and C. Davids.	Environ Pollut 084:139-143.	Dreissena polymorpha	Mussel - Zebra	Cadmium	7440-43-9	100	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No increase in mortality. Residue was determined from graph and is approximate.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	109.77	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	109.77	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	mesocosm
1992	Kraak, M.H.S., D. Lavy, W.M.H. Peeters, and C. Davids	Arch Environ Contam Toxicol 23:363-369.	Dreissena polymorpha	Mussel - Zebra	Cadmium	7440-43-9	114	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No increase in mortality.
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	126.2	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	126.2	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
1990	Heinis, F., Timmermans, K.R., and W.R. Swain	Aquat Toxicol 16:73-86.	Glyptotendipes pallens	Midge	Cadmium	7440-43-9	140	MG/KG	Mortality	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No Effect On Mortality In 96 Hours
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	142.6	MG/KG	Growth	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2005	Stanley, JK; BW Brooks; TW LaPoint	Environ Tox & Chem 24:902-908	Hyalella azteca	Amphipod - Freshwater	Cadmium	7440-43-9	142.6	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Lab effluent
2002	Gillis, P.L., L.C. Diener, T.B. Reynoldson, D.G.Dixon	Environ Tox & Chem 21(9):1836-1844	Chironomus riparius	Midge	Cadmium	7440-43-9	236.1	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	
1991	Carlson, A.R., G.L. Phipps, V.R. Mattson, P.A. Kosian and A.M. Cotter	Environ Tox & Chem 10:1309-1319.	Helisoma sp.	Snail	Cadmium	7440-43-9	300	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Not Specified	Not Specified	No Effect On Mortality
1991	Carlson, A.R., G.L. Phipps, V.R. Mattson, P.A. Kosian and A.M. Cotter	Environ Tox & Chem 10:1309-1319.	Lumbriculus variegatus	Oligochaete	Cadmium	7440-43-9	310	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	No Effect On Mortality
1991	Carlson, A.R., G.L. Phipps, V.R. Mattson, P.A. Kosian and A.M. Cotter	Environ Tox & Chem 10:1309-1319.	Helisoma sp.	Snail	Cadmium	7440-43-9	460	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Not Specified	Not Specified	No Effect On Mortality
1977	Gillespie, R., T. Reisine and E.J. Massaro	Environ Res 13:364-36.	Orconectes propinquus	Crayfish	Cadmium	7440-43-9	534	MG/KG	Mortality	NOED	Absorption	Whole Body	NA	Not Specified	Not Specified	No significant difference in mortality. Only 1 of 15 dead at end of exposure period.
1977	Gillespie R, T Reisine, EJ Massaro	Environ Res 13:364-368	Orconectes propinquus	Crayfish	Cadmium	7440-43-9	540	MG/KG	Survival	NOED	Water	Whole Body	NS	Not Specified	Not Specified	Onconectes propinquus propinquus initial weight 0.2-1.5g

2002	Gillis, P.L., L.C. Diener, T.B. Reynoldson, D.G.Dixon	Environ Tox & Chem 21(9):1836-1844	Tubifex tubifex	Oligochaete sp.	Cadmium	7440-43-9	4554	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	MTLP concentration increase
2002	Gillis, P.L., L.C. Diener, T.B. Reynoldson, D.G.Dixon	Environ Tox & Chem 21(9):1836-1844	Tubifex tubifex	Oligochaete sp.	Cadmium	7440-43-9	4554	MG/KG	Reproduction	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	# of cocoons that hatched

Lowest LOED = 0.708
Highest NOED = 4554

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1989	Poulton, B.C., T.L. Beitinger, and K.W. Stewart	Arch Environ Contam Toxicol 18:594-600	Clioperla clio	Stonefly	Chromium	7440-47-3	1.44	MG/KG	Mortality	ED10	Combined	Whole Body	Immature	Not Specified	Not Specified	
1989	Poulton, B.C., T.L. Beitinger, and K.W. Stewart	Arch Environ Contam Toxicol 18:594-600	Clioperla clio	Stonefly	Chromium	7440-47-3	1.67	MG/KG	Mortality	ED30	Combined	Whole Body	Immature	Not Specified	Not Specified	
1989	Poulton, B.C., T.L. Beitinger, and K.W. Stewart	Arch Environ Contam Toxicol 18:594-600	Clioperla clio	Stonefly	Chromium	7440-47-3	1.84	MG/KG	Mortality	ED50	Combined	Whole Body	Immature	Not Specified	Not Specified	

Lowest LOED = 1.44
Highest NOED = NA

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Species TSN Code	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2011	Das S and BS Khangarot	Jnl Haz Mat 185:295-305	Lymnaea liteola	Pond snail	76484	Copper	7440-50-8	0.062	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	%egg mortality @ 25dph Tissue burden: foot>digestive glland>whole body>shell
2011	Das S and BS Khangarot	Jnl Haz Mat 185:295-305	Lymnaea liteola	Pond snail	76484	Copper	7440-50-8	0.062	MG/KG	Reproduction	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	Hatching success @ 21d Tissue burden: foot>digestive glland>whole body>shell
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	4.4	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	4.4	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	increased number of offspringThe exposure is the water concentration of Cu used to dose the algae fed to Daphnia
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	4.4	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	4.4	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	increased number of offspringThe exposure is the water concentration of Cu used to dose the algae fed to Daphnia
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	7.6	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	increased number of offspring
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	7.6	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	increased number of offspring
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	8.4	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	The exposure is the water concentration of Cu used to dose the algae fed to Daphnia
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	8.4	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	The exposure is the water concentration of Cu used to dose the algae fed to Daphnia
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	12	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	The exposure is the water concentration of Cu used to dose the algae fed to Daphnia
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	12	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	increased number of offspring
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	12	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	The exposure is the water concentration of Cu used to dose the algae fed to Daphnia
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	12	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	increased number of offspring

2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	16	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	The exposure is the water concentration of Cu used to dose the algae fed to Daphnia
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	16	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	The exposure is the water concentration of Cu used to dose the algae fed to Daphnia
1993	Mersch, J., E. Morhain, and C. Mouvet.	Chemosphere 27(8):1475-1485.	Dreissena polymorpha	Mussel - Zebra	81339	Copper	7440-50-8	20	MG/KG	Mortality	NOED	Combined	Whole Body	NA	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No increase in mortality.
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	26	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	26	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	26	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	
2004	De Schamphelaere, KAC; CR Janssen	Environ Tox & Chem 23:2038-2047	Daphnia magna	Water flea	83884	Copper	7440-50-8	26	MG/KG	Growth	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	
1994	Kraak, M.H.S., M. Touissaint, D. Lavy, and C. Davids.	Environ Pollut 084:139-143.	Dreissena polymorpha	Mussel - Zebra	81339	Copper	7440-50-8	32	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No increase in mortality. Residue was determined from graph and is approximate.
2007	De Schamplelaere KAC, I Forrez, K Dierckens, P Sorgeloos, CR Janssen	Aquat Toxicol 81:409-418	Daphnia magna	Water flea	83884	Copper	7440-50-8	65	MG/KG	Mortality	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	10 reps w 1 animal/rep; fed spiked algae; 'depuration' 8h- fed with clean food; ***algae accumulated high levels of Cu = 3000 ug Cu/g dw
2007	De Schamplelaere KAC, I Forrez, K Dierckens, P Sorgeloos, CR Janssen	Aquat Toxicol 81:409-418	Daphnia magna	Water flea	83884	Copper	7440-50-8	65	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	**Time to 1st brood 10 reps w 1 animal/rep; fed spiked algae; 'depuration' 8h- fed with clean food; ***algae accumulated high levels of Cu = 3000 ug Cu/g dw
1992	Kraak, M.H.S., D. Lavy, W.M.H. Peeters, and C. Davids	Arch Environ Contam Toxicol 23:363-369.	Dreissena polymorpha	Mussel - Zebra	81339	Copper	7440-50-8	80	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No increased mortality.

Lowest LOED = NA
Highest NOED = 80

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Lead	7439-92-1	72	MG/KG	Mortality	ED28	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	4ppt also exposed to Zn and Cu Chironomus maddeni
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Lead	7439-92-1	72	MG/KG	Growth	ED29	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	growth = dry wt; 4ppt also exposed to Zn and Cu Chironomus maddeni
1992	Timmermans KR, W Peeters, and M. Tonkes	Hydrobiologia 241:119-134.	Chironomus riparius	Midge	Lead	7439-92-1	280	MG/KG	Growth	ED29	Water	Whole Body	Larval	Not Specified	Not Specified	
1992	Timmermans KR, W Peeters, and M. Tonkes	Hydrobiologia 241:119-134.	Chironomus riparius	Midge	Lead	7439-92-1	280	MG/KG	Growth	ED29	Water	Whole Body	Larval	Not Specified	Not Specified	
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Lead	7439-92-1	83	MG/KG	Growth	ED33	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	growth = dry wt; 4ppt also exposed to Zn and Cu Chironomus maddeni
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Lead	7439-92-1	269	MG/KG	Growth	ED50	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	growth = dry wt; 0ppt also exposed to Zn and Cu Chironomus maddeni
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Lead	7439-92-1	72	MG/KG	Growth	ED62	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	growth = dry wt; 4ppt also exposed to Zn and Cu Chironomus maddeni
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Lead	7439-92-1	124	MG/KG	Growth	ED65	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	growth = dry wt; 8ppt also exposed to Zn and Cu Chironomus maddeni
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Lead	7439-92-1	124	MG/KG	Mortality	ED85	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	8ppt also exposed to Zn and Cu Chironomus maddeni
1999	Borgmann U, WP Norwood	Can J Fish Aquat Sci 56:1494-1503	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	5.22	MG/KG	Mortality	LD25	Absorption	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Field-collected sediment
2001	Borgmann U, WP Norwood, TB Reynoldson, and F Rosa	Can J Fish Aquat Sci 58:950-960	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	26.107	MG/KG	Mortality	LD25	Water	Whole body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Water, sed, benthic inverts @ 12 lakes, pH 6.6-8.3. Lab tests w/seds and Hyalella. Beakers lowered pH to 4, used Imhoff cones instead.
1999	Borgmann U, WP Norwood	Can J Fish Aquat Sci 56:1494-1503	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	6.71	MG/KG	Mortality	LD50	Absorption	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Field-collected sediment
1993	Maclean, R.S., U. Borgmann and D.G. Dixon	Poster P418, 14th Annual Meeting, SETAC Houston	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	70	MG/KG	Mortality	LD50	Absorption	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	50% Mortality (estimate).
1996	MacLean RS, U Borgmann, and DG Dixon	Can J Fish Aquat Sci 53:2212-2220	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	72.31	MG/KG	Mortality	LD50	Water	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Result of modelling mortality rates vs Pb conc.
1996	MacLean RS, U Borgmann, and DG Dixon	Can J Fish Aquat Sci 53:2212-2220	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	89.92	MG/KG	Mortality	LD50	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tests run with 4-5 wk old amphipods: Without pre-exposure to 100nM Pb. Result of modelling mortality rates vs Pb conc.
1993	Maclean, R.S., U. Borgmann and D.G. Dixon	Poster P418, 14th Annual Meeting, SETAC Houston	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	90	MG/KG	Mortality	LD50	Absorption	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	50% Mortality (estimate).

1996	MacLean RS, U Borgmann, and DG Dixon	Can J Fish Aquat Sci 53:2212-2220	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	101.53	MG/KG	Mortality	LD50	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tests run with 4-5 wk old amphipods: With pre-exposure to 100nM Pb. Result of modelling mortality rates vs Pb conc.
1993	Maclean, R.S., U. Borgmann and D.G. Dixon	Poster P418, 14th Annual Meeting, SETAC Houston	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	115	MG/KG	Mortality	LD50	Absorption	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	50% Mortality (estimate). Pre-exposed to 100 nM Pb for 4 weeks.
1996	MacLean RS, U Borgmann, and DG Dixon	Can J Fish Aquat Sci 53:2212-2220	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	150.84	MG/KG	Mortality	LD50	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Result of modelling mortality rates vs Pb conc. **10-16 wk old
1993	Maclean, R.S., U. Borgmann and D.G. Dixon	Poster P418, 14th Annual Meeting, SETAC Houston	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	160	MG/KG	Mortality	LD50	Absorption	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	50% Mortality (estimate).
1978	Spehar RL, RL Anderson, JT Fiandt	Environ Pollut 15:195-208	Gammarus pseudolimnaeus	Amphipod	Lead	7439-92-1	40	MG/KG	Mortality	LD61	Water	Whole Body	Adult	Not Specified	Not Specified	[log scale--difficult to interpret]
1978	Spehar RL, RL Anderson, JT Fiandt	Environ Pollut 15:195-208	Gammarus pseudolimnaeus	Amphipod	Lead	7439-92-1	102	MG/KG	Mortality	LD61	Water	Whole Body	Adult	Not Specified	Not Specified	[log scale--difficult to interpret]; no residue data for stonefilies, caddisflies, and snails. Stated that Pb conc.to 565 ug/L did not decrease survival
1996	MacLean RS, U Borgmann, and DG Dixon	Can J Fish Aquat Sci 53:2212-2220	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	68.376	MG/KG	Survival	LOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tests run with 4-5 wk old amphipods: Without pre-exposure to 100nM Pb. Result of modelling mortality rates vs Pb conc.
1996	MacLean RS, U Borgmann, and DG Dixon	Can J Fish Aquat Sci 53:2212-2220	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	82.67	MG/KG	Survival	LOED	Water	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Result of modelling mortality rates vs Pb conc.
1996	MacLean RS, U Borgmann, and DG Dixon	Can J Fish Aquat Sci 53:2212-2220	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	85.78	MG/KG	Survival	LOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tests run with 4-5 wk old amphipods: With pre-exposure to 100nM Pb. Result of modelling mortality rates vs Pb conc.
1996	MacLean RS, U Borgmann, and DG Dixon	Can J Fish Aquat Sci 53:2212-2220	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	130.328	MG/KG	Survival	LOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Result of modelling mortality rates vs Pb conc.
1994	Kraak, M.H.S., Y.A. Wink, S.C. Stuijfzand, M.C. Buckert-de Jong, C.J. De Groot and W. Admiraal	Aquat Toxicol 30:77-89	Dreissena polymorpha	Mussel - Zebra	Lead	7439-92-1	200	MG/KG	Growth	LOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	Decreased weight gain in surviving mussels.
1994	Kraak, M.H.S., Y.A. Wink, S.C. Stuijfzand, M.C. Buckert-de Jong, C.J. De Groot and W. Admiraal	Aquat Toxicol 30:77-89	Dreissena polymorpha	Mussel - Zebra	Lead	7439-92-1	200	MG/KG	Mortality	LOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	52% Mortality
1984	Sundelin, B.	Ecotoxicological Testing for the Marine Environment, Vol. 2, 588 P, 1984	Monoporeia affinis	Amphipod	Lead	7439-92-1	4	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	Body Burden Est. From Graph
1984	Sundelin, B.	Ecotoxicological Testing for the Marine Environment, Vol. 2, 588 P, 1984	Monoporeia affinis	Amphipod	Lead	7439-92-1	4	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Holarctic, coastal marine, mainly brackish lakes and estuaries, marine-glacial relict lakes	Detritivore	Body Burden Est. From Graph
2005	Aisemberg J; DE Nahabedian; EA Wider; NRV Guerrero	Toxicology 210:45-53	Biomphalaria glabrata	Biomphalaria glabrata	Lead	7439-92-1	5	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	
2005	Aisemberg J; DE Nahabedian; EA Wider; NRV Guerrero	Toxicology 210:45-53	Lumbriculus variegatus	Oligochaete	Lead	7439-92-1	10	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	

2005	Aisemberg J; DE Nahabedian; EA Wider; NRV Guerrero	Toxicology 210:45-53	Biomphalaria glabrata	Biomphalaria glabrata	Lead	7439-92-1	20	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	
2005	Aisemberg J; DE Nahabedian; EA Wider; NRV Guerrero	Toxicology 210:45-53	Lumbriculus variegatus	Oligochaete	Lead	7439-92-1	30	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	
2005	Aisemberg J; DE Nahabedian; EA Wider; NRV Guerrero	Toxicology 210:45-53	Biomphalaria glabrata	Biomphalaria glabrata	Lead	7439-92-1	32	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	
1994	Kraak, M.H.S., Y.A. Wink, S.C. Stuijfzand, M.C. Buckert-de Jong, C.J. De Groot and W. Admiraal	Aquat Toxicol 30:77-89	Dreissena polymorpha	Mussel - Zebra	Lead	7439-92-1	35	MG/KG	Growth	NOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No effect on weight gain in surviving mussels.
1994	Kraak, M.H.S., Y.A. Wink, S.C. Stuijfzand, M.C. Buckert-de Jong, C.J. De Groot and W. Admiraal	Aquat Toxicol 30:77-89	Dreissena polymorpha	Mussel - Zebra	Lead	7439-92-1	35	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No Effect On Mortality
2005	Aisemberg J; DE Nahabedian; EA Wider; NRV Guerrero	Toxicology 210:45-53	Biomphalaria glabrata	Biomphalaria glabrata	Lead	7439-92-1	40	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	
1996	MacLean RS, U Borgmann, and DG Dixon	Can J Fish Aquat Sci 53:2212-2220	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	44.755	MG/KG	Survival	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tests run with 4-5 wk old amphipods: Without pre-exposure to 100nM Pb. Result of modelling mortality rates vs Pb conc.
1996	MacLean RS, U Borgmann, and DG Dixon	Can J Fish Aquat Sci 53:2212-2220	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	48.277	MG/KG	Survival	NOED	Water	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Result of modelling mortality rates vs Pb conc.
1996	MacLean RS, U Borgmann, and DG Dixon	Can J Fish Aquat Sci 53:2212-2220	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	58.844	MG/KG	Survival	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Tests run with 4-5 wk old amphipods: With pre-exposure to 100nM Pb. Result of modelling mortality rates vs Pb conc.
2005	Aisemberg J; DE Nahabedian; EA Wider; NRV Guerrero	Toxicology 210:45-53	Lumbriculus variegatus	Oligochaete	Lead	7439-92-1	60	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Lead	7439-92-1	72	MG/KG	Mortality	NOED	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	4ppt also exposed to Zn and Cu Chironomus maddeni
1996	MacLean RS, U Borgmann, and DG Dixon	Can J Fish Aquat Sci 53:2212-2220	Hyalella azteca	Amphipod - Freshwater	Lead	7439-92-1	82.88	MG/KG	Survival	NOED	Water	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Result of modelling mortality rates vs Pb conc.
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Lead	7439-92-1	83	MG/KG	Mortality	NOED	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	4ppt also exposed to Zn and Cu Chironomus maddeni
2005	Aisemberg J; DE Nahabedian; EA Wider; NRV Guerrero	Toxicology 210:45-53	Biomphalaria glabrata	Biomphalaria glabrata	Lead	7439-92-1	85	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Not Specified	Not Specified	
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Lead	7439-92-1	104	MG/KG	Mortality	NOED	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	0ppt also exposed to Zn and Cu Chironomus maddeni

2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Lead	7439-92-1	104	MG/KG	Growth	NOED	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	growth = dry wt; 0ppt also exposed to Zn and Cu Chironomus maddeni
2005	Aisemberg J; DE Nahabedian; EA Wider; NRV Guerrero	Toxicology 210:45-53	Lumbriculus variegatus	Oligochaete	Lead	7439-92-1	170	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	
2005	Aisemberg J; DE Nahabedian; EA Wider; NRV Guerrero	Toxicology 210:45-53	Lumbriculus variegatus	Oligochaete	Lead	7439-92-1	220	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Lead	7439-92-1	269	MG/KG	Mortality	NOED	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	0ppt also exposed to Zn and Cu Chironomus maddeni
2005	Aisemberg J; DE Nahabedian; EA Wider; NRV Guerrero	Toxicology 210:45-53	Lumbriculus variegatus	Oligochaete	Lead	7439-92-1	300	MG/KG	Mortality	NOED	Water	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	
2004	Mann RM, M Grosell, A Bianchini, CM Wood	Environ Tox & Chem 23:388-395	Chironomus tentans	Midge	Lead	7439-92-1	481	MG/KG	Growth	NOED	Combined	Whole Body	Egg	Northern U.S,southern Canada; widely distributed on bottoms of streams, lakes, ponds	Larvae feed on microorganisms, small animals in sediments, detritus; adults non-feeding	Results are from a mixture of zinc and lead.

Lowest LOED = 5.22
Highest NOED = 481

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2000	Naimo TJ, JF Wiener, WG Cope, NS Bloom	Can J Fish Aquat Sci 57:1092-1102	Hexagenia	Mayflly	Mercury	7439-97-6	0.175	MG/KG	Growth	ED141	Absorption	Whole Body	Nymph			Fairhaven Bay (contaminated depositional area), July 1994
2000	Naimo TJ, JF Wiener, WG Cope, NS Bloom	Can J Fish Aquat Sci 57:1092-1102	Hexagenia	Mayflly	Mercury	7439-97-6	0.0246	MG/KG	Growth	ED168	Absorption	Whole Body	Nymph			Reservoir 2 (contaminated depositional area), July 1994
2000	Naimo TJ, JF Wiener, WG Cope, NS Bloom	Can J Fish Aquat Sci 57:1092-1102	Hexagenia	Mayflly	Mercury	7439-97-6	0.152	MG/KG	Growth	ED174	Absorption	Whole Body	Nymph			Contaminated flowing reach, September 1994
2000	Naimo TJ, JF Wiener, WG Cope, NS Bloom	Can J Fish Aquat Sci 57:1092-1102	Hexagenia	Mayflly	Mercury	7439-97-6	0.0298	MG/KG	Growth	ED177	Absorption	Whole Body	Nymph			Reservoir 1 (contaminated depositional area), July 1994
2000	Naimo TJ, JF Wiener, WG Cope, NS Bloom	Can J Fish Aquat Sci 57:1092-1102	Hexagenia	Mayflly	Mercury	7439-97-6	0.152	MG/KG	Growth	ED210	Absorption	Whole Body	Nymph			Contaminated flowing reach), July 1994
2000	Naimo TJ, JF Wiener, WG Cope, NS Bloom	Can J Fish Aquat Sci 57:1092-1102	Hexagenia	Mayflly	Mercury	7439-97-6	0.131	MG/KG	Growth	ED25	Absorption	Whole Body	Nymph			Northern contaminated wetland, May 1995
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	18.4	MG/KG	Mortality	ED25	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	25% Reduction In Survival Compared To Controls In 21 Days
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	1.64	MG/KG	Reproduction	ED35	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	35% Reduction In Number Of Neonates Produced In 21 Days
2009	Xie L, JL Flippin, N Deighton, DH Funk, Da Dickey, DB Buchwalter	Environ Sci Technol 43:934-940	Chimarra sp	Cadisflies	Mercury	7439-97-6	0.166	MG/KG	Biochemical	ED36	Water	Whole Body	NS	Not Specified	Not Specified	[downregulated SOD]
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	4.67	MG/KG	Reproduction	ED62	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	62% Reduction In Number Of Neonates Produced In 21 Days
2000	Naimo TJ, JF Wiener, WG Cope, NS Bloom	Can J Fish Aquat Sci 57:1092-1102	Hexagenia	Mayflly	Mercury	7439-97-6	0.108	MG/KG	Growth	ED63	Absorption	Whole Body	Nymph			Northern contaminated wetland, September 1995
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	7.57	MG/KG	Reproduction	ED63	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	63% Reduction In Number Of Neonates Produced In 21 Days
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	18.4	MG/KG	Reproduction	ED99	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	99% Reduction In Number Of Neonates Produced In 21 Days
2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	9.73	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Temperature @32 C Mortality = LBB
2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	10.3	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Body size @3.2 mm Mortality = LBB LC50 indicatied opposite trend (ie, @3.2 mm was less sensitive that smaller sized animals)
2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	13.8	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Population @ CBSC Mortality = LBB
2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	15.8	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Body size @2.9 mm Mortality = LBB
2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	16.1	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Temperature @24 C Mortality = LBB

2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	16.1	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Population @ CAS Mortality = LBB
2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	16.1	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Body size @ 2.4mm Mortality = LBB
2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	16.1	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Pre-exposure = nil Mortality = LBB
2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	18.9	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Temperature @10 C Mortality = LBB
2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	20.3	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Pre-exposure = neonates @1.5 ugHg/L for 4 d Mortality = LBB
2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	20.6	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Pre-exposure = juveniles @ 3 ugHg/L for 2 d Mortality = LBB
2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	23.2	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Population @ LFS Mortality = LBB
2006	Tsui MTK and W-X Wang	Environ Sci Technol 40:4025-4030	Daphnia magna	Water flea	Mercury	7439-97-6	25.9	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Pre-exposure = juveniles @ 7 ugHg/L for 2 d Mortality = LBB
2003	Vidal DE, AJ Horne	Arch Environ Contam Toxicol 45:184-189	Sparganophilus pearsei		Mercury	7439-97-6	29.2	MG/KG	Mortality	LD50	Water	Whole Body	NS	NS	NS	Worms field collected in from 5 areas in San Francisco vicinity: Lake Anza
2003	Vidal DE, AJ Horne	Arch Environ Contam Toxicol 45:184-189	Sparganophilus pearsei		Mercury	7439-97-6	36.4	MG/KG	Mortality	LD50	Water	Whole Body	NS	NS	NS	Worms field collected in from 5 areas in San Francisco vicinity: San Pablo
2003	Vidal DE, AJ Horne	Arch Environ Contam Toxicol 45:184-189	Sparganophilus pearsei		Mercury	7439-97-6	90.6	MG/KG	Mortality	LD50	Water	Whole Body	NS	NS	NS	Worms field collected in from 5 areas in San Francisco vicinity: Lake Herman
2003	Vidal DE, AJ Horne	Arch Environ Contam Toxicol 45:184-189	Sparganophilus pearsei		Mercury	7439-97-6	127	MG/KG	Mortality	LD50	Water	Whole Body	NS	NS	NS	Worms field collected in from 5 areas in San Francisco vicinity: Guadalupe
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	2.33	MG/KG	Reproduction	LOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	32% Reduction In Number Of Neonates Produced In 21 Days
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	0.859	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No Effect On Mortality
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	0.859	MG/KG	Reproduction	NOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No significant difference in number of neonates produced in 21 days.
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	1.53	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No Effect On Mortality
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	1.53	MG/KG	Reproduction	NOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No significant difference in number of neonates produced in 21 days.

1977	Barthalmus, G.T.	Mar Pollut Bull 08:87-90.	Palaemonetes pugio	Shrimp - Grass	Mercury	7439-97-6	1.64	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	No Statistically Significant Increase In Mortality
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	1.64	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No Effect On Mortality
1994	Odin, M., Ferutet-Mazel, A., Ribeyre, F. and A. Boudou	Environ Tox & Chem	Hexagenia rigida	Mayfly-Burrowing	Mercury	7439-97-6	2	MG/KG	Growth	NOED	Combined	Whole Body	Nymph	Not Specified	Not Specified	No significant difference in weight gain. Residues ranged from 2 to 2.4 mg/kg for the following test condition combinations: pH 5 or pH 7.5, temperatures of 10, 18, or 26C, and photoperiods of 6, 12, or 18 hours per day.
1994	Odin, M., Ferutet-Mazel, A., Ribeyre, F. and A. Boudou	Environ Tox & Chem	Hexagenia rigida	Mayfly-Burrowing	Mercury	7439-97-6	2	MG/KG	Mortality	NOED	Combined	Whole Body	Nymph	Not Specified	Not Specified	Residues ranged from 2 to 2.4 mg/kg for the following test condition combinations: pH 5 or pH 7.5, temperatures of 10, 18, or 26C, and photoperiods of 6, 12, or 18 hours per day.
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	2.33	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No Effect On Mortality
1994	Odin, M., Ferutet-Mazel, A., Ribeyre, F. and A. Boudou	Environ Tox & Chem	Hexagenia rigida	Mayfly-Burrowing	Mercury	7439-97-6	2.7	MG/KG	Growth	NOED	Combined	Whole Body	Nymph	Not Specified	Not Specified	No significant difference in weight gain. Residues ranged from 2.7 to 4.5 mg/kg for the following test condition combinations: pH 5 or pH 7.5, temperatures of 10, 18, or 26C, and photoperiods of 6, 12, or 18 hours per day.
1994	Odin, M., Ferutet-Mazel, A., Ribeyre, F. and A. Boudou	Environ Tox & Chem	Hexagenia rigida	Mayfly-Burrowing	Mercury	7439-97-6	2.7	MG/KG	Mortality	NOED	Combined	Whole Body	Nymph	Not Specified	Not Specified	Residues ranged from 2.7 to 4.5 mg/kg for the following test condition combinations: pH 5 or pH 7.5, temperatures of 10, 18, or 26C, and photoperiods of 6, 12, or 18 hours per day.
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	4.67	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No Effect On Mortality
1982	Biesinger, K.E., L.E. Anderson and J.G. Eaton	Arch Environ Contam Toxicol 11:769-774.	Daphnia magna	Water flea	Mercury	7439-97-6	7.57	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No Effect On Mortality
1986	Rossaro, B., G.F. Gaggino, and R. Marchetti.	Bull Environ Contam Toxicol 37:402-406	Chironomus riparius	Midge	Mercury	7439-97-6	40	MG/KG	Mortality	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No mortality. No effect on emergence of adults.
1986	Rossaro, B., G.F. Gaggino, and R. Marchetti.	Bull Environ Contam Toxicol 37:402-406	Chironomus riparius	Midge	Mercury	7439-97-6	107.6	MG/KG	Mortality	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No mortality in 4th instar larvae.

Lowest LOED = 0.0246
Highest NOED = 107.6

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	9.92	MG/KG	Growth	ED08	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Length
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	10.8	MG/KG	Reproduction	ED08	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Time to 1st brood
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	14.5	MG/KG	Reproduction	ED08	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Time to 1st brood
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	9.92	MG/KG	Reproduction	ED09	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Time to 1st brood
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	10.8	MG/KG	Growth	ED10	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Length
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	14.5	MG/KG	Growth	ED10	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Length
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	9.92	MG/KG	Reproduction	ED20	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	5th brood size
2001	Borgmann U, R Neron, WP Norwood	Environ Pollut 111:189-198	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	1.15	MG/KG	Growth	ED25	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Biomass Test 1=Mean of 3 spiked sediment tests in both testing containers. Test 2= Mean of 3 spiked sed tests in beakers [4:1 water/sed]; Test 3= Mean 3 spiked sed tests in Imhoff cones (67:1 water/sed).
2001	Borgmann U, R Neron, WP Norwood	Environ Pollut 111:189-198	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	1.209	MG/KG	Growth	ED25	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Biomass Test 1=Mean of 3 spiked sediment tests in both testing containers. Test 2= Mean of 3 spiked sed tests in beakers [4:1 water/sed]; Test 3= Mean 3 spiked sed tests in Imhoff cones (67:1 water/sed).
2001	Borgmann U, R Neron, WP Norwood	Environ Pollut 111:189-198	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	1.3498	MG/KG	Growth	ED25	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Biomass Test 1=Mean of 3 spiked sediment tests in both testing containers. Test 2= Mean of 3 spiked sed tests in beakers [4:1 water/sed]; Test 3= Mean 3 spiked sed tests in Imhoff cones (67:1 water/sed).
2001	Borgmann U, R Neron, WP Norwood	Environ Pollut 111:189-198	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	1.537	MG/KG	Growth	ED25	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Test 1=Mean of 3 spiked sediment tests in both testing containers. Test 2= Mean of 3 spiked sed tests in beakers [4:1 water/sed]; Test 3= Mean 3 spiked sed tests in Imhoff cones (67:1 water/sed).
2001	Borgmann U, R Neron, WP Norwood	Environ Pollut 111:189-198	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	1.678	MG/KG	Growth	ED25	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Test 1=Mean of 3 spiked sediment tests in both testing containers. Test 2= Mean of 3 spiked sed tests in beakers [4:1 water/sed]; Test 3= Mean 3 spiked sed tests in Imhoff cones (67:1 water/sed).

2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	10.8	MG/KG	Reproduction	ED25	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	5th brood size
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	9.92	MG/KG	Reproduction	ED26	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	2nd brood size
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	9.92	MG/KG	Reproduction	ED30	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	#juv/daphnid
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	10.8	MG/KG	Reproduction	ED30	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	1st brood size
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	9.92	MG/KG	Reproduction	ED31	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	1st brood size
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	14.5	MG/KG	Reproduction	ED31	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	4th brood size
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	10.8	MG/KG	Reproduction	ED33	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	#juv/daphnid
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	10.8	MG/KG	Reproduction	ED33	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	2nd brood size
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	14.5	MG/KG	Reproduction	ED35	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	2nd brood size
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	10.8	MG/KG	Reproduction	ED36	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	3rd brood size
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	14.5	MG/KG	Reproduction	ED36	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	#juv/daphnid
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	14.5	MG/KG	Reproduction	ED36	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	1st brood size
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	9.92	MG/KG	Reproduction	ED38	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	3rd brood size
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	10.8	MG/KG	Reproduction	ED39	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	4th brood size
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	14.5	MG/KG	Reproduction	ED39	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	5th brood size
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	14.5	MG/KG	Reproduction	ED43	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	3rd brood size

2001	Borgmann U, WP Norwood, TB Reynoldson, and F Rosa	Can J Fish Aquat Sci 58:950-960	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	1.103	MG/KG	Mortality	LD25	Water	Whole body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Water, sed, benthic inverts @ 12 lakes, pH 6.6-8.3. Lab tests w/seds and Hyalella. Beakers lowered pH to 4, used Imhoff cones instead.
2001	Borgmann U, R Neron, WP Norwood	Environ Pollut 111:189-198	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	1.432	MG/KG	Mortality	LD25	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Test 1=Mean of 3 spiked sediment tests in both testing containers. Test 2= Mean of 3 spiked sed tests in beakers [4:1 water/sed]; Test 3= Mean 3 spiked sed tests in Imhoff cones (67:1 water/sed).
2001	Borgmann U, R Neron, WP Norwood	Environ Pollut 111:189-198	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	1.678	MG/KG	Mortality	LD25	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Test 1=Mean of 3 spiked sediment tests in both testing containers. Test 2= Mean of 3 spiked sed tests in beakers [4:1 water/sed]; Test 3= Mean 3 spiked sed tests in Imhoff cones (67:1 water/sed).
2001	Borgmann U, R Neron, WP Norwood	Environ Pollut 111:189-198	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	2.31	MG/KG	Mortality	LD25	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Test 1=Mean of 3 spiked sediment tests in both testing containers. Test 2= Mean of 3 spiked sed tests in beakers [4:1 water/sed]; Test 3= Mean 3 spiked sed tests in Imhoff cones (67:1 water/sed). Test 4= Water only exposure, no depuration
2001	Borgmann U, R Neron, WP Norwood	Environ Pollut 111:189-198	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	1.948	MG/KG	Mortality	LD50	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Test 1=Mean of 3 spiked sediment tests in both testing containers. Test 2= Mean of 3 spiked sed tests in beakers [4:1 water/sed]; Test 3= Mean 3 spiked sed tests in Imhoff cones (67:1 water/sed).
2001	Borgmann U, R Neron, WP Norwood	Environ Pollut 111:189-198	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	2.23	MG/KG	Mortality	LD50	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Test 1=Mean of 3 spiked sediment tests in both testing containers. Test 2= Mean of 3 spiked sed tests in beakers [4:1 water/sed]; Test 3= Mean 3 spiked sed tests in Imhoff cones (67:1 water/sed).
2001	Borgmann U, R Neron, WP Norwood	Environ Pollut 111:189-198	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	2.922	MG/KG	Mortality	LD50	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Test 1=Mean of 3 spiked sediment tests in both testing containers. Test 2= Mean of 3 spiked sed tests in beakers [4:1 water/sed]; Test 3= Mean 3 spiked sed tests in Imhoff cones (67:1 water/sed).
2001	Borgmann U, R Neron, WP Norwood	Environ Pollut 111:189-198	Hyalella azteca	Amphipod - Freshwater	Nickel	7440-02-0	3.873	MG/KG	Mortality	LD50	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Test 1=Mean of 3 spiked sediment tests in both testing containers. Test 2= Mean of 3 spiked sed tests in beakers [4:1 water/sed]; Test 3= Mean 3 spiked sed tests in Imhoff cones (67:1 water/sed). Test 4= Water only exposure, no depuration
2009	Evens R, KAC De Schamphelaere, CR Janssen	Aquat Toxicol 94:138-144	Daphnia magna	Water flea	Nickel	7440-02-0	14.5	MG/KG	Mortality	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Length

Lowest LOED = 1.103
Highest NOED = 14.5

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	4.22	MG/KG	Growth	ED104	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Stimulatory effect on size of offspring (body length of offspring) [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]
1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	2.94	MG/KG	Growth	ED105	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Stimulatory effect on size of offspring (body length of offspring) [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]
1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	6.34	MG/KG	Reproduction	ED11	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Intrinsic rate of natural increase [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]
1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	10.2	MG/KG	Reproduction	ED11	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Intrinsic rate of natural increase [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]
1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	2.94	MG/KG	Growth	ED24	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Adult [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]
1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	6.34	MG/KG	Growth	ED36	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Adult [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]
1990	Ingersoll, C.G., F.J. Dwyer and T.W. May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	6.34	MG/KG	Growth	ED36	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	36% Decrease in weight gain.
1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	10.2	MG/KG	Reproduction	ED37	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Day first gravid [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]
1994	Alaimo, J., R.S. Ogle and A.W. Knight	Arch Environ Contam Toxicol 27:441-448	Chironomus decorus	Midge	Selenium	7782-49-2	0.2	MG/KG	Growth	ED40	Combined	Whole Body	Egg	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	40% Decreased body weight
1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	10.2	MG/KG	Growth	ED42	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Adult [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]
1990	Ingersoll, C.G., F.J. Dwyer and T.W. May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	10.2	MG/KG	Growth	ED42	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	42% Decrease in weight gain.
1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	6.34	MG/KG	Reproduction	ED47	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Total young produced [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]
1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	6.34	MG/KG	Reproduction	ED47	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Young/AFRD -available female reproductive days [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]

1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	6.34	MG/KG	Reproduction	ED47	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Day first gravid [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]
1994	Alaimo, J., R.S. Ogle and A.W. Knight	Arch Environ Contam Toxicol 27:441-448	Chironomus decorus	Midge	Selenium	7782-49-2	2	MG/KG	Growth	ED54	Combined	Whole Body	Egg	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	54% Decreased body weight
1994	Alaimo, J., R.S. Ogle and A.W. Knight	Arch Environ Contam Toxicol 27:441-448	Chironomus decorus	Midge	Selenium	7782-49-2	4.4	MG/KG	Growth	ED68	Combined	Whole Body	Egg	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	68% Decreased body weight
1990	Ingersoll, C.G., F.J. Dwyer and T.W. May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	10.2	MG/KG	Reproduction	ED70	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Over 70% decrease in total young and young per female. Delayed time to first brood.
1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	10.2	MG/KG	Reproduction	ED71	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	young/AFRD [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]
1990	Ingersoll CG, FJ Dwyer, and TW May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	10.2	MG/KG	Reproduction	ED72	Water	Whole Body	Larval	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Total young produced [Survival of daphnids was signif. decreased only at 1,410 ug/L, but no residue information is available for this conc. However, reproductive/development occurred]
1996	Dobbs, M.G., D.S. Cherry and J. Cairns, Jr.	Environ Tox & Chem 15:340-347	Brachionus calyciflorus	Rotifer	Selenium	7782-49-2	15	MG/KG	Mortality	LD100	Combined	Whole Body	NA	Cosmopolitan, shore dweller in temperate ponds, poorly vegetated	Predaceous; feed on small swimming invertebrates; larvae	100% Mortality in 10 days.
1993	Maier, K.J. and A.W. Knight	Arch Environ Contam Toxicol 25:365-370	Chironomus decorus	Midge	Selenium	7782-49-2	12.6	MG/KG	Mortality	LD50	Absorption	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	Lethal To 50% Of Animals In 48 Hours
1993	Maier, K.J. and A.W. Knight	Arch Environ Contam Toxicol 25:365-370	Chironomus decorus	Midge	Selenium	7782-49-2	17	MG/KG	Mortality	LD50	Absorption	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	Lethal To 50% Of Animals In 48 Hours
1996	Ogle RS, AW Knight	Arch Environ Contam Toxicol 30:274-279	Daphnia magna	Water flea	Selenium	7782-49-2	3.42	MG/KG	Mortality	LD95	Water	Whole Body	Adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Tissue concentration was not found to be significant. This mortality was shown at a Sulfate concentration of 0.
1995	Malchow, D.E., A.W. Knight and K.J. Maier	Arch Environ Contam Toxicol 29:104-109	Chironomus decorus	Midge	Selenium	7782-49-2	0.51	MG/KG	Growth	LOED	Ingestion	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	Reduction In Growth (weight)
1990	Ingersoll, C.G., F.J. Dwyer and T.W. May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	2.94	MG/KG	Growth	LOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	24% Decrease in weight gain.
1993	Besser, J.M., T.J. Canfield and T.W. Lapoint	Environ Tox & Chem 12:57-72.	Daphnia magna	Water flea	Selenium	7782-49-2	3	MG/KG	Growth	LOED	Combined	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Significant increase in biomass over controls - a hormetic effect at lowest dose.
1990	Ingersoll, C.G., F.J. Dwyer and T.W. May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	6.34	MG/KG	Reproduction	LOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Decrease in total young and young per female. Delayed time to first brood.
1996	Dobbs, M.G., D.S. Cherry and J. Cairns, Jr.	Environ Tox & Chem 15:340-347	Brachionus calyciflorus	Rotifer	Selenium	7782-49-2	12	MG/KG	Growth	LOED	Combined	Whole Body	NA	Cosmopolitan, shore dweller in temperate ponds, poorly vegetated	Predaceous; feed on small swimming invertebrates; larvae	Significant Reduction In Population Biomass
1993	Besser, J.M., T.J. Canfield and T.W. Lapoint	Environ Tox & Chem 12:57-72.	Daphnia magna	Water flea	Selenium	7782-49-2	29.6	MG/KG	Mortality	LOED	Combined	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Mortality measured as decreased biomass.
1990	Ingersoll, C.G., F.J. Dwyer and T.W. May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	2.94	MG/KG	Reproduction	NOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No effect on number of total young and time to first brood.
1990	Ingersoll, C.G., F.J. Dwyer and T.W. May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	4.22	MG/KG	Growth	NOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No Effect On Growth (weight)

1990	Ingersoll, C.G., F.J. Dwyer and T.W. May	Environ Tox & Chem 09:1171-1181	Daphnia magna	Water flea	Selenium	7782-49-2	10.2	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No Effect On Mortality
1993	Besser, J.M., T.J. Canfield and T.W. Lapoint	Environ Tox & Chem 12:57-72.	Daphnia magna	Water flea	Selenium	7782-49-2	20.4	MG/KG	Growth	NOED	Combined	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No difference in biomass compared to controls.

Lowest LOED = 0.2
Highest NOED = 20.4

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2007	Naddy RB, JW Gorsuch, AB Rehner, GR McNerney, RA Bell, JR Kramer	Aquatic Toxicol 84:1-10	Daphnia magna	Water flea	Silver	7440-22-4	0.59	MG/KG	Reproduction	EC24	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Number of offspring
2004	Glover CN, CM Wood	Comp Biochem Physiol 139C: 273-280	Daphnia magna	Water flea	Silver	7440-22-4	0.23	MG/KG	Reproduction	ED121	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Positive reproduction effects without humic acid. Exposure was for 1 day followed by effects measured 2wks later. assuming wet weight because whole body Na is presented in wet weight.
2004	Glover CN, CM Wood	Comp Biochem Physiol 139C: 273-280	Daphnia magna	Water flea	Silver	7440-22-4	0.25	MG/KG	Reproduction	ED128	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Positive reproduction effects without humic acid. Exposure was for 1 day followed by effects measured 2wks later. assuming wet weight because whole body Na is presented in wet weight.
2003	Bianchini Adalto and Chris Wood	Environ Tox & Chem 22 (6), 1361-1367	Daphnia magna	Water flea	Silver	7440-22-4	0.175	MG/KG	Mortality	LD50	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Addditional informationon the mode of toxicity was presented that showed the relationship of Ag uptake and interference with the Na, K, Cl and Atpase activity and uptake rates.
2002	Bianchini A., K.C. Bowles, C.J. Brauner, J.R. Kramer, C.M. Wood	Environ Tox & Chem 21(6) 1294-1300	Daphnia magna	Water flea	Silver	7440-22-4	2	MG/KG	Mortality	LD50	Water	Whole Body	Immature	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Neonates, Residue from living and dead D.magna, Residue and LC50's calculated from different studies.
1990	Diamond, J.M., D.G. Mackler, M. Collins and D. Gruber	Environ Tox & Chem 09:1425-1434	Corbicula fluminea	Clam - Asiatic	Silver	7440-22-4	1650	MG/KG	Growth	LOED	Absorption	Whole Body	Immature	Columbia River, WA south to Baja Cal., east to New Jersey south to Florida; silty clay, silty sand, shallow water to 18 m	Filter feeders; phytoplankton, detritus, bacteria, small zooplankters	Reduction In Growth measured as weight
1990	Diamond, J.M., D.G. Mackler, M. Collins and D. Gruber	Environ Tox & Chem 09:1425-1434	Corbicula fluminea	Clam - Asiatic	Silver	7440-22-4	2510	MG/KG	Mortality	LOED	Absorption	Whole Body	Immature	Columbia River, WA south to Baja Cal., east to New Jersey south to Florida; silty clay, silty sand, shallow water to 18 m	Filter feeders; phytoplankton, detritus, bacteria, small zooplankters	Reduced Survival
2004	Glover CN, CM Wood	Comp Biochem Physiol 139C: 273-280	Daphnia magna	Water flea	Silver	7440-22-4	0.23	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Positive reproduction effects with humic acid. Exposure was for 1 day followed by effects measured 2wks later. assuming wet weight because whole body Na is presented in wet weight.
2004	Glover CN, CM Wood	Comp Biochem Physiol 139C: 273-280	Daphnia magna	Water flea	Silver	7440-22-4	0.23	MG/KG	Reproduction	NOED	Ingestion	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Positive reproduction effects with humic acid. Exposure was for 1 day followed by effects measured 2wks later. assuming wet weight because whole body Na is presented in wet weight.
2007	Naddy RB, JW Gorsuch, AB Rehner, GR McNerney, RA Bell, JR Kramer	Aquatic Toxicol 84:1-10	Daphnia magna	Water flea	Silver	7440-22-4	0.49	MG/KG	Growth	NOED	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	
1990	Diamond, J.M., D.G. Mackler, M. Collins and D. Gruber	Environ Tox & Chem 09:1425-1434	Corbicula fluminea	Clam - Asiatic	Silver	7440-22-4	800	MG/KG	Growth	NOED	Absorption	Whole Body	Immature	Columbia River, WA south to Baja Cal., east to New Jersey south to Florida; silty clay, silty sand, shallow water to 18 m	Filter feeders; phytoplankton, detritus, bacteria, small zooplankters	No Effect On Growth measured as weight.
1990	Diamond, J.M., D.G. Mackler, M. Collins and D. Gruber	Environ Tox & Chem 09:1425-1434	Corbicula fluminea	Clam - Asiatic	Silver	7440-22-4	1650	MG/KG	Mortality	NOED	Absorption	Whole Body	Immature	Columbia River, WA south to Baja Cal., east to New Jersey south to Florida; silty clay, silty sand, shallow water to 18 m	Filter feeders; phytoplankton, detritus, bacteria, small zooplankters	No Effect On Survival

Lowest LOED = 0.175
Highest NOED = 1650

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2006	Muyssen BTA, KAC De Schamphelaere, CR Janssen	Aquatic Toxicol 77:393-401	Daphnia magna	Water flea	Zinc	7440-66-6	40	MG/KG	Growth	ED11	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	weight
2006	Muyssen BTA, KAC De Schamphelaere, CR Janssen	Aquatic Toxicol 77:393-401	Daphnia magna	Water flea	Zinc	7440-66-6	30.4	MG/KG	Reproduction	ED13	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	number of juv per female
2006	Muyssen BTA, KAC De Schamphelaere, CR Janssen	Aquatic Toxicol 77:393-401	Daphnia magna	Water flea	Zinc	7440-66-6	30.4	MG/KG	Growth	ED131	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	weight
2006	Muyssen BTA, KAC De Schamphelaere, CR Janssen	Aquatic Toxicol 77:393-401	Daphnia magna	Water flea	Zinc	7440-66-6	34.6	MG/KG	Reproduction	ED14	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	number of juv per female
2006	Muyssen BTA, KAC De Schamphelaere, CR Janssen	Aquatic Toxicol 77:393-401	Daphnia magna	Water flea	Zinc	7440-66-6	40	MG/KG	Growth	ED23	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Ca body conc
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Zinc	7440-66-6	275	MG/KG	Mortality	ED28	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	4ppt also exposed to Zn and Cu Chironomus maddeni
2006	Muyssen BTA, KAC De Schamphelaere, CR Janssen	Aquatic Toxicol 77:393-401	Daphnia magna	Water flea	Zinc	7440-66-6	34.6	MG/KG	Growth	ED33	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	weight
1992	Timmermans KR, W Peeters, and M. Tonkes	Hydrobiologia 241:119-134.	Chironomus riparius	Midge	Zinc	7440-66-6	180	MG/KG	Growth	ED44	Water	Whole Body	Larval	Not Specified	Not Specified	Delay in larval growth
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Zinc	7440-66-6	382	MG/KG	Growth	ED50	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	growth = dry wt; 0ppt also exposed to Zn and Cu Chironomus maddeni
2006	Muyssen BTA, KAC De Schamphelaere, CR Janssen	Aquatic Toxicol 77:393-401	Daphnia magna	Water flea	Zinc	7440-66-6	56.2	MG/KG	Growth	ED58	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	weight
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Zinc	7440-66-6	314	MG/KG	Growth	ED59	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	growth = dry wt; 8ppt also exposed to Zn and Cu Chironomus maddeni
2004	De Schamphelaere KAC, M Canli, V Van Lierde, I Forrez, F Vanhaecke, CR Janssen	Aquat Toxicol 70:233-244	Daphnia magna	Water flea	Zinc	7440-66-6	11.12	MG/KG	Reproduction	ED60	Water	Whole Body	NA	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	# offspring/adult - Argued that 10 organisms/exposure = 10 replicates of 1 organism per concentration
2004	De Schamphelaere KAC, M Canli, V Van Lierde, I Forrez, F Vanhaecke, CR Janssen	Aquat Toxicol 70:233-244	Daphnia magna	Water flea	Zinc	7440-66-6	16.8	MG/KG	Reproduction	ED62	Water	Whole Body	NA	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	# offspring/adult - Argued that 10 organisms/exposure = 10 replicates of 1 organism per concentration
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Zinc	7440-66-6	275	MG/KG	Growth	ED62	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	growth = dry wt; 4ppt also exposed to Zn and Cu Chironomus maddeni
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Zinc	7440-66-6	706	MG/KG	Growth	ED65	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	growth = dry wt; 8ppt also exposed to Zn and Cu Chironomus maddeni

2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Zinc	7440-66-6	314	MG/KG	Mortality	ED70	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	8ppt also exposed to Zn and Cu Chironomus maddeni
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Zinc	7440-66-6	706	MG/KG	Mortality	ED85	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	8ppt also exposed to Zn and Cu Chironomus maddeni
2006	Wilding J and L Maltby	Environ Toxicol & Chem 25(7):1795-1801	Gammarus pulex	Amphipod	Zinc	7440-66-6	44	MG/KG	Mortality	LD07	Ingestion	Whole Body	Adult	Not Specified	Not Specified	Field collected adults; body burden levels also declined w/ 6 d post exposure period (to 15 mg/kg)
1992	Timmermans KR, W Peeters, and M. Tonkes	Hydrobiologia 241:119-134.	Chironomus riparius	Midge	Zinc	7440-66-6	183	MG/KG	Mortality	LD10	Water	Whole Body	Larval	Not Specified	Not Specified	
1997	Borgmann, U., and W.P. Norwood	Can J Fish Aquat Sci 54:1046-1054	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	105.8	MG/KG	Mortality	LD100	Absorption	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	calc wet from dry using default % moisture
1997	Borgmann U, WP Norwood	Can J Fish Aquat Sci 54:1055-1063	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	117.1	MG/KG	Mortality	LD100	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	M2-Tapwater
1997	Borgmann, U., and W.P. Norwood	Can J Fish Aquat Sci 54:1046-1054	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	117.8	MG/KG	Mortality	LD100	Absorption	Whole Body	Juvenile	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	calc wet from dry using default % moisture
2006	Muyssen BTA, KAC De Schamphelaere, CR Janssen	Aquatic Toxicol 77:393-401	Daphnia magna	Water flea	Zinc	7440-66-6	30.4	MG/KG	Mortality	LD14	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	
2006	Muyssen BTA, KAC De Schamphelaere, CR Janssen	Aquatic Toxicol 77:393-401	Daphnia magna	Water flea	Zinc	7440-66-6	34.6	MG/KG	Mortality	LD19	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	
1986	Mirenda, R.J.	Bull Environ Contam Toxicol 37:387-394	Orconectes virilis	Crayfish	Zinc	7440-66-6	35.2	MG/KG	Mortality	LD23	Absorption	Whole Body	Adult	Not Specified	Not Specified	23% Significant increase in mortality.
1997	Borgmann, U., and W.P. Norwood	Can J Fish Aquat Sci 54:1046-1054	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	19.5	MG/KG	Mortality	LD25	Absorption	Whole Body	Juvenile	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	calc wet from dry using default % moisture
1997	Borgmann, U., and W.P. Norwood	Can J Fish Aquat Sci 54:1046-1054	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	40.3	MG/KG	Mortality	LD25	Absorption	Whole Body	Juvenile	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	calc wet from dry using default % moisture
1997	Borgmann U, WP Norwood	Can J Fish Aquat Sci 54:1055-1063	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	49.04	MG/KG	Mortality	LD25	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	M1-Tapwater
1997	Borgmann, U., and W.P. Norwood	Can J Fish Aquat Sci 54:1046-1054	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	72.7	MG/KG	Mortality	LD25	Absorption	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	calc wet from dry using default % moisture
2001	Borgmann U, WP Norwood, TB Reynoldson, and F Rosa	Can J Fish Aquat Sci 58:950-960	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	289.023	MG/KG	Mortality	LD25	Water	Whole body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	Water, sed, benthic inverts @ 12 lakes, pH 6.6-8.3. Lab tests w/seds and Hyalella. Beakers lowered pH to 4, used Imhoff cones instead.
1997	Borgmann, U., and W.P. Norwood	Can J Fish Aquat Sci 54:1046-1054	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	117.8	MG/KG	Mortality	LD40	Absorption	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	calc wet from dry using default % moisture

1986	Mirenda, R.J.	Bull Environ Contam Toxicol 37:387-394	Orconectes virilis	Crayfish	Zinc	7440-66-6	37.8	MG/KG	Mortality	LD43	Absorption	Whole Body	Adult	Not Specified	Not Specified	43% Increase in mortality.
1997	Borgmann U, WP Norwood	Can J Fish Aquat Sci 54:1055-1063	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	54.9	MG/KG	Mortality	LD45	Combined	Whole Body	Immature	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	M3-Tapwater
1997	Borgmann, U., and W.P. Norwood	Can J Fish Aquat Sci 54:1046-1054	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	50.2	MG/KG	Mortality	LD50	Absorption	Whole Body	Juvenile	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	calc wet from dry using default % moisture
1997	Borgmann, U., and W.P. Norwood	Can J Fish Aquat Sci 54:1046-1054	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	90.6	MG/KG	Mortality	LD50	Absorption	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	calc wet from dry using default % moisture
2006	Wilding J and L Maltby	Environ Toxicol & Chem 25(7):1795-1801	Gammarus pulex	Amphipod	Zinc	7440-66-6	54	MG/KG	Mortality	LD52	Water	Whole Body	Adult	Not Specified	Not Specified	Field collected adults; body burden levels also declined w/ 6 d post exposure period (to 23 mg/kg)
1992	Timmermans KR, W Peeters, and M. Tonkes	Hydrobiologia 241:119-134.	Chironomus riparius	Midge	Zinc	7440-66-6	524	MG/KG	Mortality	LD6	Water	Whole Body	Larval	Not Specified	Not Specified	
1986	Mirenda, R.J.	Bull Environ Contam Toxicol 37:387-394	Orconectes virilis	Crayfish	Zinc	7440-66-6	69.2	MG/KG	Mortality	LD61	Absorption	Whole Body	Adult	Not Specified	Not Specified	61% Increase in mortality.
1997	Borgmann, U., and W.P. Norwood	Can J Fish Aquat Sci 54:1046-1054	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	60.8	MG/KG	Mortality	LD67	Absorption	Whole Body	Juvenile	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	calc wet from dry using default % moisture
2006	Wilding J and L Maltby	Environ Toxicol & Chem 25(7):1795-1801	Gammarus pulex	Amphipod	Zinc	7440-66-6	70.2	MG/KG	Mortality	LD81	Combined	Whole Body	Adult	Not Specified	Not Specified	Field collected adults; body burden levels also declined w/ 6 d post exposure period (to 39.8 mg/kg)
2006	Muyssen BTA, KAC De Schamphelaere, CR Janssen	Aquatic Toxicol 77:393-401	Daphnia magna	Water flea	Zinc	7440-66-6	56.2	MG/KG	Mortality	LD93	Water	Whole Body	Juvenile	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	
2004	De Schamphelaere KAC, M Canli, V Van Lierde, I Forrez, F Vanhaecke, CR Janssen	Aquat Toxicol 70:233-244	Daphnia magna	Water flea	Zinc	7440-66-6	11.12	MG/KG	Reproduction	LOED	Water	Whole Body	NA	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	# offspring/adult - Argued that 10 organisms/exposure = 10 replicates of 1 organism per concentration
1994	Kraak, M.H.S., Y.A. Wink, S.C. Stuijfzand, M.C. Buckert-de Jong, C.J. De Groot and W. Admiraal	Aquat Toxicol 30:77-89	Dreissena polymorpha	Mussel - Zebra	Zinc	7440-66-6	621	MG/KG	Mortality	LOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	56% Mortality
1986	Mirenda, R.J.	Bull Environ Contam Toxicol 37:387-394	Orconectes virilis	Crayfish	Zinc	7440-66-6	12.7	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Not Specified	Not Specified	No significant increase in mortality.
2004	De Schamphelaere KAC, M Canli, V Van Lierde, I Forrez, F Vanhaecke, CR Janssen	Aquat Toxicol 70:233-244	Daphnia magna	Water flea	Zinc	7440-66-6	16.8	MG/KG	Mortality	NOED	Water	Whole Body	NA	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Argued that 10 organisms/exposure = 10 replicates of 1 organism per concentration
2004	De Schamphelaere KAC, M Canli, V Van Lierde, I Forrez, F Vanhaecke, CR Janssen	Aquat Toxicol 70:233-244	Daphnia magna	Water flea	Zinc	7440-66-6	16.8	MG/KG	Growth	NOED	Water	Whole Body	NA	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth weight - Argued that 10 organisms/exposure = 10 replicates of 1 organism per concentration
2004	De Schamphelaere KAC, M Canli, V Van Lierde, I Forrez, F Vanhaecke, CR Janssen	Aquat Toxicol 70:233-244	Daphnia magna	Water flea	Zinc	7440-66-6	16.8	MG/KG	Reproduction	NOED	Water	Whole Body	NA	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	time to brood - Argued that 10 organisms/exposure = 10 replicates of 1 organism per concentration
1997	Borgmann, U., and W.P. Norwood	Can J Fish Aquat Sci 54:1046-1054	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	53.6	MG/KG	Mortality	NOED	Absorption	Whole Body	Juvenile	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	calc wet from dry using default % moisture

1997	Borgmann, U., and W.P. Norwood	Can J Fish Aquat Sci 54:1046-1054	Hyalella azteca	Amphipod - Freshwater	Zinc	7440-66-6	60.8	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Widely distributed in North America in permanent bodies of water with submerged vegetation	Detritivore	calc wet from dry using default % moisture
1994	Kraak, M.H.S., M. Touissaint, D. Lavy, and C. Davids.	Environ Pollut 084:139-143.	Dreissena polymorpha	Mussel - Zebra	Zinc	7440-66-6	120	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No increase in mortality. Residue was determined from graph and is approximate.
1994	Kraak, M.H.S., Y.A. Wink, S.C. Stuijfzand, M.C. Buckert-de Jong, C.J. De Groot and W. Admiraal	Aquat Toxicol 30:77-89	Dreissena polymorpha	Mussel - Zebra	Zinc	7440-66-6	140	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No Effect On Mortality
2006	Bidwell JR, JR Gorrie	Environ Pollut 139-206-213	Chironomus decorus	Midge	Zinc	7440-66-6	382	MG/KG	Mortality	NOED	Combined	Whole Body	Larval	Bottom dwelling in tubes in shallow ponds or lakes	Adults non-feeding; larvae utilize microorganisms small bits of detritus	0ppt also exposed to Zn and Cu Chironomus maddeni
1994	Kraak, M.H.S., Y.A. Wink, S.C. Stuijfzand, M.C. Buckert-de Jong, C.J. De Groot and W. Admiraal	Aquat Toxicol 30:77-89	Dreissena polymorpha	Mussel - Zebra	Zinc	7440-66-6	621	MG/KG	Growth	NOED	Absorption	Whole Body	Adult	Introduced; spread to all Great Lakes, some rivers in Atlantic, Mississippi drainage basins; attaches to rocks, other hard surface	Filter feeder; phytoplankton, bacteria, fine detrital particles	No Effect On Weight Gain Of Surviving Mussels
2004	Mann RM, M Grosell, A Bianchini, CM Wood	Environ Tox & Chem 23:388-395	Chironomus tentans	Midge	Zinc	7440-66-6	745	MG/KG	Growth	NOED	Combined	Whole Body	Egg	Northern U.S,southern Canada; widely distributed on bottoms of streams, lakes, ponds	Larvae feed on microorganisms, small animals in sediments, detritus; adults non-feeding	Results are from a mixture of zinc and lead.
2004	Mann RM, M Grosell, A Bianchini, CM Wood	Environ Tox & Chem 23:388-395	Chironomus tentans	Midge	Zinc	7440-66-6	1187	MG/KG	Growth	NOED	Combined	Whole Body	Egg	Northern U.S,southern Canada; widely distributed on bottoms of streams, lakes, ponds	Larvae feed on microorganisms, small animals in sediments, detritus; adults non-feeding	Results are from a mixture of zinc and lead.

Lowest LOED = 11.12
Highest NOED = 1187

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1971	Johnson, B.T., C.R. Saunders, H.O. Sanders and R.S. Campbell	J Fish Res Bd Can 28:705-709.	Libellula sp.	Dragonfly	4,4`-DDT	50-29-3	0.0144	MG/KG	Mortality	NOED	Absorption	Whole Body	Naiad	Generally throughout North America; predominantly pond and marsh inhabitants	Adults predaceous, catch prey in flight; nymphs feed on aquatic insects, small animals	No increase in mortality in 3 days.
1971	Johnson, B.T., C.R. Saunders, H.O. Sanders and R.S. Campbell	J Fish Res Bd Can 28:705-709.	Orconectes nais	Crayfish	4,4`-DDT	50-29-3	0.0466	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Midwest, Mississippi Valley east to southeastern US, in streams	Food consists of live insect larvae, worms, crustaceans, small invertebrates, dead animal matter	No increase in mortality in 3 days.
1971	Johnson, B.T., C.R. Saunders, H.O. Sanders and R.S. Campbell	J Fish Res Bd Can 28:705-709.	Ischnura verticalis	Damselfly	4,4`-DDT	50-29-3	0.075	MG/KG	Mortality	NOED	Absorption	Whole Body	Naiad	Widely distributed in North America; larvae on bottoms of streams, lakes, ponds	Nymphs feed on aquatic insects, small animals; adults feed on mosquitoes and similar small insects	No increase in mortality in 3 days.
1971	Johnson, B.T., C.R. Saunders, H.O. Sanders and R.S. Campbell	J Fish Res Bd Can 28:705-709.	Palaemonetes kadiakensis	Shrimp - Grass	4,4`-DDT	50-29-3	0.1	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Common west of Alleghenies from southern Ontario, Great Lakes to Gulf coast and northeastern Mexico.	Not Specified	No increase in mortality in 3 days.
1971	Johnson, B.T., C.R. Saunders, H.O. Sanders and R.S. Campbell	J Fish Res Bd Can 28:705-709.	Siphlonurus sp.	Mayfly	4,4`-DDT	50-29-3	0.216	MG/KG	Mortality	NOED	Absorption	Whole Body	Nymph	Various littoral areas of lentic waters, small streams and springs, sandy-bottomed rivers	Adults non-feeding; nymphs feed on decaying vegetable matter, small plants	No increase in mortality in 3 days.
1971	Johnson, B.T., C.R. Saunders, H.O. Sanders and R.S. Campbell	J Fish Res Bd Can 28:705-709.	Siphlonurus sp.	Mayfly	4,4`-DDT	50-29-3	0.216	MG/KG	Mortality	NOED	Absorption	Whole Body	Nymph	Various littoral areas of lentic waters, small streams and springs, sandy-bottomed rivers	Adults non-feeding; nymphs feed on decaying vegetable matter, small plants	No increase in mortality in 3 days.
1971	Johnson, B.T., C.R. Saunders, H.O. Sanders and R.S. Campbell	J Fish Res Bd Can 28:705-709.	Gammarus fasciatus	Amphipod	4,4`-DDT	50-29-3	0.336	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Freshwater ponds, streams along Atlantic coast, Maine to Florida; introduced into Great Lakes	Feeds on Fucus and other like seaweeds, detritus, small invertebrates	No increase in mortality in 3 days.
1971	Johnson, B.T., C.R. Saunders, H.O. Sanders and R.S. Campbell	J Fish Res Bd Can 28:705-709.	Hexagenia bilineata	Mayfly	4,4`-DDT	50-29-3	0.336	MG/KG	Mortality	NOED	Absorption	Whole Body	Nymph	Central and eastern North America; larva burrows in silt, silt-marl, silt-sand in rivers, streams, ponds, lakes	Larvae are particle feeders, ingest sediment, extract food; adults do not feed	No increase in mortality in 3 days.
1971	Johnson, B.T., C.R. Saunders, H.O. Sanders and R.S. Campbell	J Fish Res Bd Can 28:705-709.	Chironomus sp.	Midge	4,4`-DDT	50-29-3	0.44	MG/KG	Mortality	NOED	Absorption	Whole Body	Larval	Not Specified	Not Specified	No increase in mortality in 3 days.
1971	Johnson, B.T., C.R. Saunders, H.O. Sanders and R.S. Campbell	J Fish Res Bd Can 28:705-709.	Daphnia magna	Water flea	4,4`-DDT	50-29-3	1.83	MG/KG	Mortality	NOED	Absorption	Whole Body	Adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No increase in mortality in 3 days.
1973	Sodergren A, BJ Svensson	Bull Environ Contam Toxicol 09:345-350	Ephemera danica	Mayfly	4,4`-DDT	50-29-3	5.5	MG/KG	Mortality	NOED	Water	Whole Body	Juvenile	North America; fresh water ponds, lakes	Larvae are detritivores, herbivores; adults non-feeding	
1973	Sodergren, A., Svensson, B.	Bull Environ Contam Toxicol 09(6)	Ephemera danica	Mayfly	4,4`-DDT	50-29-3	6	MG/KG	Growth	NOED	Combined	Whole Body	Immature	North America; fresh water ponds, lakes	Larvae are detritivores, herbivores; adults non-feeding	
1973	Sodergren, A., Svensson, B.	Bull Environ Contam Toxicol 09(6)	Ephemera danica	Mayfly	4,4`-DDT	50-29-3	6	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	North America; fresh water ponds, lakes	Larvae are detritivores, herbivores; adults non-feeding	

Lowest LOED = NA
Highest NOED = 6

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	No. Reps	QA Stats Method	QA Chem Method	QA Chem DL	QA Exp Method	QA Effects Method	QA Reps	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1976	Schimmel, S.C., Patrick, J.M., Forester, J.	Journal of Toxicology and Environmental Health, 1:955-965, 1976	Palaemonetes vulgaris	Shrimp - Grass	Heptachlor epoxide	1024-57-3	0.26	MG/KG	1	Y	Y	Y	Y	Y	N	Mortality	NOED	Combined	Whole Body	Mature	Gulf of St. Lawrence north to Cape Breton, south to TX, occasionally to Yucatan; estuarine, beds of submerged vegetation, to 15 m.	Detritus, small invertebrates	Exposure Media Heptachlor Epoxide (Conc. NS)

Lowest LOED = NA
Highest NOED = 0.26

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1974	Hansen, D.J., P.R. Parrish and J. Forester	Environ Res 7:363-373	Palaemonetes pugio	Shrimp - Grass	PCBs	1336-36-3	22	MG/KG	Mortality	LD38	Absorption	Whole Body	Adult	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	38% Mortality In 96 Hours
1974	Hansen, D.J., P.R. Parrish and J. Forester	Environ Res 7:363-373	Palaemonetes pugio	Shrimp - Grass	PCBs	1336-36-3	44	MG/KG	Mortality	LD93	Absorption	Whole Body	Adult	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	93% Mortality In 96 Hours
1974	Hansen, D.J., P.R. Parrish and J. Forester	Environ Res 7:363-373	Palaemonetes pugio	Shrimp - Grass	PCBs	1336-36-3	1.1	MG/KG	Mortality	LOED	Absorption	Whole Body	Adult	Nova Scotia south to Corpus Christi, TX; estuaries on beds of submerged vegetation	Detritus with associated bacteria, diatoms	33% Mortality In 96 Hours
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0004	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.00076	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was significantly decreased by this congener concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.00076	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was not affected at this concentration or with this congenger.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.00076	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0008	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was not significantly affected by this congener concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0008	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was not affected at this concentration or with this congenger.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0008	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0012	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was not significantly affected by this congener concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0012	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was not affected at this concentration or with this congenger.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0012	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0013	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was significantly increased by this congener concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0013	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was not affected at this concentration or with this congenger.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0013	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0018	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was not significantly affected by this congener concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0018	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was not affected at this concentration or with this congenger.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0018	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0028	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was not significantly affected by this congener concentration.

1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0028	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was not significantly affected by this congener concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0028	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was not affected at this concentration or with this congenger.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0028	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was not affected at this concentration or with this congenger.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0028	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.004	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was significantly increased by this congener concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.004	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was not affected at this concentration or with this congenger.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.004	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.011	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was significantly decreased by this congener concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.011	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was not affected at this concentration or with this congenger.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.011	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0116	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was significantly decreased by this congener concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0116	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was significantly increased at this congenger concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0116	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0138	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was not significantly affected by this congener concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0138	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was significantly increased at this congenger concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0138	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0186	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was not significantly affected by this congener concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0186	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was significantly increased at this congenger concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0186	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0246	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was not significantly affected by this congener concentration.

1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0246	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was significantly increaed at this congenger concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.0246	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.026	MG/KG	Growth	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Growth was not significantly affected by this congener concentration.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.026	MG/KG	Reproduction	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Reproduction was not affected at this concentration or with this congenger.
1990	Dillon TM , WH Benson, RA Stackhouse, AM Crider	Environ Tox & Chem	Daphnia magna	Water flea	PCBs	1336-36-3	0.026	MG/KG	Survival	NOED	Water	Whole Body	Neonate to adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Although a great deal of absorption and retention of PCBs occured survival, growth, and reproduction were not adversely affected
1973	Sodergren, A., Svensson, B.	Bull Environ Contam Toxicol 09(6)	Ephemera danica	Mayfly	PCBs	1336-36-3	1.5	MG/KG	Growth	NOED	Combined	Whole Body	Immature	North America; fresh water ponds, lakes	Larvae are detritivores, herbivores; adults non-feeding	
1973	Sodergren, A., Svensson, B.	Bull Environ Contam Toxicol 09(6)	Ephemera danica	Mayfly	PCBs	1336-36-3	1.5	MG/KG	Mortality	NOED	Combined	Whole Body	Immature	North America; fresh water ponds, lakes	Larvae are detritivores, herbivores; adults non-feeding	
2005	Burton GA Jr, MS Greenberg, CD Rowland, CA Irvine, DR Lavioie, JA Brooker, L Moore, DFN Raymer, RA McWilliam	Environ Pollut 134:133-144	Lumbriculus variegatus	Oligochaete	PCBs	1336-36-3	10	MG/KG	Survival	NOED	Combined	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	Difficult to ascertain the experimental design because the paper is presenting multiple experiments from 1991 to present
2005	Burton GA Jr, MS Greenberg, CD Rowland, CA Irvine, DR Lavioie, JA Brooker, L Moore, DFN Raymer, RA McWilliam	Environ Pollut 134:133-144	Lumbriculus variegatus	Oligochaete	PCBs	1336-36-3	125	MG/KG	Survival	NOED	Combined	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	Difficult to ascertain the experimental design because the paper is presenting multiple experiments from 1991 to present
2005	Burton GA Jr, MS Greenberg, CD Rowland, CA Irvine, DR Lavioie, JA Brooker, L Moore, DFN Raymer, RA McWilliam	Environ Pollut 134:133-144	Lumbriculus variegatus	Oligochaete	PCBs	1336-36-3	210	MG/KG	Survival	NOED	Combined	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	Difficult to ascertain the experimental design because the paper is presenting multiple experiments from 1991 to present
2005	Burton GA Jr, MS Greenberg, CD Rowland, CA Irvine, DR Lavioie, JA Brooker, L Moore, DFN Raymer, RA McWilliam	Environ Pollut 134:133-144	Lumbriculus variegatus	Oligochaete	PCBs	1336-36-3	260	MG/KG	Survival	NOED	Combined	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	Difficult to ascertain the experimental design because the paper is presenting multiple experiments from 1991 to present
2005	Burton GA Jr, MS Greenberg, CD Rowland, CA Irvine, DR Lavioie, JA Brooker, L Moore, DFN Raymer, RA McWilliam	Environ Pollut 134:133-144	Lumbriculus variegatus	Oligochaete	PCBs	1336-36-3	350	MG/KG	Survival	NOED	Combined	Whole Body	Adult	Most of North America, Europe; Ponds, lakes, on top of mud	Feeds on small animals in substrata	Difficult to ascertain the experimental design because the paper is presenting multiple experiments from 1991 to present

Lowest LOED = 1.1
Highest NOED = 350

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1996	Ashley, C.M., M.G. Simpson, D.M. Holdich and D.R. Bell	Aquat Toxicol 35:157-169	Pacifastacus leniusculus	Crayfish	TCDD	1746-01-6	0.003	MG/KG	Mortality	LD25	Injection	Whole Body	Adult	Pacific slope from British Columbia to California	Not Specified	25% Mortality After 40 Days
1996	Ashley, C.M., M.G. Simpson, D.M. Holdich and D.R. Bell	Aquat Toxicol 35:157-169	Pacifastacus leniusculus	Crayfish	2,3,7,8-TCDD	1746-01-6	0.003	MG/KG	Mortality	LD25	Injection	Whole Body	Adult	Pacific slope from British Columbia to California	Not Specified	25% Mortality After 40 Days
1996	Ashley, C.M., M.G. Simpson, D.M. Holdich and D.R. Bell	Aquat Toxicol 35:157-169	Pacifastacus leniusculus	Crayfish	TCDD	1746-01-6	0.03	MG/KG	Mortality	LD50	Injection	Whole Body	Adult	Pacific slope from British Columbia to California	Not Specified	Lethargy, 50 - 66% Increase In Mortality
1996	Ashley, C.M., M.G. Simpson, D.M. Holdich and D.R. Bell	Aquat Toxicol 35:157-169	Pacifastacus leniusculus	Crayfish	2,3,7,8-TCDD	1746-01-6	0.03	MG/KG	Mortality	LD50	Injection	Whole Body	Adult	Pacific slope from British Columbia to California	Not Specified	Lethargy, 50 - 66% Increase In Mortality
1996	Ashley, C.M., M.G. Simpson, D.M. Holdich and D.R. Bell	Aquat Toxicol 35:157-169	Pacifastacus leniusculus	Crayfish	TCDD	1746-01-6	0.0003	MG/KG	Mortality	NOED	Injection	Whole Body	Adult	Pacific slope from British Columbia to California	Not Specified	No Effect On Mortality
1996	Ashley, C.M., M.G. Simpson, D.M. Holdich and D.R. Bell	Aquat Toxicol 35:157-169	Pacifastacus leniusculus	Crayfish	2,3,7,8-TCDD	1746-01-6	0.0003	MG/KG	Mortality	NOED	Injection	Whole Body	Adult	Pacific slope from British Columbia to California	Not Specified	No Effect On Mortality
1978	Yockim, R.S., Isensee, A.R., Jones, G.E.	Chemosphere 07:215-220	Daphnia magna	Water flea	TCDD	1746-01-6	0.0086	MG/KG	Mortality	NOED	Absorption	Whole Body	NA	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Model ecosystem exposure. No significant difference in population. Radiolabelled TCDD added to sediment and leached into water. Residue at 15 days.
1978	Yockim, R.S., Isensee, A.R., Jones, G.E.	Chemosphere 07:215-220	Daphnia magna	Water flea	2,3,7,8-TCDD	1746-01-6	0.0086	MG/KG	Mortality	NOED	Absorption	Whole Body	NA	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Model ecosystem exposure. No significant difference in population. Radiolabelled TCDD added to sediment and leached into water. Residue at 15 days.
1978	Yockim, R.S., Isensee, A.R., Jones, G.E.	Chemosphere 07:215-220	Helisoma sp.	Snail	TCDD	1746-01-6	0.0097	MG/KG	Mortality	NOED	Absorption	Whole Body	NA	Not Specified	Not Specified	Model ecosystem exposure. No significant difference in population. Radiolabelled TCDD added to sediment and leached into water. Residue at 15 days.
1978	Yockim, R.S., Isensee, A.R., Jones, G.E.	Chemosphere 07:215-220	Helisoma sp.	Snail	2,3,7,8-TCDD	1746-01-6	0.0097	MG/KG	Mortality	NOED	Absorption	Whole Body	NA	Not Specified	Not Specified	Model ecosystem exposure. No significant difference in population. Radiolabelled TCDD added to sediment and leached into water. Residue at 15 days.
1975	Isensee AR, GE Jones	Environ Sci Tech 09:668-672	Daphnia magna	Water flea	TCDD	1746-01-6	0.06	MG/KG	Mortality	NOED	Absorption	Whole Body	NS	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	
1975	Isensee AR, GE Jones	Environ Sci Tech 09:668-672	Daphnia magna	Water flea	2,3,7,8-TCDD	1746-01-6	0.06	MG/KG	Mortality	NOED	Absorption	Whole Body	NS	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	
1978	Isensee, A.R.	Ecol. Bull. (Stockholm) 27:255-262.	Physa sp.	Snail	TCDD	1746-01-6	0.097	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	Mesocosm study. Sediment treated with TCDD. Exposure concentration measured in water.
1978	Isensee, A.R.	Ecol. Bull. (Stockholm) 27:255-262.	Physa sp.	Snail	2,3,7,8-TCDD	1746-01-6	0.097	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Not Specified	Not Specified	Mesocosm study. Sediment treated with TCDD. Exposure concentration measured in water.
1978	Isensee, A.R.	Ecol. Bull. (Stockholm) 27:255-262.	Daphnia magna	Water flea	TCDD	1746-01-6	0.17	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Mesocosm study. Sediment treated with TCDD. Exposure concentration measured in water.
1978	Isensee, A.R.	Ecol. Bull. (Stockholm) 27:255-262.	Daphnia magna	Water flea	2,3,7,8-TCDD	1746-01-6	0.17	MG/KG	Mortality	NOED	Combined	Whole Body	Adult	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	Mesocosm study. Sediment treated with TCDD. Exposure concentration measured in water.
1997	West, C.W., G.T. Ankley, J.W. Nichols, G.E. Elonen, and D.E. Nessa	Environ Tox & Chem 16:1287-1294	Chironomus tentans	Midge	TCDD	1746-01-6	0.47	MG/KG	Growth	NOED	Combined	Whole Body	Early Juvenile	Northern U.S,southern Canada; widely distributed on bottoms of streams, lakes, ponds	Larvae feed on microorganisms, small animals in sediments, detritus; adults non-feeding	Concentrations Are Lipid Normalized - Lipid As Wet Weight
1997	West, C.W., G.T. Ankley, J.W. Nichols, G.E. Elonen, and D.E. Nessa	Environ Tox & Chem 16:1287-1294	Chironomus tentans	Midge	TCDD	1746-01-6	0.47	MG/KG	Mortality	NOED	Combined	Whole Body	Early Juvenile	Northern U.S,southern Canada; widely distributed on bottoms of streams, lakes, ponds	Larvae feed on microorganisms, small animals in sediments, detritus; adults non-feeding	Concentrations Are Lipid Normalized - Lipid As Wet Weight

1997	West, C.W., G.T. Ankley, J.W. Nichols, G.E. Elonen, and D.E. Nessa	Environ Tox & Chem 16:1287-1294	Chironomus tentans	Midge	2,3,7,8-TCDD	1746-01-6	0.47	MG/KG	Growth	NOED	Combined	Whole Body	Early Juvenile	Northern U.S,southern Canada; widely distributed on bottoms of streams, lakes, ponds	Larvae feed on microorganisms, small animals in sediments, detritus; adults non-feeding	Concentrations Are Lipid Normalized - Lipid As Wet Weight
1997	West, C.W., G.T. Ankley, J.W. Nichols, G.E. Elonen, and D.E. Nessa	Environ Tox & Chem 16:1287-1294	Chironomus tentans	Midge	2,3,7,8-TCDD	1746-01-6	0.47	MG/KG	Mortality	NOED	Combined	Whole Body	Early Juvenile	Northern U.S,southern Canada; widely distributed on bottoms of streams, lakes, ponds	Larvae feed on microorganisms, small animals in sediments, detritus; adults non-feeding	Concentrations Are Lipid Normalized - Lipid As Wet Weight
1975	Isensee, A.R. and G.E. Jones	Environ Sci Tech 09:668-672	Physa sp.	Snail	TCDD	1746-01-6	0.56	MG/KG	Mortality	NOED	Combined	Whole Body	NA	Not Specified	Not Specified	No Effect On Survival. Model ecosystem.
1975	Isensee, A.R. and G.E. Jones	Environ Sci Tech 09:668-672	Physa sp.	Snail	2,3,7,8-TCDD	1746-01-6	0.56	MG/KG	Mortality	NOED	Combined	Whole Body	NA	Not Specified	Not Specified	No Effect On Survival. Model ecosystem.
1975	Isensee AR, GE Jones	Environ Sci Tech 09:668-672	Physa sp.	Snail	TCDD	1746-01-6	1.02	MG/KG	Mortality	NOED	Absorption	Whole Body	NS	Not Specified	Not Specified	
1975	Isensee AR, GE Jones	Environ Sci Tech 09:668-672	Physa sp.	Snail	2,3,7,8-TCDD	1746-01-6	1.02	MG/KG	Mortality	NOED	Absorption	Whole Body	NS	Not Specified	Not Specified	
1975	Isensee, A.R. and G.E. Jones	Environ Sci Tech 09:668-672	Daphnia magna	Water flea	TCDD	1746-01-6	2.08	MG/KG	Mortality	NOED	Combined	Whole Body	NA	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No effect on survival. Model ecosystem.
1975	Isensee, A.R. and G.E. Jones	Environ Sci Tech 09:668-672	Daphnia magna	Water flea	2,3,7,8-TCDD	1746-01-6	2.08	MG/KG	Mortality	NOED	Combined	Whole Body	NA	Southwestern to south-central Canada, Northwestern to north-central US; ponds, small lakes, clear and weedy waters	Feeds on algae and similar organisms	No effect on survival. Model ecosystem.

Lowest LOED = 0.003
Highest NOED = 2.08

Critical Egg Residue Data - Bird

Ref ID	Year	Author	Publication Source	Species Scientific Name	Species Common Name	Species TSN Code	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
MEC03-046	2001	Clark, K.E., W. Stansley, L.J. Niles	Arch Environ Contam Toxicol 40:277-284	Pandion haliaetus	Osprey	175590	4,4`-DDD	72-54-8	0.18	MG/KG	Reproduction	NOED	NS	Eggs	Egg	Not Specified	Not Specified	Eggshell Thickness
Weston05-102	1984	Findholt, SL	The Condor	Egretta thula	Snowy egret	174813	4,4`-DDD	72-54-8	0.16	MG/KG	Physiological	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	Eggshell thickness when compared to a control egg - pre 1947 eggs collected in Utah. Although NOED because the thickness was not sign diff when compared to control, author did find sign corrleation between burden and eggshell thickness
Weston05-102	1984	Findholt, SL	The Condor	Egretta thula	Snowy egret	174813	4,4`-DDD	72-54-8	0.12	MG/KG	Physiological	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	Eggshell thickness when compared to a control egg - pre 1947 eggs collected in Utah. Although NOED because the thickness was not sign diff when compared to control, author did find sign corrleation between burden and eggshell thickness

Lowest LOED = NA
Highest NOED = 0.18

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	No. Reps	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1999	Ewins PJ, S Postupalsky, KD Hughes, DV Weseloh	Environmental Polution 104:295-304	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	0.0042	MG/KG	25	Reproduction	ED15	Combined	Eggs	Egg	Not Specified	Not Specified	25 eggs over 10 years
1984	McEwen LC	Environ Tox & Chem 03:367-376	Nycticorax nycticorax	Blact-crowned night-heron	4,4`-DDE	72-55-9	1.52	MG/KG	1	Reproduction	ED16	Combined	Eggs	Egg	Not Specified	Not Specified	Shell Thickness, Latham Reservior
1984	McEwen LC	Environ Tox & Chem 03:367-376	Nycticorax nycticorax	Blact-crowned night-heron	4,4`-DDE	72-55-9	1.52	MG/KG	1	Reproduction	ED60	Combined	Eggs	Egg	Not Specified	Not Specified	# dead young, Latham Reservoir, Arapano NWR used as control
1984	McEwen LC	Environ Tox & Chem 03:367-376	Nycticorax nycticorax	Blact-crowned night-heron	4,4`-DDE	72-55-9	1.52	MG/KG	1	Reproduction	ED60	Combined	Eggs	Egg	Not Specified	Not Specified	# young per nest, Latham Reservoir, Arapano NWR used as control
1984	McEwen LC	Environ Tox & Chem 03:367-376	Nycticorax nycticorax	Blact-crowned night-heron	4,4`-DDE	72-55-9	1.52	MG/KG	1	Reproduction	ED85	Combined	Eggs	Egg	Not Specified	Not Specified	# rotten/addled eggs, Latham Reservoir, Arapano NWR used as control
1996	Elliot JE, RJ Norstrom, A Lorenzen, LS Hart, H Philibert, SW Kennedy, JJ Stegeman, GD Bellward, KM Cheng	Environ Tox & Chem 15(5):782-793	Haliaeetus leucocephalus	Bald eagle	4,4`-DDE	72-55-9	15.02	MG/KG	1	Biochemical	IP468	Combined	Eggs	Egg	Not Specified	Not Specified	Yolk Sac, CYP1A increase Powell River
2005	Toschik, PC; BA Rattner; PC McGowan; MC Christman; DB Carter; RC Hale; CW Matson; MA Ottinger	Environ Tox & Chem 24:617-628	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	0.006	MG/KG	12	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2005	Toschik, PC; BA Rattner; PC McGowan; MC Christman; DB Carter; RC Hale; CW Matson; MA Ottinger	Environ Tox & Chem 24:617-628	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	0.006	MG/KG	12	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2005	Toschik, PC; BA Rattner; PC McGowan; MC Christman; DB Carter; RC Hale; CW Matson; MA Ottinger	Environ Tox & Chem 24:617-628	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	0.018	MG/KG	12	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2005	Toschik, PC; BA Rattner; PC McGowan; MC Christman; DB Carter; RC Hale; CW Matson; MA Ottinger	Environ Tox & Chem 24:617-628	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	0.018	MG/KG	12	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2005	Toschik, PC; BA Rattner; PC McGowan; MC Christman; DB Carter; RC Hale; CW Matson; MA Ottinger	Environ Tox & Chem 24:617-628	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	0.172	MG/KG	12	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2005	Toschik, PC; BA Rattner; PC McGowan; MC Christman; DB Carter; RC Hale; CW Matson; MA Ottinger	Environ Tox & Chem 24:617-628	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	0.172	MG/KG	12	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
1984	McEwen LC	Environ Tox & Chem 03:367-376	Nycticorax nycticorax	Blact-crowned night-heron	4,4`-DDE	72-55-9	0.46	MG/KG	1	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	# rotten/addled eggs, Arapano NWR
1984	McEwen LC	Environ Tox & Chem 03:367-376	Nycticorax nycticorax	Blact-crowned night-heron	4,4`-DDE	72-55-9	0.46	MG/KG	1	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	# young per nest, Arapano NWR
1984	McEwen LC	Environ Tox & Chem 03:367-376	Nycticorax nycticorax	Blact-crowned night-heron	4,4`-DDE	72-55-9	0.46	MG/KG	1	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	# dead young, Arapano NWR
2001	Clark, K.E., W. Stansley, L.J. Niles	Arch Environ Contam Toxicol 40:277-284	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	1.19	MG/KG	1	Reproduction	NOED	NS	Eggs	Egg	Not Specified	Not Specified	Eggshell Thickness
1984	McEwen LC	Environ Tox & Chem 03:367-376	Nycticorax nycticorax	Blact-crowned night-heron	4,4`-DDE	72-55-9	1.52	MG/KG	1	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	Shell volume, Latham Reservior

2003	Martin PA, S.R de Solla, P Ewins	Ecotoxicology 12:209-224	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	1.575	MG/KG		Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2003	Martin PA, S.R de Solla, P Ewins	Ecotoxicology 12:209-224	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	1.706	MG/KG		Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2003	Martin PA, S.R de Solla, P Ewins	Ecotoxicology 12:209-224	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	1.778	MG/KG		Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2003	Martin PA, S.R de Solla, P Ewins	Ecotoxicology 12:209-224	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	2.904	MG/KG		Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
1984	Findholt, SL	The Condor	Egretta thula	Snowy egret	4,4`-DDE	72-55-9	4.2	MG/KG	10	Physiological	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	Eggshell thickness when compared to a control egg - pre 1947 eggs collected in Utah. Although NOED because the thickness was not sign diff when compared to control, author did find sign corrleation between burden and eggshell thickness
2005	Toschik, PC; BA Rattner; PC McGowan; MC Christman; DB Carter; RC Hale; CW Matson; MA Ottinger	Environ Tox & Chem 24:617-628	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	4.61	MG/KG	12	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2005	Toschik, PC; BA Rattner; PC McGowan; MC Christman; DB Carter; RC Hale; CW Matson; MA Ottinger	Environ Tox & Chem 24:617-628	Pandion haliaetus	Osprey	4,4`-DDE	72-55-9	4.61	MG/KG	12	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
1984	Findholt, SL	The Condor	Egretta thula	Snowy egret	4,4`-DDE	72-55-9	4.8	MG/KG	9	Physiological	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	Eggshell thickness when compared to a control egg - pre 1947 eggs collected in Utah. Although NOED because the thickness was not sign diff when compared to control, author did find sign corrleation between burden and eggshell thickness
2003	Harris, ML, JE Elliiott, RW Butler, LK Wilson	Environ Pollut 121:207-227	Ardea herodias	Great Blue Heron	4,4`-DDE	72-55-9	78	MG/KG		Development	NOED	NS	Eggs	Egg			secondary source: Vermeer and Reynolds 1970

Lowest LOED = 0.0042
Highest NOED = 78

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1984	Findholt, SL	The Condor	Egretta thula	Snowy egret	4,4`-DDT	50-29-3	0.46	MG/KG	Physiological	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	Eggshell thickness when compared to a control egg - pre 1947 eggs collected in Utah. Although NOED because the thickness was not sign diff when compared to control, author did find sign corrleation between burden and eggshell thickness

Lowest LOED = NA
Highest NOED = 0.46

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
2003	Connell DW, CN Fung, TB Minh, S Tanabe, PKS Lam, BSF Wong, MHW Lam, LC Wong, RSS Wu, BJ Richardson	Wat. Res. 37:459-467	Nycticorax nycticorax	Blact-crowned night-heron	PCBs	1336-36-3	10.9	MG/KG	Reproduction	ED	NS	Eggs	Egg	Not Specified	Not Specified	Field population Barron et al. 1995
1996	Elliot JE, RJ Norstrom, A Lorenzen, LS Hart, H Philibert, SW Kennedy, JJ Stegeman, GD Bellward, KM Cheng	Environ Tox & Chem 15(5):782-793	Haliaeetus leucocephalus	Bald eagle	PCBs	1336-36-3	64	MG/KG	Biochemical	IP468	Combined	Eggs	Egg	Not Specified	Not Specified	Yolk Sac, CYP1A increase PCBs 37,81,77,126,169, Powell River
2003	Connell DW, CN Fung, TB Minh, S Tanabe, PKS Lam, BSF Wong, MHW Lam, LC Wong, RSS Wu, BJ Richardson	Wat. Res. 37:459-467	Egretta thula	Snowy egret	PCBs	1336-36-3	0.07	MG/KG	Survival	NOED	NS	Eggs	Egg	Not Specified	Not Specified	Mora MA,1996
2003	Connell DW, CN Fung, TB Minh, S Tanabe, PKS Lam, BSF Wong, MHW Lam, LC Wong, RSS Wu, BJ Richardson	Wat. Res. 37:459-467	Ardea herodias	Great Blue Heron	PCBs	1336-36-3	0.25	MG/KG	Survival	NOED	NS	Eggs	Egg			Mora MA,1996
2003	Connell DW, CN Fung, TB Minh, S Tanabe, PKS Lam, BSF Wong, MHW Lam, LC Wong, RSS Wu, BJ Richardson	Wat. Res. 37:459-467	Tympanuchus	Chicken	PCBs	1336-36-3	0.36	MG/KG	Survival	NOED	NS	Eggs	Egg	Not Specified	Not Specified	Barron et al. 1995
2003	Martin PA, S.R de Solla, P Ewins	Ecotoxicology 12:209-224	Pandion haliaetus	Osprey	PCBs	1336-36-3	1.65	MG/KG	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2001	Clark, K.E., W. Stansley, L.J. Niles	Arch Environ Contam Toxicol 40:277-284	Pandion haliaetus	Osprey	PCBs	1336-36-3	3.29	MG/KG	Reproduction	NOED	NS	Eggs	Egg	Not Specified	Not Specified	Eggshell Thickness
2003	Martin PA, S.R de Solla, P Ewins	Ecotoxicology 12:209-224	Pandion haliaetus	Osprey	PCBs	1336-36-3	3.505	MG/KG	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2003	Martin PA, S.R de Solla, P Ewins	Ecotoxicology 12:209-224	Pandion haliaetus	Osprey	PCBs	1336-36-3	3.702	MG/KG	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2003	Connell DW, CN Fung, TB Minh, S Tanabe, PKS Lam, BSF Wong, MHW Lam, LC Wong, RSS Wu, BJ Richardson	Wat. Res. 37:459-467	Haliaeetus leucocephalus	Bald eagle	PCBs	1336-36-3	4	MG/KG	Survival	NOED	NS	Eggs	Egg	Not Specified	Not Specified	Giesy et al 1995
2003	Martin PA, S.R de Solla, P Ewins	Ecotoxicology 12:209-224	Pandion haliaetus	Osprey	PCBs	1336-36-3	4.528	MG/KG	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2003	Martin PA, S.R de Solla, P Ewins	Ecotoxicology 12:209-224	Pandion haliaetus	Osprey	PCBs	1336-36-3	7.089	MG/KG	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2003	Harris, ML, JE Elliiott, RW Butler, LK Wilson	Environ Pollut 121:207-227	Ardea herodias	Great Blue Heron	PCBs	1336-36-3	13	MG/KG	Reproduction	NOED	NS	Eggs	Egg			secondary source: Fitzner et al 1988
2003	Harris, ML, JE Elliiott, RW Butler, LK Wilson	Environ Pollut 121:207-227	Phalacrocorax auritus	Double-Crested Cormorant	PCBs	1336-36-3	14	MG/KG	Development	NOED	NS	Eggs	Egg	Not Specified	Not Specified	secondary source: Tillitt et al, 1992
2003	Harris, ML, JE Elliiott, RW Butler, LK Wilson	Environ Pollut 121:207-227	Ardea herodias	Great Blue Heron	PCBs	1336-36-3	33	MG/KG	Reproduction	NOED	NS	Eggs	Egg			secondary source: Thomas and Anthony 1999

Lowest LOED = 10.9
highest NOED = 33

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Species TSN Code	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start	Species Habitat	Species Feeding Behavior	Comments
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0046	MG/KG	Biochemical	IP1202	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [EROD]
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0046	MG/KG	Biochemical	IP1202	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [EROD]
2003	Murata M, N Iseki, S Masunaga, J Nakanishi	Chemosphere 53:337-345	Phalacrocorax carbo	Common commorant	174715	TCDD	1746-01-6	0.00022	MG/KG	Mortality	LD100	Combined	Eggs	Egg	aquatic bird	piscivorous	decrease in population growth rate in common commorant between 1974-1986
2003	Murata M, N Iseki, S Masunaga, J Nakanishi	Chemosphere 53:337-345	Phalacrocorax carbo	Common commorant	174715	TCDD	1746-01-6	0.00024	MG/KG	Mortality	LD11	Combined	Eggs	Egg	aquatic bird	piscivorous	decrease in population growth rate in common commorant between 1974-1986
2003	Murata M, N Iseki, S Masunaga, J Nakanishi	Chemosphere 53:337-345	Phalacrocorax carbo	Common commorant	174715	TCDD	1746-01-6	0.00045	MG/KG	Mortality	LD21	Combined	Eggs	Egg	aquatic bird	piscivorous	decrease in population growth rate in common commorant between 1974-1986
2006	Kunisue T, S Nakanishi, N Oka, F Sato, M Tsurumi, S Tanabe	Environ Sci Technol 40:6919-6927	Phalacrocorax auritus	Double-Crested Cormorant	174717	TCDD	1746-01-6	0.00045	MG/KG	Mortality	LD50	NS	Eggs	Embryo	Not Specified	Not Specified	TEQs found in Giesy, JP et al 1994. Deformities in birds of the Great Lakes
2006	Kunisue T, S Nakanishi, N Oka, F Sato, M Tsurumi, S Tanabe	Environ Sci Technol 40:6919-6927	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	2.00E-05	MG/KG	Reproduction	LOED	NS	Eggs	Embryo	Not Specified	Not Specified	TEQs found in Giesy, JP et al 1994. Deformities in birds of the Great Lakes
2006	Kunisue T, S Nakanishi, N Oka, F Sato, M Tsurumi, S Tanabe	Environ Sci Technol 40:6919-6927	Pandion haliaetus	Osprey	175590	TCDD	1746-01-6	0.00013	MG/KG	Biochemical	LOED	NS	Eggs	Embryo	Not Specified	Not Specified	embryo enzyme TEQs found in Elliot et al 2001. Assessment of biological effects of
2006	Kunisue T, S Nakanishi, N Oka, F Sato, M Tsurumi, S Tanabe	Environ Sci Technol 40:6919-6927	Haliaeetus leucocephalus	Bald eagle	175420	TCDD	1746-01-6	0.00021	MG/KG	Biochemical	LOED	NS	Eggs	Embryo	Not Specified	Not Specified	embryo enzyme TEQs found in Elliot et al 1996 Biological effects of polychlorinated
2002	Kumar KS, D Kannan, S Corsolini, T Evans, JP Giesy, J Nakanishi, S Masunaga	Environ Pollut 119:151-161	Haliaeetus leucocephalus	Bald eagle	175420	TCDD	1746-01-6	0.2	MG/KG	Development	LOED	NS	Eggs	NS	Not Specified	Not Specified	TEQ equivalents; Elliott et al 1996
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	1.00E-05	MG/KG	Mortality	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	1.00E-05	MG/KG	Reproduction	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [Hatching success]
2005	Toschik, PC; BA Rattner; PC McGowan; MC Christman; DB Carter; RC Hale; CW Matson;	Environ Tox & Chem 24:617-628	Pandion haliaetus	Osprey	175590	TCDD	1746-01-6	3.52E-05	MG/KG	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2005	Toschik, PC; BA Rattner; PC McGowan; MC Christman; DB Carter; RC Hale; CW Matson;	Environ Tox & Chem 24:617-628	Pandion haliaetus	Osprey	175590	TCDD	1746-01-6	3.52E-05	MG/KG	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2006	Kunisue T, S Nakanishi, N Oka, F Sato, M Tsurumi, S Tanabe	Environ Sci Technol 40:6919-6927	Pandion haliaetus	Osprey	175590	TCDD	1746-01-6	3.70E-05	MG/KG	Biochemical	NOED	NS	Eggs	Embryo	Not Specified	Not Specified	embryo enzyme TEQs found in Elliot et al 2001. Assessment of biological effects of
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	5.00E-05	MG/KG	Mortality	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	5.00E-05	MG/KG	Reproduction	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [Hatching success]
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	5.00E-05	MG/KG	Biochemical	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [EROD]
2006	Kunisue T, S Nakanishi, N Oka, F Sato, M Tsurumi, S Tanabe	Environ Sci Technol 40:6919-6927	Haliaeetus leucocephalus	Bald eagle	175420	TCDD	1746-01-6	0.0001	MG/KG	Biochemical	NOED	NS	Eggs	Embryo	Not Specified	Not Specified	embryo enzyme TEQs found in Elliot et al 1996 Biological effects of polychlorinated
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0002	MG/KG	Mortality	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0002	MG/KG	Reproduction	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [Hatching success]
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.00025	MG/KG	Mortality	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.00025	MG/KG	Reproduction	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [Hatching success]
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.00025	MG/KG	Biochemical	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [EROD]
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0008	MG/KG	Mortality	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0008	MG/KG	Reproduction	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [Hatching success]
2005	Toschik, PC; BA Rattner; PC McGowan; MC Christman; DB Carter; RC Hale; CW Matson;	Environ Tox & Chem 24:617-628	Pandion haliaetus	Osprey	175590	TCDD	1746-01-6	0.000828	MG/KG	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2005	Toschik, PC; BA Rattner; PC McGowan; MC Christman; DB Carter; RC Hale; CW Matson;	Environ Tox & Chem 24:617-628	Pandion haliaetus	Osprey	175590	TCDD	1746-01-6	0.000828	MG/KG	Reproduction	NOED	Combined	Eggs	Egg	Not Specified	Not Specified	
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0015	MG/KG	Mortality	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0015	MG/KG	Reproduction	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [Hatching success]

2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0015	MG/KG	Biochemical	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [EROD]
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0032	MG/KG	Mortality	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0032	MG/KG	Reproduction	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [Hatching success]
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0046	MG/KG	Mortality	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk
2008	Augspurger TP, DE Tillitt, SJ Bursion, SD Fitzgerald	Arch Environ Contam Toxicol	Aix sponsa	Wood duck	175122	TCDD	1746-01-6	0.0046	MG/KG	Reproduction	NOED	Injection	Eggs	Egg	Not Specified	Not Specified	Injected into yolk [Hatching success]
2002	Kumar KS, D Kannan, S Corsolini, T Evans, JP Giesy, J Nakanishi, S Masunaga	Environ Pollut 119:151-161	Haliaeetus leucocephalus	Bald eagle	175420	TCDD	1746-01-6	0.1	MG/KG	Development	NOED	NS	Eggs	NS	Not Specified	Not Specified	TEQ equivalents; Elliott et al 1996

Lowest LOED = 0.00002
Highest NOED = 0.1

Critical Egg Residue Data - Fish

Year	Author	Publication Source	Species Scientific Name	Species Common Name	Analyte Name	CAS No	Conc_Wet	Conc_Units	Effect Class	Toxicity Measure	Exposure Route	Species Body Part	Species Start Lifestage	Species Habitat	Species Feeding Behavior	Comments
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.001	MG/KG	Mortality	LD100	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	Direct injection; effects on hatching onset to swim-up
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.0002	MG/KG	Mortality	LD25	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	Direct injection; effects on hatching onset to swim-up
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.0003	MG/KG	Mortality	LD50	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	Direct injection; effects on hatching onset to swim-up
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.0004	MG/KG	Mortality	LD75	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	Direct injection; effects on hatching onset to swim-up
1991	Walker MK and RE Peterson	Aquat Toxicol 21:219-238	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.0001	MG/KG	Mortality	NOED	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	Direct injection; no effects on early development
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.001	MG/KG	Cellular	ED	Injection	Eggs	Fingerling	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Significant hematological changes Spitsbergen et al., 1988a
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.01	MG/KG	Lesions	ED	Injection	Eggs	Fingerling	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Fin necrosis, no effect on immune suppression Spitsbergen et al., 1988a; 1988c
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.005	MG/KG	Mortality	LD20	Injection	Eggs	Fingerling	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Spitsbergen et al., 1988a
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00023	MG/KG	Mortality	LD50	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Sac fry of McConaughy strain Walker and Peterson, 1991
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00024	MG/KG	Mortality	LD50	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Sac fry of Erwin strain) Walker and Peterson, 1991
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000279	MG/KG	Mortality	LD50	Water	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Significant mortality in sac fry Walker et al., 1992
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000374	MG/KG	Mortality	LD50	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Sac fry of Arlee strain) Walker and Peterson, 1991
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000421	MG/KG	Mortality	LD50	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Sac fry of Fish Lake strain) Walker et al., 1992
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000439	MG/KG	Mortality	LD50	Water	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Significant mortality in sac fry Walker et al., 1992
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000488	MG/KG	Mortality	LD50	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Sac fry of Eagle Lake strain) Walker and Peterson, 1991
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.01	MG/KG	Mortality	LD50	Injection	Eggs	Fingerling	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Spitsbergen et al., 1988a; Kleeman et al. 1988
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00322	MG/KG	Mortality	LD95	Water	Eggs	Fry	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Mehrle et al., 1988
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000765	MG/KG	Mortality	LOED	Water	Eggs	Fry	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. 45% Mortality Mehrle et al., 1988
1993	Cook PM , RJ Erickson, RL Spehar, SP Bradbury, GT Ankley	EPA 600/R-93/055	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	2.10E-05	MG/KG	NA	NOED	Water	Eggs	Fry	Cool streams	Carnivore-juv fish, inverts	From Table 4-1. Mehrle et al., 1988
1992	Walker, M.K., Hufnagle, L.C., Jr., Clayton, M.K., Peterson, R.E.	Aquat Toxicol 22:15-38	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000421	MG/KG	Mortality	LD50	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	LD50 for increase in mortality from fertilization to swim-up. Residues measured in eggs at up to 19 days post injection.
1992	Walker, M.K., Hufnagle, L.C., Jr., Clayton, M.K., Peterson, R.E.	Aquat Toxicol 22:15-38	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000439	MG/KG	Mortality	LD50	Absorption	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	LD50 for increase in mortality from fertilization to swim-up. Residue measured in eggs at 5-days post exposure.
1992	Walker, M.K., Hufnagle, L.C., Jr., Clayton, M.K., Peterson, R.E.	Aquat Toxicol 22:15-38	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000279	MG/KG	Mortality	LOED	Absorption	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	Significant increase in mortality from fertilization to swim-up. Residue measured in eggs at 5-days post exposure.
1992	Walker, M.K., Hufnagle, L.C., Jr., Clayton, M.K., Peterson, R.E.	Aquat Toxicol 22:15-38	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000437	MG/KG	Mortality	LOED	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	Significant increase in mortality from fertilization to swim-up. Residue measured in eggs at up to 19 days post injection..
1992	Walker, M.K., Hufnagle, L.C., Jr., Clayton, M.K., Peterson, R.E.	Aquat Toxicol 22:15-38	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000291	MG/KG	Mortality	NOED	Injection	Eggs	Egg	Cool streams	Carnivore-juv fish, inverts	No significant increase in mortality from fertilization to swim-up. Residue measured in eggs at up to 19 days post injection.

1993	Walker, M.K., Zabel, E.W., Peterson, R.E.	Society of Environmental Toxicology and Chemistry 14th Annual Meeting Abstract	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.00017	MG/KG	Mortality	LD50	Injection	Eggs	Egg-embryo	Cool streams	Carnivore-juv fish, inverts	Estimated LD50s for sac fry mortality in 6 strains of rainbow trout. Residues ranged from 170 to 488 pg/g.
2000	Grinwis GCM, HT Besselink, EJ van den Branhof, AS Bulder, MY Engelsma, RV Kuiper, PW Wester, MA Vaal, AD Vethaak, JG Vos.	Aquat Toxicol 50:387-401	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000331	MG/KG	Mortality	LD50	Injection	Eggs		Cool streams	Carnivore-juv fish, inverts	Walker et al 1992
2000	Grinwis GCM, HT Besselink, EJ van den Branhof, AS Bulder, MY Engelsma, RV Kuiper, PW Wester, MA Vaal, AD Vethaak, JG Vos.	Aquat Toxicol 50:387-401	Oncorhynchus mykiss	Trout - Rainbow	TCDD	1746-01-6	0.000346	MG/KG	Mortality	LD50	Water	Eggs		Cool streams	Carnivore-juv fish, inverts	Walker et al 1992
1994	Walker, MK, & RE Peterson	Environ Tox & Chem 13(5):817-820	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	0.000434	MG/KG	Mortality	LD100	Water	Eggs	Egg	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	
1994	Walker, MK, & RE Peterson	Environ Tox & Chem 13(5):817-820	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	0.00047	MG/KG	Mortality	LD100	Water	Eggs	Egg	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	
1994	Walker, MK, & RE Peterson	Environ Tox & Chem 13(5):817-820	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	0.000135	MG/KG	Mortality	LD13	Water	Eggs	Egg	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	
1994	Walker, MK, & RE Peterson	Environ Tox & Chem 13(5):817-820	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	0.000185	MG/KG	Mortality	LD25	Water	Eggs	Egg	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	
1994	Walker, MK, & RE Peterson	Environ Tox & Chem 13(5):817-820	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	0.000233	MG/KG	Mortality	LD90	Water	Eggs	Egg	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	
1994	Walker, MK, & RE Peterson	Environ Tox & Chem 13(5):817-820	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	0.000337	MG/KG	Mortality	LD98	Water	Eggs	Egg	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	
1994	Walker, MK, & RE Peterson	Environ Tox & Chem 13(5):817-820	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	0.000101	MG/KG	Mortality	NOED	Water	Eggs	Egg	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	
1993	Walker, M.K., Zabel, E.W., Peterson, R.E.	Society of Environmental Toxicology and Chemistry 14th Annual Meeting Abstract	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	0.0002	MG/KG	Mortality	LD50	Absorption	Eggs	Egg-embryo	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	Estimated LD50 for sac-fry mortality.
2005	Johnston TA, LM Miller, DM Whittle, SB Brown, MD Wiegand, AR Kapuscinski, WC Leggett	Environ Tox & Chem 24:2594-2602	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	1.30E-05	MG/KG	Development	NOED	NA	Eggs	Embryo	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	TCDD equivelant
2005	Johnston TA, LM Miller, DM Whittle, SB Brown, MD Wiegand, AR Kapuscinski, WC Leggett	Environ Tox & Chem 24:2594-2602	Salvelinus fontinalis	Trout - Brook	TCDD	1746-01-6	3.70E-05	MG/KG	Development	NOED	NA	Eggs	Embryo	Cool streams, gravel bottoms	Carnivore-aquatic insects, fish	TCDD equivelant
1991	Cook, PM, DW Kuehl, MK Walker, RE Peterson	Banbury Report 35: Biological Basis for Risk Assessment of Dioxins and Related Compounds	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.106	MG/KG	Mortality	LD100	Water	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	
1991	Cook, PM, DW Kuehl, MK Walker, RE Peterson	Banbury Report 35: Biological Basis for Risk Assessment of Dioxins and Related Compounds	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.045	MG/KG	Mortality	LD25	Water	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	
1991	Cook, PM, DW Kuehl, MK Walker, RE Peterson	Banbury Report 35: Biological Basis for Risk Assessment of Dioxins and Related Compounds	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.065	MG/KG	Mortality	LD50	Water	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	
1991	Cook, PM, DW Kuehl, MK Walker, RE Peterson	Banbury Report 35: Biological Basis for Risk Assessment of Dioxins and Related Compounds	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.081	MG/KG	Mortality	LD75	Water	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	
1991	Cook, PM, DW Kuehl, MK Walker, RE Peterson	Banbury Report 35: Biological Basis for Risk Assessment of Dioxins and Related Compounds	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.102	MG/KG	Mortality	LD95	Water	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	
1991	Cook, PM, DW Kuehl, MK Walker, RE Peterson	Banbury Report 35: Biological Basis for Risk Assessment of Dioxins and Related Compounds	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.055	MG/KG	Mortality	LOED	Water	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Hatchability

1991	Cook, PM, DW Kuehl, MK Walker, RE Peterson	Banbury Report 35: Biological Basis for Risk Assessment of Dioxins and Related Compounds	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.226	MG/KG	Reproduction	LOED	Water	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Hatchability
1991	Cook, PM, DW Kuehl, MK Walker, RE Peterson	Banbury Report 35: Biological Basis for Risk Assessment of Dioxins and Related Compounds	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	0.034	MG/KG	Mortality	NOED	Water	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Hatchability
1992	Walker, M.K., Hufnagle, L.C., Jr., Clayton, M.K., Peterson, R.E.	Aquat Toxicol 22:15-38	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	6.50E-05	MG/KG	Mortality	LD50	Absorption	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	LD50 for increase in mortality from fertilization to swim-up. Residue measured in eggs after exposure.
1992	Walker, M.K., Hufnagle, L.C., Jr., Clayton, M.K., Peterson, R.E.	Aquat Toxicol 22:15-38	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	5.50E-05	MG/KG	Mortality	LOED	Absorption	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant increase in mortality from fertilization to swim-up. Residue measured in eggs after exposure.
1992	Walker, M.K., Hufnagle, L.C., Jr., Clayton, M.K., Peterson, R.E.	Aquat Toxicol 22:15-38	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	5.80E-05	MG/KG	Mortality	LOED	Injection	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Significant increase in mortality from fertilization to swim-up. Residue measured in eggs after injection.
1992	Walker, M.K., Hufnagle, L.C., Jr., Clayton, M.K., Peterson, R.E.	Aquat Toxicol 22:15-38	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	3.40E-05	MG/KG	Mortality	NOED	Absorption	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	No significant increase in mortality from fertilization to swim-up. Residue measured in eggs after exposure.
1993	Walker, M.K., Zabel, E.W., Peterson, R.E.	Society of Environmental Toxicology and Chemistry 14th Annual Meeting Abstract	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	6.50E-05	MG/KG	Mortality	LD50	Absorption	Eggs	Egg-embryo	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Estimated LD50 for sac-fry mortality.
1993	Guiney, P., E. Zabel, R. Peterson, P. Cook, J. Casselman, J. Fitzsimons and H. Simonin	Presentation 519, 14th Annual Meeting, SETAC Houston, TX.	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	3.40E-05	MG/KG	Mortality	NOED	NA	Eggs	Egg-embryo	Deep waters of cold northern lakes	Carnivore-adults piscivorous	TCDD NOAEL for sac fry mortality.
1996	Guiney. P.D., P.M. Cook, J.M. Casselman, J.D. Fitzsimmons, H. W. Simonin, E.W. Zabel, and R.E. Peterson	Can J Fish Aquat Sci 53: 2080-2092	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	4.40E-05	MG/KG	Mortality	LD50	Water	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Concentrations of 2,3,7,8 TCDD are based on the TEC values. Egg dosed with success of hatching determined. Depuration is time for loss of adsorbed contaminant on egg surface. Lowest LD50 in data at 8 degrees C.
1996	Guiney. P.D., P.M. Cook, J.M. Casselman, J.D. Fitzsimmons, H. W. Simonin, E.W. Zabel, and R.E. Peterson	Can J Fish Aquat Sci 53: 2080-2092	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	6.90E-05	MG/KG	Mortality	LD50	Water	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Concentrations of 2,3,7,8 TCDD are based on the TEC values. Egg dosed with success of hatching determined. Depuration is time for loss of adsorbed contaminant on egg surface. Highest LD50 in data at 8 degrees C.
1996	Guiney. P.D., P.M. Cook, J.M. Casselman, J.D. Fitzsimmons, H. W. Simonin, E.W. Zabel, and R.E. Peterson	Can J Fish Aquat Sci 53: 2080-2092	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	4.50E-05	MG/KG	Mortality	NOED	Water	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Concentrations of 2,3,7,8 TCDD are based on the TEC values. Egg dosed with success of hatching determined. Depuration is time for loss of adsorbed contaminant on egg surface. Highest NOED in data at 8 degrees C.
1996	Guiney. P.D., P.M. Cook, J.M. Casselman, J.D. Fitzsimmons, H. W. Simonin, E.W. Zabel, and R.E. Peterson	Can J Fish Aquat Sci 53: 2080-2092	Salvelinus namaycush	Trout - Lake	TCDD	1746-01-6	3.00E-05	MG/KG	Mortality	NOED	Water	Eggs	Egg	Deep waters of cold northern lakes	Carnivore-adults piscivorous	Concentrations of 2,3,7,8 TCDD are based on the TEC values. Egg dosed with success of hatching determined. Depuration is time for loss of adsorbed contaminant on egg surface. Lowest NOED in data at 8 degrees C.
2005	Johnston TA, LM Miller, DM Whittle, SB Brown, MD Wiegand, AR Kapuscinski, WC Leggett	Environ Tox & Chem 24:2594-2602	Sander vitreus	Walleye	TCDD	1746-01-6	3.00E-06	MG/KG	Development	NOED	NA	Eggs	Embryo	Littoral	Not Specified	TCDD equivelant maternal transfer, residue measured in wild fish eggs
2005	Johnston TA, LM Miller, DM Whittle, SB Brown, MD Wiegand, AR Kapuscinski, WC Leggett	Environ Tox & Chem 24:2594-2602	Sander vitreus	Walleye	TCDD	1746-01-6	1.40E-05	MG/KG	Development	NOED	NA	Eggs	Embryo	Littoral	Not Specified	TCDD equivelant maternal transfer, residue measured in wild fish eggs

Fish Egg Biomagnification Factors

Appendix I

Calculation of Fish Egg Biomagnification Factors

		Tissue Concentrations (pg/p, wet weight) from Cooke et al. (2003)		Biomagnification Factors form Cooke et al. (2003)		adjusted for site-specific average % lipid in whole body fish of 3.9%
		female LT	LT eggs	egg/fish BMF	lipid egg/fish BMF	lipid egg/fish BMF
	28+31	40700	18200	0.45	0.92	0.21
Te	52	66500	27800	0.42	0.86	0.20
Te	77	3870	1340	0.35	0.71	0.16
Te	81	319	99.7	0.31	0.64	0.15
Pe	105	135000	43600	0.32	0.67	0.15
Pe	118	342000	111000	0.32	0.67	0.15
Pe	126	2470	731	0.30	0.61	0.14
Hx	128	40700	17200	0.42	0.87	0.20
Hx	138+163	459000	174000	0.38	0.78	0.18
	156+171+202	60500	16200	0.27	0.55	0.13
Hx	169	143	38.3	0.27	0.55	0.13
Hp	170+190	170000	38100	0.22	0.46	0.11

% lipid	0.169	0.082

16.9% lipids (Cooke et al., 2003)

3.9% lipids - average whole body fish from OU4 Study Area

			averages based on Cooke et al. (2003) values		based on adjustment for site-specific
38380-08-4/69782	(156/157)	use avg Hx	0.73		0.17
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	use 170+190			
32598-14-4	2,3,3',4,4'-PeCB (105)	use 105			
52663-72-6	2,3',4,4',5,5'-HxCB (167)	use avg Hx	0.73		0.17
65510-44-3	2,3',4,4',5'-PeCB (123)	use avg Pe	0.65		0.15
31508-00-6	2,3',4,4',5-PeCB (118)	use 118			
74472-37-0	2,3,4,4',5-PeCB (114)	use avg Pe	0.65		0.15
32774-16-6	3,3',4,4',5,5'-HxCB (169)	use 169			
57465-28-8	3,3',4,4',5-PeCB (126)	use 126			
32598-13-3	3,3',4,4'-TeCB (77)	use 77			
70362-50-4	3,4,4',5-TeCB (81)	use 81			

Bird Egg Biomagnification Factors

Appendix I

Calculation of Bird Egg Biomagnification Factors

	Tissue Concentrations from Braune and Norstrom (1989)			calculated		adjusted for site-specific % lipid in fish
	whole body mg/kg ww	egg mg/kg ww	alewife mg/kg ww	egg/fish BMF	egg/fish BMF lipid basis	egg/fish BMF lipid basis
DDD						
DDE	14	5.4	0.16	33.8	12.3	17.1
DDT	0.05	0.03	0.003	10.0	3.6	5.1
Heptachlor epoxide	0.19	0.09	0.003	30.0	10.9	15.2
Total PCBs	47	16	0.505	31.7	11.5	16.0
TeCB						
60+56	0.52	0.13	0.016	8.1	3.0	4.1
66	0.7	0.31	0.019	16.3	5.9	8.3
74	0.27	0.12	0.004	30.0	10.9	15.2
average	0.497	0.187	0.013	14.4	5.2	7.3
PetnaCB						
99	2.5	1	0.036	27.8	10.1	14.1
101	0.64	0.3	0.038	7.9	2.9	4.0
105	0.51	0.1	0.005	20.0	7.3	10.1
110	0.39	0.18	0.026	6.9	2.5	3.5
118	3.4	1.3	0.042	31.0	11.3	15.7
avg	1.49	0.58	0.029	19.6	7.1	9.9
HxCB						
128	1.3	0.47	0.016	29.4	10.7	14.9
137	0.26	0.11	0.002	55.0	20.0	27.9
138	7.4	2.8	0.066	42.4	15.4	21.5
141	0.18	0.06	0.009	6.7	2.4	3.4
146	1.4	0.54	0.014	38.6	14.0	19.5
149	0.58	0.27	0.018	15.0	5.5	7.6
153+132	8.8	3	0.063	47.6	17.3	24.1
avg	2.68	0.98	0.03	36.4	13.2	18.4
HpCB						
170+190	2.1	0.53	0.013	40.8	14.8	20.6
171	0.57	0.24	0.006	40.0	14.5	20.3
172+197	0.37	0.11	0.002	55.0	20.0	27.9
174	0.17	0.05	0.01	5.0	1.8	2.5
177	0.75	0.25	0.009	27.8	10.1	14.1
178	0.28	0.09	0.003	30.0	10.9	15.2
180	6.2	1.7	0.032	53.1	19.3	26.9
182+187	2.9	0.9	0.021	42.9	15.6	21.7
183	1.4	0.47	0.011	42.7	15.5	21.6
avg	1.64	0.48	0.01	40.6	14.7	20.5
OcCB						
194	0.66	0.15	0.003	50.0	18.2	25.3
200+157	0.54	0.08	0.003	26.7	9.7	13.5
201	1.3	0.39	0.01	39.0	14.2	19.8
203+196	0.92	0.24	0.005	48.0	17.5	24.3
avg	0.86	0.22	0.0053	40.95	14.89	20.74

% lipid	10.30%	7.70%	2.80%

% lipid adjustment for lipid content in paper		site-specific % lipid adjustment	
2.75	7.7% egg	1.974	7.7% egg
	2.8% alewife		3.9% fish

surrogates to use	
use avg HxCB	HxCB(156/157)
use avg HpCB	2,3,3',4,4',5,5'-HpCB (189)
use 105	2,3,3',4,4'-PeCB (105)
use avg HxCB	2,3',4,4',5,5'-HxCB (167)
use avg PentaCB	2,3',4,4',5'-PeCB (123)
use 118	2,3',4,4',5-PeCB (118)
use avg PentaCB	2,3,4,4',5-PeCB (114)
use avg HxCB	3,3',4,4',5,5'-HxCB (169)
use avg PentaCB	3,3',4,4',5-PeCB (126)
use avg TetraCB	3,3',4,4'-TeCB (77)
use avg TetraCB	3,4,4',5-TeCB (81)

Table I-1: Sumary of Hazard Quotients for Crayfish Residue - EUs BB5, BB4, BB3, BB2, BB1, GB, and SL
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	28 / 28	0.400 - 2.40	1.5	95% Student's-t UCL	0.11	1.1	13	1
Metals										
7440-38-2	Arsenic	mg/kg	2 / 28	0.39 - 0.93	0.93	Maximum	0.0249	0.249	37	4
7440-43-9	Cadmium	mg/kg	21 / 28	0.28 - 1.7	0.78	95% Kaplan-Meier (Percentile Bootstrap) UCL	0.0708	0.708	11	1
7440-47-3	Chromium	mg/kg	1 / 28	-- - 0.89	0.89	Maximum	0.144	1.44	6	0.6
7440-50-8	Copper	mg/kg	28 / 28	3.9 - 70	48	95% Student's-t UCL	80	800	0.6	0.1
7439-92-1	Lead	mg/kg	24 / 28	0.30 - 1.4	0.84	95% Kaplan-Meier (Percentile Bootstrap) UCL	0.522	5.22	2	0.2
7439-97-6	Mercury	mg/kg	3 / 28	0.02 - 0.02	0.021	Maximum	0.00246	0.0246	9	0.9
7440-02-0	Nickel	mg/kg	4 / 28	0.23 - 0.42	0.42	Maximum	0.1103	1.1	4	0.4
7782-49-2	Selenium	mg/kg	18 / 28	0.52 - 1.4	0.92	95% Kaplan-Meier (t) UCL	0.02	0.2	46	5
7440-22-4	Silver	mg/kg	26 / 28	0.23 - 2.5	1.1	95% Kaplan-Meier (BCA) UCL	0.0175	0.175	63	6
7440-66-6	Zinc	mg/kg	28 / 28	2.2 - 39	30	95% Chebyshev (Mean, Sd) UCL	1.112	11.12	27	3

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-24.

Table I-2: Sumary of Hazard Quotients for Crayfish Residue - EU BB6
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	1 / 10	-- - 2.2	2.2	Maximum	0.11	1.1	20	2
Metals										
7440-38-2	Arsenic	mg/kg	0 / 10	ND					--	--
7440-43-9	Cadmium	mg/kg	5 / 10	0.23 - 5.4	1.9	95% Kaplan-Meier (t) UCL	0.0708	0.708	26	3
7440-47-3	Chromium	mg/kg	0 / 10	ND					--	--
7440-50-8	Copper	mg/kg	10 / 10	17 - 43	36	95% Student's-t UCL	80	800	0.4	0.04
7439-92-1	Lead	mg/kg	8 / 10	0.27 - 6.5	3.9	95% Kaplan-Meier (Chebyshev) UCL	0.522	5.22	7	0.7
7439-97-6	Mercury	mg/kg	7 / 10	0.02 - 0.04	0.03	95% Kaplan-Meier (t) UCL	0.00246	0.0246	11	1
7440-02-0	Nickel	mg/kg	0 / 10	ND					--	--
7782-49-2	Selenium	mg/kg	3 / 10	0.44 - 0.58	0.58	Maximum	0.02	0.2	29	3
7440-22-4	Silver	mg/kg	6 / 10	0.19 - 0.49	0.39	95% Kaplan-Meier (t) UCL	0.0175	0.175	22	2
7440-66-6	Zinc	mg/kg	10 / 10	14 - 27	24	95% Student's-t UCL	1.112	11.12	22	2

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-24.

Table I-3: Sumary of Hazard Quotients for Asiatic Clam Residue - EUs BB5, BB4, BB3, BB2, BB1, GB, and SL
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	12 / 12	1.27 - 2.76	2.05	95% Student's-t UCL	0.11	1.1	19	2
2,3,7,8-TCDD-Like Congeners TEQ										
	TCDD TEQ (PCBs) (Fish)[3]	mg/kg	4 / 4	0.0000010 - 0.0000029	0.0000029	Maximum	0.0003	0.003	0.01	0.001

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-24.

[3] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-4: Sumary of Hazard Quotients for Asiatc Clam Residue - EU BB6
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2] NOAEL	Critical Body Residue[2] LOAEL	HQ_{noael}	HQ_{loael}
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	2 / 3	0.062 - 0.20	0.20	Maximum	0.11	1.1	2	0.18
2,3,7,8-TCDD-Like Congeners TEQ										
	TCDD TEQ (PCBs) (Fish)[3]	mg/kg	1 / 1	-- - 0.0000014	0.0000014	Maximum	0.0003	0.003	0.005	0.0005

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-24.

[3] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-5: Sumary of Hazard Quotients for Whole Body Fish Residue (Predatory Fish) - EUs BB3, BB2, BB1, and GB
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Pesticides										
	Total DDx	mg/kg	6 / 22	0.0033 - 0.011	0.0115	Maximum	0.029	0.29	0.4	0.04
1024-57-3	Heptachlor epoxide	mg/kg	6 / 22	0.00096 - 0.0081	0.0081	Maximum	--	--	--	--
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	32 / 32	1.1 - 16	6.3	95% Approximate Gamma UCL	0.014	0.14	450	45
	TCDD TEQ (PCBs) (Fish) [3]	mg/kg	3 / 3	0.0000021 - 0.0000029	0.0000029	Maximum	0.000003	0.00003	1	0.1
Metals										
7440-38-2	Arsenic	mg/kg	3 / 22	0.15 - 0.31	0.42	Maximum	0.04	0.40	11	1
7440-43-9	Cadmium	mg/kg	3 / 22	0.14 - 0.36	0.36	Maximum	0.0032	0.032	112	11
7440-47-3	Chromium	mg/kg	14 / 22	0.07 - 2.1	0.62	95% Kaplan-Meier (Percentile Bootstrap) U	--	--	--	--
7440-50-8	Copper	mg/kg	22 / 22	0.58 - 2.8	1.2	95% Student's-t UCL	0.196	1.96	6	0.6
7439-92-1	Lead	mg/kg	22 / 22	0.15 - 0.96	0.673	95% Student's-t UCL	0.0278	0.278	24	2
7439-97-6	Mercury	mg/kg	21 / 22	0.02 - 0.10	0.05	95% Kaplan-Meier (BCA) UCL	0.006	0.06	8	0.8
7440-02-0	Nickel	mg/kg	6 / 22	0.13 - 0.86	1.1	Maximum	--	--	--	--
7782-49-2	Selenium	mg/kg	22 / 22	0.56 - 1.6	1.0	95% Student's-t UCL	0.018	0.18	57	6
7440-22-4	Silver	mg/kg	8 / 22	0.09 - 0.22	0.22	Maximum	0.0114	0.11	19	2
7440-66-6	Zinc	mg/kg	22 / 22	15 - 25	22	95% Student's-t UCL	0.45	4.5	50	5

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-25.

[3] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-6: Sumary of Hazard Quotients for Whole Body Fish Residue (Predatory Fish) - EU BB4
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Pesticides										
	Total DDx	mg/kg	2 / 5	0.0089 - 0.021	0.021	Maximum	0.029	0.29	0.7	0.07
1024-57-3	Heptachlor epoxide	mg/kg	2 / 5	0.0066 - 0.013	0.013	Maximum	--	--	--	--
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	9 / 9	2.2 - 20	13	95% Student's-t UCL	0.014	0.14	904	90
	TCDD TEQ (PCBs) (Fish) [3]	mg/kg	1 / 1	-- - 0.0000025	0.0000025	Maximum	0.000003	0.00003	0.8	0.08
Metals										
7440-38-2	Arsenic	mg/kg	0 / 5	ND			0.04	0.40	--	--
7440-43-9	Cadmium	mg/kg	1 / 5	-- - 0.25	0.25	Maximum	0.0032	0.032	77	8
7440-47-3	Chromium	mg/kg	2 / 5	0.09 - 0.23	0.23	Maximum	--	--	--	--
7440-50-8	Copper	mg/kg	5 / 5	0.74 - 0.99	0.91	95% Student's-t UCL	0.196	1.96	5	0.5
7439-92-1	Lead	mg/kg	5 / 5	0.43 - 0.65	0.64	95% Student's-t UCL	0.0278	0.28	23	2
7439-97-6	Mercury	mg/kg	5 / 5	0.04 - 0.05	0.05	95% Student's-t UCL	0.006	0.06	8	0.8
7440-02-0	Nickel	mg/kg	0 / 5	ND			--	--	--	--
7782-49-2	Selenium	mg/kg	5 / 5	1.1 - 1.5	1.4	95% Approximate Gamma UCL	0.018	0.18	78	8
7440-22-4	Silver	mg/kg	3 / 5	0.11 - 0.19	0.21	95% Student's-t UCL	0.0114	0.11	18	2
7440-66-6	Zinc	mg/kg	5 / 5	19 - 36	32	95% Approximate Gamma UCL	0.45	4.5	71	7

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-25.

ND = Not Detected

[3] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-7: Sumary of Hazard Quotients for Whole Body Fish Residue (Predatory Fish) - EU BB5
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Pesticides										
	Total DDx	mg/kg	3 / 6	0.0042 - 0.022	0.022	Maximum	0.029	0.29	0.8	0.08
1024-57-3	Heptachlor epoxide	mg/kg	3 / 6	0.0015 - 0.016	0.016	Maximum	--	--	--	--
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	16 / 16	1.10 - 19.9	14	95% Approximate Gamma UCL	0.014	0.14	979	98
	TCDD TEQ (PCBs) (Fish) [3]	mg/kg	2 / 2	0.0000021 - 0.000008	0.000008	Maximum	0.000003	0.00003	3	0.3
Metals										
7440-38-2	Arsenic	mg/kg	1 / 6	0.05 - 0.05	0.05	Maximum	0.04	0.40	1	0.1
7440-43-9	Cadmium	mg/kg	3 / 6	0.16 - 0.23	0.23	Maximum	0.0032	0.032	71	7
7440-47-3	Chromium	mg/kg	2 / 6	0.15 - 0.17	0.17	Maximum	--	--	--	--
7440-50-8	Copper	mg/kg	6 / 6	0.70 - 2.5	1.7	95% Student's-t UCL	0.196	1.96	9	0.9
7439-92-1	Lead	mg/kg	6 / 6	0.34 - 0.54	0.52	95% Student's-t UCL	0.0278	0.278	19	2
7439-97-6	Mercury	mg/kg	5 / 6	0.02 - 0.19	0.18	95% Kaplan-Meier (Chebyshev) UCL	0.006	0.06	30	3
7440-02-0	Nickel	mg/kg	0 / 6	0.00 - 0.00			--	--	--	--
7782-49-2	Selenium	mg/kg	6 / 6	ND	1.4	95% Student's-t UCL	0.018	0.18	80	8
7440-22-4	Silver	mg/kg	5 / 6	0.08 - 0.23	0.19	95% Kaplan-Meier (t) UCL	0.0114	0.11	16	2
7440-66-6	Zinc	mg/kg	6 / 6	20 - 37	29	95% Student's-t UCL	0.45	4.5	65	6

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-25.

[3] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-8: Sumary of Hazard Quotients for Whole Body Fish Residue (Predatory Fish) - EU BB6
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	10 / 10	0.210 - 0.814	0.56	95% Student's-t UCL	0.014	0.14	40	4
	TCDD TEQ (PCBs) (Fish) [3]	mg/kg	1 / 1	-- - 0.0000004	0.0000004	Maximum	0.000003	0.00003	0.1	0.01
Metals										
7440-38-2	Arsenic	mg/kg	0 / 5	ND			0.04	0.40	--	--
7440-43-9	Cadmium	mg/kg	0 / 5	ND			0.0032	0.032	--	--
7440-47-3	Chromium	mg/kg	0 / 5	ND			--	--	--	--
7440-50-8	Copper	mg/kg	5 / 5	0.67 - 1.1	1.0	95% Student's-t UCL	0.196	1.96	5	0.5
7439-92-1	Lead	mg/kg	5 / 5	0.38 - 0.66	0.63	95% Student's-t UCL	0.0278	0.278	23	2
7439-97-6	Mercury	mg/kg	5 / 5	0.02 - 0.03	0.03	Maximum; UCL exceeds Maximum	0.006	0.06	5	0.5
7440-02-0	Nickel	mg/kg	0 / 5	ND			--	--	--	--
7782-49-2	Selenium	mg/kg	5 / 5	1.1 - 1.6	1.5	95% Student's-t UCL	0.018	0.18	85	9
7440-22-4	Silver	mg/kg	3 / 5	0.18 - 0.24	0.24	Maximum	0.0114	0.11	21	2
7440-66-6	Zinc	mg/kg	5 / 5	17 - 21	21	95% Student's-t UCL	0.45	4.5	47	5

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-25.

ND = Not Detected

[3] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-9: Sumary of Hazard Quotients for Whole Body Fish Residue (Predatory Fish) - EU SL
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	5 / 5	0.42 - 1.6	1.3	95% Student's-t UCL	0.014	0.14	96	10
	TCDD TEQ (PCBs) (Fish) [3]	mg/kg	1 / 1	-- - 0.0000008	0.0000008	Maximum	0.000003	0.00003	0.3	0.03

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-25.

[3] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-10: Sumary of Hazard Quotients for Whole Body Fish Residue (Bottom-Feeding Fish) - EUs BB3, BB2, BB1, and GB
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	19 / 19	1.04 - 23.2	11	95% Approximate Gamma UCL	0.014	0.14	789	79
	TCDD TEQ (PCBs) (Fish) [3]	mg/kg	3 / 3	0.0000046 - 0.000017	0.000017	Maximum	0.000003	0.00003	6	0.6

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-25.

[3] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-11: Sumary of Hazard Quotients for Whole Body Fish Residue (Bottom-Feeding Fish) - EU BB4
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	8 / 8	1.7 - 14	10	95% Student's-t UCL	0.014	0.14	749	75
	TCDD TEQ (PCBs) (Fish) [3]	mg/kg	1 / 1	-- - 0.0000028	0.0000028	Maximum	0.000003	0.00003	0.9	0.09

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-25.

[3] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-12: Sumary of Hazard Quotients for Whole Body Fish Residue (Bottom-Feeding Fish) - EU BB5
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	14 / 14	13 - 49	37	95% Student's-t UCL	0.014	0.14	2,674	267
	TCDD TEQ (PCBs) (Fish) [3]	mg/kg	3 / 3	0.000009 - 0.000028	0.000028	Maximum	0.000003	0.00003	9	0.9

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-25.

[3] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-13: Sumary of Hazard Quotients for Whole Body Fish Residue (Bottom-Feeding Fish) - EU BB6
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	7 / 7	0.211 - 12.5	12	Maximum	0.014	0.14	891	89
	TCDD TEQ (PCBs) (Fish) [3]	mg/kg	1 / 1	-- - 0.00000037	0.00000037	Maximum	0.000003	0.00003	0.1	0.01

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-25.

[3] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-14: Sumary of Hazard Quotients for Whole Body Fish Residue (Bottom-Feeding Fish) - EU SL
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Detection Frequency	Range of Detected Concentrations	Exposure Point Concentration[1]		Critical Body Residue[2]		HQ_{noael}	HQ_{loael}
							NOAEL	LOAEL		
Polychlorinated Biphenyls										
	Total PCB Aroclors	mg/kg	11 / 11	0.620 - 34.0	13	95% Approximate Gamma UCL	0.014	0.14	926	93
	TCDD TEQ (PCBs) (Fish) [3]	mg/kg	2 / 2	0.0000008 - 0.0000019	0.0000019	Maximum	0.000003	0.00003	0.6	0.06

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] Critical body residue data presented in Appendix I and summarized in Table 5-25.

[3] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-15: Sumary of Hazard Quotients for Fish Egg Residue (Predatory Fish) - EUs BB3, BB2, BB1, and GB
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration in Fish Tissue [1]	Egg/Fish Biomagnification Factor (BMF) [2]	Fish TCDD Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
2,3,7,8-TCDD-Like Congeners TEQ										
38380-08-4/69782-90-7	(156/157)	mg/kg	0.036	0.17	0.000005	6.38E-08				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.0011	0.11	0.000005	1.22E-09				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.078	0.15	0.000005	1.25E-07				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.013	0.17	0.000005	2.30E-08				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.0053	0.15	0.000005	8.34E-09				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.26	0.15	0.000005	4.23E-07				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.0044	0.15	0.000005	7.00E-09				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000040	0.13	0.00005	5.41E-10				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.00052	0.14	0.005	7.67E-07				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.0021	0.16	0.0001	7.28E-08				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00014	0.15	0.0005	2.24E-08				
	TCDD TEQ (PCBs) (Fish)[6]	mg/kg				1.51E-06	0.00000722	0.000086	0.2	0.02

Notes:

1 Maximum detected concentration.

[2] Biomagnification factors from fish tissue to eggs are from Cooke et al. (2003). For PCB congeners not listed in Cooke et al., 2003, the average for homolog group was used. For PCB 189 the value for PCB 170 + PCB 190 was used.

[3] TEFs for fish from Van den Berg et al., 1998.

[4] Fish egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the egg/fish BMF and the congener-specific TEF for fish and by the ratio of egg to fish percent lipids. An average egg percent lipid of 8.2 (Cooke at al., 2003) and an average percent lipid for all whole body fish tissue samples collected within the OU4 Study Area of 3.9 percent were used.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-26.

[6] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-16: Sumary of Hazard Quotients for Fish Egg Residue (Predatory Fish) - EU BB4
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration in Fish Tissue [1]	Egg/Fish Biomagnification Factor (BMF) [2]	Fish TCDD Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
2,3,7,8-TCDD-Like Congeners TEQ										
38380-08-4/69782-90-7	(156/157)	mg/kg	0.03	0.17	0.000005	4.86E-08				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.00	0.11	0.000005	1.10E-09				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.07	0.15	0.000005	1.06E-07				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.01	0.17	0.000005	1.64E-08				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.01	0.15	0.000005	8.15E-09				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.22	0.15	0.000005	3.61E-07				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.00	0.15	0.000005	6.04E-09				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.00	0.13	0.00005	7.90E-10				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.00	0.14	0.005	6.39E-07				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.00	0.16	0.0001	7.99E-08				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00	0.15	0.0005	2.77E-08				
	TCDD TEQ (PCBs) (Fish)[6]	mg/kg				1.30E-06	0.00000722	0.000086	0.2	0.02

Notes:

[1] Maximum detected concentration.

[2] Biomagnification factors from fish tissue to eggs are from Cooke et al. (2003). For PCB congeners not listed in Cooke et al., 2003, the average for homolog group was used. For PCB 189 the value for PCB 170 + PCB 190 wa

[3] TEFs for fish from Van den Berg et al., 1998.

[4] Fish egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the egg/fish BMF and the congener-specific TEF for fish and by the ratio of egg to fish percent lipids. An average egg percent lipid of 8.2 (Cooke at al., 2003) and an average percent lipid for all whole body fish tissue samples collected within the OU4 Study Area of 3.9 percent were used.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-26.

[6] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-17: Sumary of Hazard Quotients for Fish Egg Residue (Predatory Fish) - EU BB5
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration in Fish Tissue [1]	Egg/Fish Biomagnification Factor (BMF) [2]	Fish TCDD Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
2,3,7,8-TCDD-Like Congeners TEQ										
38380-08-4/69782-90-7	(156/157)	mg/kg	0.16	0.17	0.000005	2.88E-07				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.0054	0.11	0.000005	6.10E-09				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.31	0.15	0.000005	5.01E-07				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.053	0.17	0.000005	9.37E-08				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.018	0.15	0.000005	2.78E-08				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.92	0.15	0.000005	1.49E-06				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.025	0.15	0.000005	3.90E-08				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.00018	0.13	0.00005	2.36E-09				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.0015	0.14	0.005	2.15E-06				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.0063	0.16	0.0001	2.17E-07				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00029	0.15	0.0005	4.53E-08				
	TCDD TEQ (PCBs) (Fish)[6]	mg/kg				4.86E-06	0.00000722	0.000086	0.7	0.06

Notes:

[1] Maximum detected concentration.

[2] Biomagnification factors from fish tissue to eggs are from Cooke et al. (2003). For PCB congeners not listed in Cooke et al., 2003, the average for homolog group was used. For PCB 189 the value for PCB 170 + PCB 190 wa

[3] TEFs for fish from Van den Berg et al., 1998.

[4] Fish egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the egg/fish BMF and the congener-specific TEF for fish and by the ratio of egg to fish percent lipids. An average egg percent lipid of 8.2 (Cooke at al., 2003) and an average percent lipid for all whole body fish tissue samples collected within the OU4 Study Area of 3.9 percent were used.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-26.

[6] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-18: Sumary of Hazard Quotients for Fish Egg Residue (Predatory Fish) - EU BB6
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration in Fish Tissue [1]	Egg/Fish Biomagnification Factor (BMF) [2]	Fish TCDD Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
2,3,7,8-TCDD-Like Congeners TEQ										
38380-08-4/69782-90-7	(156/157)	mg/kg	0.0025	0.17	0.000005	4.42E-09				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.0002	0.11	0.000005	2.20E-10				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.0049	0.15	0.000005	7.94E-09				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.0012	0.17	0.000005	2.17E-09				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.00038	0.15	0.000005	5.93E-10				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.015	0.15	0.000005	2.45E-08				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.00024	0.15	0.000005	3.79E-10				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000032	0.13	0.00005	4.23E-10				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.000072	0.14	0.005	1.07E-07				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.00039	0.16	0.0001	1.36E-08				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.000032	0.15	0.0005	5.08E-09				
	TCDD TEQ (PCBs) (Fish)[6]	mg/kg				1.66E-07	0.00000722	0.000086	0.02	0.002

Notes:

[1] Maximum detected concentration.

[2] Biomagnification factors from fish tissue to eggs are from Cooke et al. (2003). For PCB congeners not listed in Cooke et al., 2003, the average for homolog group was used. For PCB 189 the value for PCB 170 + PCB 190 wa

[3] TEFs for fish from Van den Berg et al., 1998.

[4] Fish egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the egg/fish BMF and the congener-specific TEF for fish and by the ratio of egg to fish percent lipids. An average egg percent lipid of 8.2 (Cooke at al., 2003) and an average percent lipid for all whole body fish tissue samples collected within the OU4 Study Area of 3.9 percent were used.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-26.

[6] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-19: Sumary of Hazard Quotients for Fish Egg Residue (Predatory Fish) - EU SL
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration in Fish Tissue [1]	Egg/Fish Biomagnification Factor (BMF) [2]	Fish TCDD Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
2,3,7,8-TCDD-Like Congeners TEQ										
38380-08-4/69782-90-7	(156/157)	mg/kg	0.011	0.17	0.000005	1.99E-08				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.00031	0.11	0.000005	3.53E-10				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.024	0.15	0.000005	3.83E-08				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.0044	0.17	0.000005	7.89E-09				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.0014	0.15	0.000005	2.22E-09				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.089	0.15	0.000005	1.45E-07				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.0014	0.15	0.000005	2.17E-09				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000016	0.13	0.00005	2.14E-10				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.00014	0.14	0.005	2.01E-07				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.00076	0.16	0.0001	2.62E-08				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.000041	0.15	0.0005	6.41E-09				
	TCDD TEQ (PCBs) (Fish)[6]	mg/kg				4.49E-07	0.00000722	0.000086	0.06	0.01

Notes:

[1] Maximum detected concentration.

[2] Biomagnification factors from fish tissue to eggs are from Cooke et al. (2003). For PCB congeners not listed in Cooke et al., 2003, the average for homolog group was used. For PCB 189 the value for PCB 170 + PCB 190 wa

[3] TEFs for fish from Van den Berg et al., 1998.

[4] Fish egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the egg/fish BMF and the congener-specific TEF for fish and by the ratio of egg to fish percent lipids. An average egg percent lipid of 8.2 (Cooke at al., 2003) and an average percent lipid for all whole body fish tissue samples collected within the OU4 Study Area of 3.9 percent were used.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-26.

[6] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-20: Sumary of Hazard Quotients for Fish Egg Residue (Bottom-Feeding Fish) - EUs BB3, BB2, BB1, and GB
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration in Fish Tissue [1]	Egg/Fish Biomagnification Factor (BMF) [2]	Fish TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
2,3,7,8-TCDD-Like Congeners TEQ										
38380-08-4/69782-90-7	(156/157)	mg/kg	0.20	0.17	0.000005	3.62E-07				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.0075	0.11	0.000005	8.43E-09				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.32	0.15	0.000005	5.15E-07				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.072	0.17	0.000005	1.28E-07				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.023	0.15	0.000005	3.56E-08				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.034	0.15	0.000005	5.54E-08				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.86	0.15	0.000005	1.35E-06				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.00012	0.13	0.00005	1.66E-09				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.0032	0.14	0.005	4.79E-06				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.0050	0.16	0.0001	1.72E-07				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00050	0.15	0.0005	7.78E-08				
	TCDD TEQ (PCBs) (Fish)[6]	mg/kg				7.50E-06	0.00000722	0.000086	1	0.09

Notes:

[1] Maximum detected concentration.

[2] Biomagnification factors from fish tissue to eggs are from Cooke et al. (2003) and lipid normalized based on the average lipid content for fish eggs of 8.2% (Cooke et al., 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%. For PCB congeners not listed in Cooke et al., 2003, the average for homolog group was used. For PCB 189 the value for PCB 170 + PCB 190 was used.

[3] TEFs for fish from Van den Berg et al., 1998.

[4] Fish egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the egg/fish BMF and the congener-specific TEF for fish.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-26.

[6] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-21: Sumary of Hazard Quotients for Fish Egg Residue (Bottom-Feeding Fish) - EU BB4
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration in Fish Tissue [1]	Egg/Fish Biomagnification Factor (BMF) [2]	Fish TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
2,3,7,8-TCDD-Like Congeners TEQ										
38380-08-4/69782-90-7	(156/157)	mg/kg	0.045	0.17	0.000005	7.99E-08				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.0017	0.11	0.000005	1.86E-09				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.086	0.15	0.000005	1.39E-07				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.017	0.17	0.000005	2.97E-08				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.0054	0.15	0.000005	8.44E-09				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.0074	0.15	0.000005	1.19E-08				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.30	0.15	0.000005	4.75E-07				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000037	0.13	0.00005	5.00E-10				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.00050	0.14	0.005	7.43E-07				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.0019	0.16	0.0001	6.52E-08				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00021	0.15	0.0005	3.30E-08				
	TCDD TEQ (PCBs) (Fish)[6]	mg/kg				1.59E-06	0.00000722	0.000086	0.2	0.02

Notes:

[1] Maximum detected concentration.

[2] Biomagnification factors from fish tissue to eggs are from Cooke et al. (2003) and lipid normalized based on the average lipid content for fish eggs of 8.2% (Cooke et al., 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%. For PCB congeners not listed in Cooke et al., 2003, the average for homolog group was used. For PCB 189 the value for PCB 170 + PCB 190 was used.

[3] TEFs for fish from Van den Berg et al., 1998.

[4] Fish egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the egg/fish BMF and the congener-specific TEF for fish.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-26.

[6] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-22: Sumary of Hazard Quotients for Fish Egg Residue (Bottom-Feeding Fish) - EU BB5
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration in Fish Tissue [1]	Egg/Fish Biomagnification Factor (BMF) [2]	Fish TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
2,3,7,8-TCDD-Like Congeners TEQ										
38380-08-4/69782-90-7	(156/157)	mg/kg	0.30	0.17	0.000005	5.42E-07				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.011	0.11	0.000005	1.20E-08				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.56	0.15	0.000005	9.08E-07				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.093	0.17	0.000005	1.65E-07				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.045	0.15	0.000005	7.14E-08				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.051	0.15	0.000005	8.23E-08				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	1.26	0.15	0.000005	1.98E-06				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.00021	0.13	0.00005	2.79E-09				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.0054	0.14	0.005	7.93E-06				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.011	0.16	0.0001	3.76E-07				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00055	0.15	0.0005	8.60E-08				
	TCDD TEQ (PCBs) (Fish)[6]	mg/kg				1.22E-05	0.00000722	0.000086	2	0.1

Notes:

[1] Maximum detected concentration.

[2] Biomagnification factors from fish tissue to eggs are from Cooke et al. (2003) and lipid normalized based on the average lipid content for fish eggs of 8.2% (Cooke et al., 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%. For PCB congeners not listed in Cooke et al., 2003, the average for homolog group was used. For PCB 189 the value for PCB 170 + PCB 190 was used.

[3] TEFs for fish from Van den Berg et al., 1998.

[4] Fish egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the egg/fish BMF and the congener-specific TEF for fish.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-26.

[6] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-23: Sumary of Hazard Quotients for Fish Egg Residue (Bottom-Feeding Fish) - EU BB6
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration in Fish Tissue [1]	Egg/Fish Biomagnification Factor (BMF) [2]	Fish TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
2,3,7,8-TCDD-Like Congeners TEQ										
38380-08-4/69782-90-7	(156/157)	mg/kg	0.0021	0.17	0.000005	3.78E-09				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.00013	0.11	0.000005	1.50E-10				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.0046	0.15	0.000005	7.35E-09				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.0010	0.17	0.000005	1.72E-09				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.00023	0.15	0.000005	3.67E-10				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.00030	0.15	0.000005	4.83E-10				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.013	0.15	0.000005	1.97E-08				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000013	0.13	0.00005	1.71E-10				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.000068	0.14	0.005	9.99E-08				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.00023	0.16	0.0001	8.13E-09				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.000026	0.15	0.0005	4.06E-09				
	TCDD TEQ (PCBs) (Fish)[6]	mg/kg				1.46E-07	0.00000722	0.000086	0.02	0.002

Notes:

[1] Maximum detected concentration.

[2] Biomagnification factors from fish tissue to eggs are from Cooke et al. (2003) and lipid normalized based on the average lipid content for fish eggs of 8.2% (Cooke et al., 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%. For PCB congeners not listed in Cooke et al., 2003, the average for homolog group was used. For PCB 189 the value for PCB 170 + PCB 190 was used.

[3] TEFs for fish from Van den Berg et al., 1998.

[4] Fish egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the egg/fish BMF and the congener-specific TEF for fish.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-26.

[6] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-24: Sumary of Hazard Quotients for Fish Egg Residue (Bottom-Feeding Fish) - EU SL
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration in Fish Tissue [1]	Egg/Fish Biomagnification Factor (BMF) [2]	Fish TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
2,3,7,8-TCDD-Like Congeners TEQ										
38380-08-4/69782-90-7	(156/157)	mg/kg	0.024	0.17	0.000005	4.33E-08				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.00077	0.11	0.000005	8.64E-10				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.061	0.15	0.000005	9.87E-08				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.0077	0.17	0.000005	1.37E-08				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.0036	0.15	0.000005	5.61E-09				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.0045	0.15	0.000005	7.25E-09				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.21	0.15	0.000005	3.23E-07				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000040	0.13	0.00005	5.40E-10				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.00033	0.14	0.005	4.86E-07				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.0020	0.16	0.0001	6.87E-08				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00014	0.15	0.0005	2.24E-08				
	TCDD TEQ (PCBs) (Fish)[6]	mg/kg				1.07E-06	0.00000722	0.000086	0.1	0.01

Notes:

[1] Maximum detected concentration.

[2] Biomagnification factors from fish tissue to eggs are from Cooke et al. (2003) and lipid normalized based on the average lipid content for fish eggs of 8.2% (Cooke et al., 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%. For PCB congeners not listed in Cooke et al., 2003, the average for homolog group was used. For PCB 189 the value for PCB 170 + PCB 190 was used.

[3] TEFs for fish from Van den Berg et al., 1998.

[4] Fish egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the egg/fish BMF and the congener-specific TEF for fish.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-26.

[6] TCDD TEQ (PCBs) (Fish) calculated for detected PCB congeners using the toxic equivalency factors for fish from Van den Berg et al. (1998).

Table I-25: Sumary of Hazard Quotients for Bird Egg Residue (Predatory Fish) - EUs BB3, BB2, BB1, and GB
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration [1]		Bird Egg Biomagnification Factor (BMF) [2]	Bird TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
Pesticides											
	Total DDx	mg/kg	0.0115	Maximum	5.1		0.12	0.5	4.6	0.3	0.03
1024-57-3	Heptachlor epoxide	mg/kg	0.0081	Maximum	15		0.2	--	--	--	--
Polychlorinated Biphenyls											
	Total PCB Aroclors	mg/kg	6.3	95% Approximate Gamma UCL	16		200	1.1	11	181	18
2,3,7,8-TCDD-Like Congeners TEQ											
38380-08-4/697	(156/157)	mg/kg	0.036	Maximum	18	0.0001	0.0001				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.0011	Maximum	21	0.00001	0.0000004				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.078	Maximum	10	0.0001	0.0002				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.013	Maximum	18	0.00001	0.000005				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.0053	Maximum	9.9	0.00001	0.000001				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.26	Maximum	16	0.00001	0.0001				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.0044	Maximum	9.9	0.0001	0.00001				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000040	Maximum	18	0.001	0.000001				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.00052	Maximum	9.9	0.1	0.001				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.0021	Maximum	7.3	0.05	0.002				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00014	Maximum	7.3	0.1	0.0002				
	TCDD TEQ (PCBs) (Bird)[6]	mg/kg					0.003	0.000002	0.00002	1,557	156

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] BMFs from fish tissue to bird eggs are based on data from Braune and Norstrom (1989). For PCB congeners not listed in Braune and Norstrom, 1989, the average for homolog group was used. For total DDx the BMF for 4,4'-DDT was used. BMFs were lipid normalized based on the average lipid content for bird eggs of 7.7% (Braune and Norstrom, 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%.

[3] TEFs for birds from Van den Berg et al., 1998.

[4] Bird egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the bird egg BMF and, for PCB congeners, by the TEF.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-27.

[6] TCDD TEQ (PCBs) (Bird) calculated for detected PCB congeners using the toxic equivalency factors for birds from Van den Berg et al. (1998).

Table I-26: Sumary of Hazard Quotients for Bird Egg Residue (Predatory Fish) - EU BB4
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration [1]		Bird Egg Biomagnification Factor (BMF) [2]	Bird TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
Pesticides											
	Total DDx	mg/kg	0.021	Maximum	5.1		0.2	0.5	4.6	0.5	0.05
1024-57-3	Heptachlor epoxide	mg/kg	0.013	Maximum	15		0.4	--	--	--	--
Polychlorinated Biphenyls											
	Total PCB Aroclors	mg/kg	13	95% Student's-t UCL	16		401	1.1	11	365	37
2,3,7,8-TCDD-Like Congeners TEQ											
38380-08-4/697	(156/157)	mg/kg	0.027	Maximum	18	0.0001	0.0001				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.0010	Maximum	21	0.00001	0.0000004				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.066	Maximum	10	0.0001	0.0001				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.0092	Maximum	18	0.00001	0.000003				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.0052	Maximum	9.9	0.00001	0.000001				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.22	Maximum	16	0.00001	0.0001				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.0038	Maximum	9.9	0.0001	0.00001				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000059	Maximum	18	0.001	0.000002				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.00043	Maximum	9.9	0.1	0.001				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.0023	Maximum	7.3	0.05	0.002				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00018	Maximum	7.3	0.1	0.0003				
	TCDD TEQ (PCBs) (Bird)[6]	mg/kg					0.003	0.000002	0.00002	1,536	154

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] BMFs from fish tissue to bird eggs are based on data from Braune and Norstrom (1989). For PCB congeners not listed in Braune and Norstrom, 1989, the average for homolog group was used. For total DDx the BMF for 4,4'-DDT was used. BMFs were lipid normalized based on the average lipid content for bird eggs of 7.7% (Braune and Norstrom, 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%.

[3] TEFs for birds from Van den Berg et al., 1998.

[4] Bird egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the bird egg BMF and, for PCB congeners, by the TEF.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-27.

[6] TCDD TEQ (PCBs) (Bird) calculated for detected PCB congeners using the toxic equivalency factors for birds from Van den Berg et al. (1998).

Table I-27: Sumary of Hazard Quotients for Bird Egg Residue (Predatory Fish) - EU BB5
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration [1]		Bird Egg Biomagnification Factor (BMF) [2]	Bird TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
Pesticides											
	Total DDx	mg/kg	0.022	Maximum	5.1		0.2	0.5	4.6	0.5	0.05
1024-57-3	Heptachlor epoxide	mg/kg	0.016	Maximum	15		0.5	--	--	--	--
Polychlorinated Biphenyls											
	Total PCB Aroclors	mg/kg	14	95% Approximate Gamma UCL	16		434	1.1	11	395	40
2,3,7,8-TCDD-Like Congeners TEQ											
38380-08-4/6978	(156/157)	mg/kg	0.16	Maximum	18	0.0001	0.001				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.0054	Maximum	21	0.00001	0.000002				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.31	Maximum	10	0.0001	0.001				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.053	Maximum	18	0.00001	0.00002				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.018	Maximum	9.9	0.00001	0.000003				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.92	Maximum	16	0.00001	0.0003				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.025	Maximum	9.9	0.0001	0.00005				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.00018	Maximum	18	0.001	0.00001				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.0015	Maximum	9.9	0.1	0.003				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.0063	Maximum	7.3	0.05	0.005				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00029	Maximum	7.3	0.1	0.0004				
	TCDD TEQ (PCBs) (Bird)[6]	mg/kg					0.01	0.000002	0.00002	4,672	467

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] BMFs from fish tissue to bird eggs are based on data from Braune and Norstrom (1989). For PCB congeners not listed in Braune and Norstrom, 1989, the average for homolog group was used. For total DDx the BMF for 4,4'-DDT was used. BMFs were lipid normalized based on the average lipid content for bird eggs of 7.7% (Braune and Norstrom, 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%.

[3] TEFs for birds from Van den Berg et al., 1998.

[4] Bird egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the bird egg BMF and, for PCB congeners, by the TEF.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-27.

[6] TCDD TEQ (PCBs) (Bird) calculated for detected PCB congeners using the toxic equivalency factors for birds from Van den Berg et al. (1998).

Table I-28: Sumary of Hazard Quotients for Bird Egg Residue (Predatory Fish) **- EU BB6**

Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration [1]		Bird Egg Biomagnification Factor (BMF) [2]	Bird TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
Polychlorinated Biphenyls											
	Total PCB Aroclors	mg/kg	0.56	95% Student's-t UCL	16		18	1.1	11	16	2
2,3,7,8-TCDD-Like Congeners TEQ											
38380-08-4/6978	(156/157)	mg/kg	0.0025	Maximum	18	0.0001	0.00001				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.00020	Maximum	21	0.00001	0.0000001				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.0049	Maximum	10	0.0001	0.00001				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.0012	Maximum	18	0.00001	0.0000004				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.00038	Maximum	9.9	0.00001	0.0000001				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.015	Maximum	16	0.00001	0.000005				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.00024	Maximum	9.9	0.0001	0.0000005				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000032	Maximum	18	0.001	0.000001				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.000072	Maximum	9.9	0.1	0.0001				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.00039	Maximum	7.3	0.05	0.0003				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.000032	Maximum	7.3	0.1	0.00005				
	TCDD TEQ (PCBs) (Bird)[6]	mg/kg					0.0005	0.000002	0.00002	247	25

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] BMFs from fish tissue to bird eggs are based on data from Braune and Norstrom (1989). For PCB congeners not listed in Braune and Norstrom, 1989, the average for homolog group was used. For total DDx the BMF for 4,4'-DDT was used. BMFs were lipid normalized based on the average lipid content for bird eggs of 7.7% (Braune and Norstrom, 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%.

[3] TEFs for birds from Van den Berg et al., 1998.

[4] Bird egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the bird egg BMF and, for PCB congeners, by the TEF.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-27.

[6] TCDD TEQ (PCBs) (Bird) calculated for detected PCB congeners using the toxic equivalency factors for birds from Van den Berg et al. (1998).

Table I-29: Sumary of Hazard Quotients for Bird Egg Residue (Predatory Fish) - EU SL
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration [1]		Bird Egg Biomagnification Factor (BMF) [2]	Bird TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5]		HQ_{noael}	HQ_{loael}
								NOAEL	LOAEL		
Polychlorinated Biphenyls											
	Total PCB Aroclors	mg/kg	1.3	95% Student's-t UCL	16		43	1.1	11	39	4
2,3,7,8-TCDD-Like Congeners TEQ											
38380-08-4/697	(156/157)	mg/kg	0.011	Maximum	18	0.0001	0.00004				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.00031	Maximum	21	0.00001	0.0000001				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.024	Maximum	10	0.0001	0.00005				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.0044	Maximum	18	0.00001	0.000002				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.0014	Maximum	9.9	0.00001	0.0000003				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.089	Maximum	16	0.00001	0.00003				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.0014	Maximum	9.9	0.0001	0.000003				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000016	Maximum	18	0.001	0.000001				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.00014	Maximum	9.9	0.1	0.0003				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.00076	Maximum	7.3	0.05	0.001				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.000041	Maximum	7.3	0.1	0.0001				
	TCDD TEQ (PCBs) (Bird)[6]	mg/kg					0.001	0.000002	0.00002	494	49

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] BMFs from fish tissue to bird eggs are based on data from Braune and Norstrom (1989). For PCB congeners not listed in Braune and Norstrom, 1989, the average for homolog group was used. For total DDx the BMF for 4,4'-DDT was used. BMFs were lipid normalized based on the average lipid content for bird eggs of 7.7% (Braune and Norstrom, 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%.

[3] TEFs for birds from Van den Berg et al., 1998.

[4] Bird egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the bird egg BMF and, for PCB congeners, by the TEF.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-27.

[6] TCDD TEQ (PCBs) (Bird) calculated for detected PCB congeners using the toxic equivalency factors for birds from Van den Berg et al. (1998).

Table I-30: Sumary of Hazard Quotients for Bird Egg Residue (Bottom-Feeding Fish) - EUs BB3, BB2, BB1, and GB
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration[1]		Bird Egg Biomagnification Factor (BMF)[2]	Bird TCDD Toxic Equivalency Factor (TEF)[3]	Estimated Egg Tissue Concentration[4]	Critical Body Residue[5] NOAEL	Critical Body Residue[5] LOAEL	HQ_{noael}	HQ_{loael}
Polychlorinated Biphenyls											
	Total PCB Aroclors	mg/kg	11	95% Approximate Gamma UCL	16		350	1.1	11	318	32
2,3,7,8-TCDD-Like Congeners TEQ											
38380-08-4/697	(156/157)	mg/kg	0.20	Maximum	18	0.0001	0.001				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.0075	Maximum	21	0.00001	0.000003				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.32	Maximum	10	0.0001	0.001				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.072	Maximum	18	0.00001	0.00003				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.023	Maximum	9.9	0.00001	0.000004				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.034	Maximum	16	0.00001	0.00001				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.86	Maximum	9.9	0.0001	0.002				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.00012	Maximum	18	0.001	0.000005				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.0032	Maximum	9.9	0.1	0.01				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.0050	Maximum	7.3	0.05	0.004				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00050	Maximum	7.3	0.1	0.001				
	TCDD TEQ (PCBs) (Bird)[6]	mg/kg					0.01	0.000002	0.00002	6,865	686

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] BMFs from fish tissue to bird eggs are based on data from Braune and Norstrom (1989). For PCB congeners not listed in Braune and Norstrom, 1989, the average for homolog group was used. For total DDx the BMF for 4,4'-DDT was used. BMFs were lipid normalized based on the average lipid content for bird eggs of 7.7% (Braune and Norstrom, 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%.

[3] TEFs for birds from Van den Berg et al., 1998.

[4] Bird egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the bird egg BMF and, for PCB congeners, by the TEF.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-27.

Table I-31: Sumary of Hazard Quotients for Bird Egg Residue (Bottom-Feeding Fish) - EU BB4
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration [1]		Bird Egg Biomagnification Factor (BMF) [2]	Bird TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5]		HQ_{noael}	HQ_{loael}
								NOAEL	LOAEL		
Polychlorinated Biphenyls											
	Total PCB Aroclors	mg/kg	10	95% Student's-t UCL	16		332	1.1	11	302	30
2,3,7,8-TCDD-Like Congeners TEQ											
38380-08-4/697	(156/157)	mg/kg	0.045	Maximum	18	0.0001	0.0002				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.0017	Maximum	21	0.00001	0.000001				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.086	Maximum	10	0.0001	0.0002				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.017	Maximum	18	0.00001	0.00001				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.0054	Maximum	9.9	0.00001	0.000001				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.0074	Maximum	16	0.00001	0.000002				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.30	Maximum	9.9	0.0001	0.001				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000037	Maximum	18	0.001	0.000001				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.00050	Maximum	9.9	0.1	0.001				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.0019	Maximum	7.3	0.05	0.001				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00021	Maximum	7.3	0.1	0.0003				
	TCDD TEQ (PCBs) (Bird)[6]	mg/kg					0.004	0.000002	0.00002	1,788	179

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] BMFs from fish tissue to bird eggs are based on data from Braune and Norstrom (1989). For PCB congeners not listed in Braune and Norstrom, 1989, the average for homolog group was used. For total DDx the BMF for 4,4'-DDT was used. BMFs were lipid normalized based on the average lipid content for bird eggs of 7.7% (Braune and Norstrom, 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%.

[3] TEFs for birds from Van den Berg et al., 1998.

[4] Bird egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the bird egg BMF and, for PCB congeners, by the TEF.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-27.

Table I-32: Sumary of Hazard Quotients for Bird Egg Residue (Bottom-Feeding Fish) - EU BB5

Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration [1]		Bird Egg Biomagnification Factor (BMF) [2]	Bird TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
Polychlorinated Biphenyls											
	Total PCB Aroclors	mg/kg	37	95% Student's-t UCL	16		1,186	1.1	11	1,078	109
2,3,7,8-TCDD-Like Congeners TEQ											
38380-08-4/697	(156/157)	mg/kg	0.30	Maximum	18	0.0001	0.001				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.011	Maximum	21	0.00001	0.000004				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.56	Maximum	10	0.0001	0.001				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.093	Maximum	18	0.00001	0.00003				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.045	Maximum	9.9	0.00001	0.00001				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.051	Maximum	16	0.00001	0.00002				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	1.3	Maximum	9.9	0.0001	0.002				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.00021	Maximum	18	0.001	0.00001				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.0054	Maximum	9.9	0.1	0.01				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.011	Maximum	7.3	0.05	0.01				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00055	Maximum	7.3	0.1	0.001				
	TCDD TEQ (PCBs) (Bird)[6]	mg/kg					0.02	0.000002	0.00002	11,925	1,193

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] BMFs from fish tissue to bird eggs are based on data from Braune and Norstrom (1989). For PCB congeners not listed in Braune and Norstrom, 1989, the average for homolog group was used. For total DDx the BMF for 4,4'-DDT was used. BMFs were lipid normalized based on the average lipid content for bird eggs of 7.7% (Braune and Norstrom, 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%.

[3] TEFs for birds from Van den Berg et al., 1998.

[4] Bird egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the bird egg BMF and, for PCB congeners, by the TEF.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-27.

[6] TCDD TEQ (PCBs) (Bird) calculated for detected PCB congeners using the toxic equivalency factors for birds from Van den Berg et al. (1998).

Table I-33: Sumary of Hazard Quotients for WBird Egg Residue (Bottom-Feeding Fish) - EU BB6
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration [1]		Bird Egg Biomagnification Factor (BMF) [2]	Bird TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
Polychlorinated Biphenyls											
	Total PCB Aroclors	mg/kg	12	Maximum	16		395	1.1	11	359	36
2,3,7,8-TCDD-Like Congeners TEQ											
38380-08-4/697	(156/157)	mg/kg	0.0021	Maximum	18	0.0001	0.00001				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.00013	Maximum	21	0.00001	0.0000001				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.0046	Maximum	10	0.0001	0.00001				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.0010	Maximum	18	0.00001	0.0000004				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.00023	Maximum	9.9	0.00001	0.00000005				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.00030	Maximum	16	0.00001	0.0000001				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.013	Maximum	9.9	0.0001	0.00002				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000013	Maximum	18	0.001	0.0000005				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.000068	Maximum	9.9	0.1	0.0001				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.00023	Maximum	7.3	0.05	0.0002				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.000026	Maximum	7.3	0.1	0.00004				
	TCDD TEQ (PCBs) (Bird)[6]	mg/kg					0.0004	0.000002	0.00002	190	19

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] BMFs from fish tissue to bird eggs are based on data from Braune and Norstrom (1989). For PCB congeners not listed in Braune and Norstrom, 1989, the average for homolog group was used. For total DDx the BMF for 4,4'-DDT was used. BMFs were lipid normalized based on the average lipid content for bird eggs of 7.7% (Braune and Norstrom, 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%.

[3] TEFs for birds from Van den Berg et al., 1998.

[4] Bird egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the bird egg BMF and, for PCB congeners, by the TEF.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-27.

Table I-34: Sumary of Hazard Quotients for Bird Egg Residue (Bottom-Feeding Fish) - EU SL
Cornell-Dubilier Electronics Superfund Site : OU4 Bound Brook

CAS Number	Chemical	Units	Exposure Point Concentration [1]		Bird Egg Biomagnification Factor (BMF) [2]	Bird TCDD Toxic Equivalency Factor (TEF) [3]	Estimated Egg Tissue Concentration [4]	Critical Body Residue [5] NOAEL	Critical Body Residue [5] LOAEL	HQ_{noael}	HQ_{loael}
Polychlorinated Biphenyls											
	Total PCB Aroclors	mg/kg	13	95% Approximate Gamma UCL	16		411	1.1	11	373	38
2,3,7,8-TCDD-Like Congeners TEQ											
38380-08-4/697	(156/157)	mg/kg	0.024	Maximum	18	0.0001	0.0001				
39635-31-9	2,3,3',4,4',5,5'-HpCB (189)	mg/kg	0.00077	Maximum	21	0.00001	0.0000003				
32598-14-4	2,3,3',4,4'-PeCB (105)	mg/kg	0.061	Maximum	10	0.0001	0.0001				
52663-72-6	2,3',4,4',5,5'-HxCB (167)	mg/kg	0.0077	Maximum	18	0.00001	0.000003				
65510-44-3	2,3',4,4',5'-PeCB (123)	mg/kg	0.0036	Maximum	9.9	0.00001	0.000001				
31508-00-6	2,3',4,4',5-PeCB (118)	mg/kg	0.0045	Maximum	16	0.00001	0.000001				
74472-37-0	2,3,4,4',5-PeCB (114)	mg/kg	0.21	Maximum	9.9	0.0001	0.0004				
32774-16-6	3,3',4,4',5,5'-HxCB (169)	mg/kg	0.000040	Maximum	18	0.001	0.000001				
57465-28-8	3,3',4,4',5-PeCB (126)	mg/kg	0.00033	Maximum	9.9	0.1	0.001				
32598-13-3	3,3',4,4'-TeCB (77)	mg/kg	0.0020	Maximum	7.3	0.05	0.001				
70362-50-4	3,4,4',5-TeCB (81)	mg/kg	0.00014	Maximum	7.3	0.1	0.0002				
	TCDD TEQ (PCBs) (Bird)[6]	mg/kg					0.003	0.000002	0.00002	1,446	145

Notes:

[1] Exposure point concentration is either the 95% Upper Confidence Level (UCL) on the arithmetic average concentration (i.e., the 95% UCL concentration) or the maximum detected concentration. 95% UCL concentrations were calculated using ProUCL version 4.1.00 for data sets with fewer than 70% non-detects and more than 4 samples. The basis of the exposure point concentration is shown.

[2] BMFs from fish tissue to bird eggs are based on data from Braune and Norstrom (1989). For PCB congeners not listed in Braune and Norstrom, 1989, the average for homolog group was used. For total DDx the BMF for 4,4'-DDT was used. BMFs were lipid normalized based on the average lipid content for bird eggs of 7.7% (Braune and Norstrom, 2003) and an average lipid content for all whole body fish tissue samples collected within the OU4 Study Area of 3.9%.

[3] TEFs for birds from Van den Berg et al., 1998.

[4] Bird egg concentrations were estimated by multiplying the exposure point concentration in fish tissue by the bird egg BMF and, for PCB congeners, by the TEF.

[5] Critical body residue data presented in Appendix I and summarized in Table 5-27.

[6] TCDD TEQ (PCBs) (Bird) calculated for detected PCB congeners using the toxic equivalency factors for birds from Van den Berg et al. (1998).

APPENDIX J

Life Histories for Representative Wildlife Receptors

Life history information was compiled for the representative wildlife receptors for which food web modeling is conducted. The representative wildlife receptors include: wood duck (*Aix sponsa*), mallard (*Anas platyrhynchos*), red-winged blackbird (*Agelaius phoeniceus*), great blue heron (*Ardea herodias*), belted kingfisher (*Ceryle alcyon*), muskrat (*Ondatra zibethicus*), raccoon (*Procyon lotor)*, little brown bat (*Myotis lucifugus*), American mink (*Neovison vison*), American robin (*Turdus migratorius*), mourning dove (*Zenaida macroura*) red-tailed hawk (*Buteo jamaicensis*), short-tailed shrew (*Blarina brevicauda*), Eastern gray squirrel (*Sciurus carolinensis*), and red fox (*Vulpes vulpes*). Compiled information supports selection of feeding guilds and exposure parameters needed in food web modeling. Life history information pertinent to the continental United States and, where possible, New Jersey or the northeastern United States was preferentially selected.

Exposure parameters (*e.g.*, body weights, dietary components, and home range size) selected for use in food web modeling were generally based on the data presented in the United States Environmental Protection Agency's (USEPA's) *Wildlife Exposure Factors Handbook* (USEPA, 1993), with noted exceptions. Food ingestion rates for most receptor species were calculated using the predictive allometric regression equations based on field metabolic rates determined by Nagy (2001). The allometric regression equations for "all birds" and "all mammals" were used. Generally, these equations provide the most conservative estimates when compared with allometric equations for different feeding guilds. The allometric equations for calculating food ingestion rates for birds and mammals are:

Birddry weight food ingestion rate (FIR_{dw}) in grams per day (g/day) = $0.638\ (BW)^{0.685}$

Mammal dry weight FIR_{dw} (g/day) = $0.323\ (BW)^{0.744}$

Where:
FIR_{dw} = Food Ingestion rate, dry weight (g/day)
BW = Body weight (g)

Food ingestion rates on a dry weight basis were converted to a wet weight basis assuming average moisture contents of 87 percent for aquatic roots and foliage, 9.3 percent for seeds, 77 percent for invertebrates, 72 percent for fish, and 68 percent for small mammals (USEPA 1993).

Similarly, water intake rates for all receptor species except the short-tailed shrew were calculated using the predictive allometric equations based on total water turnover and metabolic rate determined by Calder and Braun (1983). The allometric equations for calculating water ingestion rates for "all birds" and "all mammals" are:

Bird WIR in liters per day (L/day) = $0.059\ (BW)^{0.67}$

Mammal WIR (L/day) = $0.099\ (BW)^{0.90}$

Where:
WIR = Water ingestion rate (L/day)
BW = Body weight kilograms (kg)

Average adult body weights used in these calculations were determined as described below and are summarized in Table J-1. The calculated food and water ingestion rates are also shown in Table J-1. The water ingestion rate for the short-tailed shrew is described below.

While sediment and/or soil may be ingested both intentionally and incidentally by many species of wildlife and can be a significant exposure pathway for some contaminants (USEPA, 1993; Beyer et al., 1994), sediment/soil ingestion was assumed to be only the proportion incidentally ingested due to the species' feeding strategy. This is particularly applicable to species that forage on benthic or soil invertebrates (*e.g.*, mallard, raccoon, American robin, short-tailed shrew, and red fox). Terrestrial invertebrates may contain significant amounts of soil entrained in their gut. A diet of earthworms is typically 20 to 30 percent soil (Beyer et al., 1994). Aquatic invertebrates may also contain significant amounts of entrained sediment. A species of burrowing mayfly (*Hexagenia limbata*) was estimated to contain 12 percent sediment (Hare et al., 1989, as cited in Beyer et al., 1994). For most species, estimates of sediment/soil ingestion rates were determined based on Beyer et al.'s (1994) estimates of the proportion of soil and sediment in diets of various species. Soil and sediment ingestion rates are based on dry weight food ingestion rates.

As discussed in the risk assessment report, aquatic or terrestrial vegetation were only considered as a dietary component for the herbivorous receptors (*i.e.*, wood duck and muskrat and mourning dove and Eastern gray squirrel, respectively). Vegetation was not considered as a dietary component for all other receptors where only fish, invertebrates, and small mammals were considered as dietary components. For those semi-aquatic wildlife receptors, diets were assumed to be 100 percent aquatic organisms and for those terrestrial wildlife receptors diets were assumed to be 100 percent terrestrial organisms.

Wood duck

Wood duck prefer wooded swamps, marshes, streams, ponds, and small lakes and are possibly year-round residents in New Jersey (Cornell Laboratory of Ornithology, 2013). Cavity nesters, they are adept at maneuvering through woodlands and are one of the few species of ducks with claws allowing them to perch in trees. Wood ducks feed in shallow water and prefer alternating open water and vegetative cover for foraging (Cornell Laboratory of Ornithology, 2013; U.S. Department of Agriculture, 2013).

Wood ducks feed primarily on plant materials (*i.e.*, up to 80% or more), including aquatic vegetation such as, duckweed, pondweed, arrow-arum, cowlily, and water lily (Cornell Laboratory of Ornithology, 2013; Martin et al., 1951). While wood ducks feed primarily in shallow water areas on aquatic vegetation during the growing season, during winter while foraging on the forest floor, much of the diet is made up of acorns and nuts (Cornell Laboratory of Ornithology, 2013). Insects make up a small proportion of the

wood duck diet, primarily during the first six weeks in young and during the spring in adults (U.S. Department of Agriculture, 2013; Martin et al., 1951). For this assessment it was assumed that aquatic plants make up 100 percent of the wood duck diet.

Adult body weights range from 0.454 kg to 0.862 kg (Cornell Laboratory of Ornithology, 2013). An average adult body weight of 0.66 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.054 kg, dry matter/day and 0.045 L/day. The proportion of sediment incidentally ingested is assumed to be 2 percent (Beyer et al., 1997) of the food ingestion rate.

Wood ducks do not maintain stable home ranges, which can vary greatly in size for adults (i.e., 0.77 ha to 414 ha) depending on area and time of year (Sousa and Farmer, 1983). Brood in South Carolina were reported within home ranges from 0.77 to 29.6 ha (Hepp and Hair, 1977, as cited in Sousa and Farmer, 1983). An average home range size of 15 ha was assumed for this assessment.

Mallard

The mallard is widespread throughout most of the United States and is the most abundant of the United States ducks. Mallards can be found in a variety of wetland habitats, including those in city parks and may even be found feeding along roadside ditches (Cornell Laboratory of Ornithology, 2012). They prefer shallow water, between 20 and 41 cm, for foraging in order to be able to bottom feed (USEPA, 1993; DeGraaf and Rudis, 1986).

Mallards are dabbling ducks that feed mostly on aquatic plants, seeds, and aquatic invertebrates, depending on the season, and forage in ponds and wetlands by dabbling and filtering through sediments. Invertebrates dominate the adult female diet during the breeding season (April to June) and the duckling diet (USEPA, 1993). While the majority of the diet in winter is made up of seeds, mast, and agricultural grains, Swanson et al. (1985), as reported by USEPA (1993), measured the proportion of invertebrates in the diet to range between 67 percent and 89 percent during April, May and June. Because of this seasonal variation, for this assessment it was conservatively assumed that aquatic invertebrates make up 100 percent of the mallard diet.

Adult body weights from studies in the continental United States (as reported in USEPA, 1993) ranged from 0.98 kg to 1.2 kg. An average adult body weight of 1.1 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.079 kg, dry matter/day and 0.064 L/day. The proportion of sediment incidentally ingested is assumed to be 3.3 percent (Beyer et al., 1994) of the food ingestion rate.

Home range size for adult mallards in upland forest habitat was reported to range from 70 hectares (ha) to 240 ha (Gilmer et al., 1975, as cited in USEPA, 1993) and for mallards in riverine wetlands, from 540 ha to 640 ha (Kirby et al., 1985, as cited in USEPA, 1993). An average home range size of 303 ha was assumed for this assessment.

Red-Winged Blackbird

One of the most abundant birds in North America, the red-winged blackbird is commonly seen in a variety of habitats, including marshes, along watercourses, wet roadsides, and even drier meadows and old fields (Cornell Laboratory of Ornithology, 2012). Red-winged blackbirds winter as far north as New Jersey, eastern Pennsylvania, and Ohio (DeGraaf and Rudis, 1986). Red-winged blackbirds are mainly ground gleaners and insects make up the majority of their diet in summer and seeds in winter (Cornell Laboratory of Ornithology, 2012; DeGraaf et al., 1985; DeGraaf and Rudis, 1986). As prey may also be taken from plants and in the air, insects in the diet can include: dragonflies, damselflies, other flies, beetles, butterflies, and moths, as well as spiders. For this assessment, the red-winged blackbird diet was conservatively assumed to be 100 percent aquatic invertebrates.

Adult body weights from studies in Pennsylvania for males and females were 0.0636 kg and 0.0415 kg, respectively (Dunning, 2000). Body weights of red-winged blackbirds can vary markedly in different populations and subspecies; ranging from 0.032 kg to 0.077 kg (The Cornell Laboratory of Ornithology, 2012). An average adult body weight of 0.053 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.01 kg, dry matter/day and 0.0083 L/day. The proportion of sediment incidentally ingested, while thought to be negligible, was assumed to be 1 percent due to their ground gleaning foraging strategy.

Territory sizes ranging from 0.02 ha to 0.5 ha were reported in studies cited by DeGraaf and Rudis (1986). An average home range size of 0.17 ha was assumed for this assessment.

Great Blue Heron

The great blue heron is widely distributed in both saltwater and freshwater environments, including freshwater lakes and rivers, brackish marshes, lagoons, mangroves, and coastal wetlands, particularly where small fish are plentiful in shallow areas. The great blue heron is the largest of the North American herons and breeds throughout New Jersey, but generally does not over winter in the northwestern portion of the state (Conserve Wildlife Foundation of New Jersey, 2012).

Great blue herons are predominantly piscivorous year-round, ambushing and striking its prey with its long bill (DeGraaf et al., 1985; Conserve Wildlife Foundation of New Jersey, 2012). While the preferred prey of great blue heron is fish; aquatic and terrestrial insects, amphibians, crustaceans, and even small reptiles, birds, and mammals may be consumed, as great blue herons sometimes also forage in wet meadows (USEPA, 1993, DeGraaf and Rudis, 1986, Conserve Wildlife Foundation of New Jersey, 2012). Summer diet in lower Michigan lake and river habitats were reported to be predominantly (89 percent to 94 percent) fish and only 1 percent to 2 percent crustaceans (Alexander, 1977). For this assessment, the great blue heron diet was assumed to be 98 percent fish and 2 percent aquatic invertebrates.

Adult great blue herons tend to deliver the same type and size of food to their nestlings that they consume themselves, but they deliver it well digested for young nestlings and less well digested as the nestlings grow. Great blue herons tend to nest in dense colonies, or heronries. The location of the heronry is generally close to foraging grounds, although great blue herons have been noted to travel up to 20 km to forage. Tall trees are preferred over shorter trees or bushes for nest sites. The great blue heron is a species of special concern in New Jersey, mainly due to wetland destruction which has caused a decrease in populations from their historic numbers (Conserve Wildlife Foundation of New Jersey, 2012).

Adult body weights from studies in the continental United States (as reported in USEPA, 1993) ranged from 2.09 kg to 2.58 kg. An average adult body weight of 2.3 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.13 kg, dry matter/day and 0.10 L/day. Although incidental sediment ingestion is considered to be negligible for this species, it was assumed to be 1 percent of the food ingestion rate due to the small portion of invertebrates in the diet.

Territory size varies with habitat and stage in the reproductive cycle (DeGraaf and Rudis, 1986). Average feeding territory sizes for adults of 0.6 ha in the fall and 8.4 ha in the winter were reported from a study in a freshwater marsh and estuary (Bayer, 1978 as cited in USEPA, 1993). An average home range size of 4.5 ha was assumed for this assessment.

Belted Kingfisher

Belted kingfishers breed throughout North America; however, their winter range is limited to the Pacific coast, the central United States from the Gulf coast to the Great Lakes, and the Atlantic coast from Florida to New England (Bull and Farrand, 1996). Belted kingfishers are commonly seen along the banks of ponds, lakes, rivers, and streams and will over winter where ice-free waters contain prey (DeGraaf and Rudis, 1986).

Belted kingfishers are small piscivorous birds that dive into shallow water or skim the water surface to catch prey (USEPA, 1993; DeGraaf and Rudis, 1986; DeGraaf et al., 1985). The size of fish captured based on a study reported in USEPA (1993) averages 7.6 cm and can range between 2.5-17.8 cm. Diet can vary considerably since belted kingfishers catch the species most abundant. Some studies indicate belted kingfishers may consume large amounts of crayfish (Davis, 1982; Sayler and Lagler, 1946; as cited in USEPA, 1993). In addition, insects, mollusks, tadpoles, and occasionally fleshy fruits may be consumed (DeGraaf and Rudis, 1986). Summer diets from studies reported by USEPA (1993) indicate the proportion of fish in the diet range from 46 percent to 86 percent and the proportion of invertebrates in the diet ranges from 26 percent to 41 percent. For this assessment, the belted kingfisher diet was assumed to be 70 percent fish and 30 percent aquatic invertebrates.

Adult body weights from studies in the continental United States (as reported in USEPA, 1993) ranged from 0.136 kg to 0.17 kg. An average adult body weight of 0.15 kg was

used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.02 kg, dry matter/day and 0.017 L/day. Although incidental sediment ingestion is considered to be negligible for this species, it was assumed to be 2 percent of the food ingestion rate due to the larger portion of invertebrates in the diet.

Belted kingfishers defend both their nest site and foraging territory during the breeding season, but only foraging territory in the fall and winter (Davis, 1982; as cited in USEPA, 1993). Prey abundance affects territory size. Average territory sizes during summer, spring, and fall recorded during studies on populations along streams in north central Pennsylvania and southwest Ohio range from 0.39 ha in the fall to 2.19 ha in the summer (Davis, 1980 and Brooks and Davis, 1987 as cited in USEPA, 1993). An average home range size of 1.2 ha was assumed for this assessment.

Muskrat

Muskrat are aquatic rodents (Order Rodentia) that feed primarily on roots and basal portions of aquatic vegetation, but may also feed on other parts of vegetation such as shoots, bulbs, tubers, stems, and leaves, or less frequently on animals such as clams, crayfish, fish, frogs, turtles, and young birds (USEPA, 1993). Muskrats feed at night near their dens or lodges. For this assessment it was assumed that aquatic plants make up 100 percent of the muskrat diet.

Average adult body weights from studies in the continental United States (as reported in USEPA, 1993) ranged from 0.837 kg to 1.48 kg. An average adult body weight of 1.2 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.062 kg, dry matter/day and 0.11 L/day. It was assumed that the proportion of sediment incidentally ingested by muskrat was 9.4 percent of the food ingestion rate. This is equal to the proportion of soil plus sediment in the diet for raccoons reported by Beyer et al. (1994).

As reported by the USEPA (1993), muskrats have relatively small home ranges. They usually construct two dens, one as a main dwelling and used primarily for feeding (USEPA, 1993). An average home range size of 0.17 ha was used in this assessment.

Raccoon

The raccoon is the most abundant and widespread medium-sized mammalian omnivore in North America. Raccoons are found near virtually every aquatic habitat, using surface waters for both drinking and foraging (USEPA, 1993). Not commonly found in dense forests, raccoons are common in wetlands with nearby human populations and will den in any protected area (DeGraaf and Rudis, 1986). Dens can include culverts, abandoned animal burrows, or hollow trees.

Raccoons are omnivorous and opportunistic foragers, consuming virtually any animal or plant matter and exploit the most available food resources, including garbage and carrion (USEPA 1993, DeGraaf and Rudis, 1986). While usually active at night, raccoons will change their activity period to adapt to the availability of food and water (Sanderson, 1987 as cited in USEPA, 1993). Raccoons feed on virtually any animal and vegetable

matter. Animal matter makes up the majority of the diet from spring through early summer (USEPA, 1993; DeGraaf and Rudis, 1986). Therefore, fish and aquatic invertebrates may be consumed, depending on availability and season. Llewellyn and Uhler (1952, as cited in USEPA, 1993) reported predominantly invertebrates (50 percent to 80 percent) in spring and summer diets of raccoons in forested bottomland habitat of Maryland. Fish made up a small percentage (2 percent to 3 percent). Other dietary components included reptiles/amphibians, rodents, and vegetation. For this assessment it is conservatively assumed that the diet is made up of 95 percent aquatic invertebrates and 5 percent fish.

Adult body weights from studies in the continental United States (as reported in USEPA, 1993) ranged from 3.2 kg to 8.9 kg. An average adult body weight of 5.3 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.19 kg, dry matter/day and 0.44 L/day. It was assumed that the proportion of sediment incidentally ingested by raccoons was 9.4 percent of the food ingestion rate. This is equal to the proportion reported by Beyer et al. (1994) for soil plus sediment.

Raccoons in urban and residential areas were reported to have home ranges from 8.31 ha to 37.4 ha (USEPA, 1993). An average home range size of 21 ha was used in this assessment.

Little Brown Bat

The little brown bat ranges across the United States, breeding in caves (Burt and Grossenheider, 1976). Roosting habitat includes hollow trees, buildings, caves, quarries, and mine tunnels; spring and summer maternity roosts are often in attics and barns (Burt and Grossenheider, 1976; DeGraaf and Rudis, 1986). Little brown bats feed nightly on aerial insects near waterbodies, marshes, or forests. The majority of prey consists of midges and mosquitoes (DeGraaf and Rudis, 1986). For this assessment the diet of little brown bats is assumed to be 100 percent aquatic invertebrates.

Average adult body weights from studies in Massachusetts, New York, and Ohio for males and females ranged from 0.007 kg to 0.01 kg (Silva and Downing, 1995). An average adult body weight of 0.008 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.002 kg, dry matter/day and 0.001 L/day. Due to the little brown bats' aerial foraging strategy, incidental sediment ingestion is assumed to be negligible (*i.e.*, none).

The population density of little brown bats in the northeastern United States has been estimated at 1 bat per 10 ha (Saunders, 1988). For this assessment, a home range of 10 ha was assumed.

American Mink

American mink are found throughout the United States in a variety of aquatic habitats including streams, rivers, lakes, swamps, and marshes; preferred habitat includes

irregular shorelines and forested wetlands with sufficient cover (USEPA, 1993; DeGraaf and Rudis, 1986).

Mink are opportunistic foragers that primarily hunt at night and consume whatever prey is abundant. Common prey items include mammals, fish, amphibians, and crustaceans (USEPA 1993). Prey items vary with season and habitat, with more fish, frogs, and aquatic invertebrates taken by mink inhabiting lakes and streams (USEPA, 1993; DeGraaf and Rudis, 1986). Alexander (1997) reported predominantly fish in the year-round diets of mink inhabiting river and stream habitats (61 percent in stream and 85 percent in river). Aquatic invertebrates in the year-round diets of mink made up 5 percent and 15 percent in the stream and river habitats, respectively. For this assessment it is assumed that the diet is made up of 88 percent fish and 12 percent aquatic invertebrates.

Members of the Cyprinidae family (minnows and shiners) were taken more than all other fish families combined (Hamilton 1959). Wilson (1954) reported the types of fish consumed to be killifish, mosquito fish, yellow perch, sunfish, catfish, eel, and pickerel, although the relative abundance of each fish was not identified. Alexander (1977) reported that trout were mostly consumed by mink and the size of all fish consumed ranged from 3-8 inches.

Average adult body weights from studies in the continental United States (as reported in USEPA, 1993) ranged from 0.55 kg to 1.8 kg. An average adult body weight of 1.0 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.056 kg, dry matter/day and 0.1 L/day. Incidental sediment ingestion is likely to be negligible due to the large proportion of fish in the diet. However, for this assessment, incidental sediment ingestion is assumed to be 2 percent of the food ingestion rate, due to the small portion of invertebrates in the diet.

Mitchell (1961; as cited in USEPA, 1993) reported home range size for adult mink in riverine habitat of Montana as ranging from 7.8 ha in heavy vegetation to 20.4 ha in sparse vegetation. An average of 14 ha was used in this assessment.

Mourning Dove

The mourning dove is the most widespread and abundant game bird in North America, although in some areas it is protected as a songbird. Mourning dove may occur as year-round residents throughout most of the continental United States or may be migratory in the northern portion of their range. They are common in rural areas as well as city parks, suburban backyards, and roadsides. Preferred habitat is forest edge or open fields, parks, and lawns where many trees and shrubs are present (Bull and Farrand, 1996). The mourning dove is a ground gleaner and consumes approximately 12 to 20 percent of their body weight per day (Cornell Laboratory of Ornithology, 2013).

Mourning dove are herbivorous with seeds making up 99 percent of its diet (Cornell Laboratory of Ornithology, 2013). Diets of essentially 100 percent plant food have been documented with main sources in the northeast coming from bristlegrass, corn, wheat,

buchwheat, ragweed, pokeweed (fruit), knotweed, and crabgrass (Martin et al., 1951). Therefore, the mourning dove diet was set at 100 percent plants (seeds).

Male mourning doves range in weight from 0.096 to 0.17 kg and female mourning doves rang in weight from 0.086 to 156 kg (Cornell Laboratory of Ornithology, 2013). An average adult body weight of 0.127 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.018 kg, dry matter/day and 0.015 L/day. Incidental soil ingestion was assumed to be 2 percent of the food ingestion rate since the mourning dove ingests grit.

Baskett (1993) reported an average seasonal home range for mourning doves in Alabama to be 2,500 ha and several daily ranges ranging from 247 ha to 1,853 ha. For this assessment, the average seasonal home range of 2,500 ha was used.

American Robin

The American Robin occurs as a year-round resident throughout most of the continental United States where they commonly inhabit open woodlands, woodland edges and clearings, fields, orchards, and gardens and trees in residential settings. American robins winter in protected woodlands and usually nest close to openings (Bull and Farrand, 1996; USEPA, 1993, DeGraaf and Rudis, 1986). The American robin is a ground gleaner/forager that will also forage in the lower tree/shrub canopy (DeGraaf et al., 1985).

Robins have an omnivorous diet that includes both plants and invertebrates, with greater invertebrate intake in the months preceding and during the breeding season, and higher fruit intake at other times of the year. A study by Howell (1942; as reported in USEPA, 1993) indicated that the summer diet of American robins in south central New York forests was approximately 70 percent invertebrates (including the unidentified animal category listed) and 30 percent plants. A study by Wheelwright (1986 as cited in USEPA, 1993) indicated spring and summer diets of American robins in the eastern United States were composed of 93 percent and 32 percent invertebrates and 7 percent and 68 percent fruits, while fall and winter diets were 8 percent and 17 percent invertebrates and 92 percent and 83 percent fruits. For this assessment, the American robin diet was conservatively assumed to be 100 percent terrestrial invertebrates.

Average adult body weights from studies in Pennsylvania, New York, and New Jersey (as reported in USEPA, 1993) ranged from 0.077 kg to 0.086 kg. An average adult body weight of 0.081 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.013 kg, dry matter/day and 0.011 L/day. However, since this calculated food ingestion rate is approximately half of the average food ingestion rate reported by the USEPA (1993), the USEPA value was used instead. The average food ingestion rate of 0.098 kg, wet weight/day (USEPA, 1993), converted to 0.023 kg, dry matter/day (using 77 percent moisture in invertebrates) was used in this assessment. Incidental soil ingestion was assumed to be 10.4 percent of the food ingestion rate. This is equal to the proportion of the food ingestion rate that is soil for the American woodcock. However, 10.4 percent likely overestimates the percent soil in diet

for the American robin since woodcocks reportedly ingest a larger percentage of earthworms as compared to the American robin.

Howell (1942; as cited in USEPA, 1993) reported territory size for adult American robins in forest habitat in south central New York as ranging from 0.11 ha to 0.21 ha and an average foraging range of 0.4. An average of 0.24 ha was used in this assessment.

Red-Tailed Hawk

The red-tailed hawk is the most common soaring hawk species in the United States. Red-tailed hawks are found in a variety of habitats (*e.g.*, woodlands, wetlands, pastures, prairies, and deserts), but prefer mixed woodlands interspersed with open meadow, old field, or pasture (DeGraaf and Rudis, 1986; USEPA, 1993). Red-tailed hawks feed in open country on a wide variety of small- to medium-sized prey, especially small mammals such as, meadow mice, chipmunks, and squirrels, but will also take reptiles, amphibians, and young birds and consume carrion (DeGraaf and Rudis, 1986; USEPA, 1993).

A study by Janes (1984; as cited in USEPA, 1993) indicated the spring diet of red-tailed hawks in pasture and wheat fields of Oregon was composed of 78.5 percent small mammals, 8.5 percent birds, and 13.1 percent reptiles. For this assessment, the red-tailed hawk diet was conservatively assumed to be 100 percent terrestrial small mammals.

Average adult body weights from studies in the continental United States (as reported in USEPA, 1993) ranged from 1.0 kg to 1.2 kg. An average adult body weight of 1.1 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.077 kg, dry matter/day and 0.063 L/day. However, since this calculated food ingestion rate is two times greater than the avereage food ingestion rate reported by the USEPA (1993), the USEPA value was used instead. The average wet weight food ingestion rate of 0.11 kg, wet weight/day (USEPA, 1993), converted to 0.035 kg, dry matter/day (using 68 percent moisture in small mammals) was used in this assessment. Although likely negligible, incidental soil ingestion was assumed to be 1% (USEPA 1999).

Average territory size for adult red-tailed hawks from studies in the continental United States (as reported in USEPA (1993) ranged from 60 ha to 1,770 ha. An average home range size of 624 ha was assumed.

Eastern Gray Squirrel

The Eastern gray squirrel are naturally found throughout the eastern United States and in southeastern Canada, although its range has been expanded through introductions elsewhere in North America (*e.g.*, Washington, Oregon, and British Columbia). Preferred habitat includes areas of harwood or mixed hardwood forest where sufficient mast is available (*e.g.*, acorns, hickory nuts). Tolerant of human populations and is common in urban parks and suburban yards, making it likely the most frequently seen native North American mammal (Smithsonian Institution, 2013).

Eastern gray squirrels are opportunistic feeders, but their diets are predominantly made up of vegetation. Some insects are only occasionally eaten. Diets primarily are made up of tree nuts from oak, hickory, beech, maple, and walnut (Martin et al., 1951). Therefore, the Eastern gray squirrel diet was set at 100 percent plants (seeds).

Body weights of Eastern gray squirrel were reported to range from 0.34 to 0.726 kg (Burt and Grossenheider, 1976); an average body weight of 0.533 kg was used. Based on this body weight, food and water ingestion rates were calculated to be 0.035 kg, dry matter/day and 0.056 L/day. Although likely negligible, incidental soil ingestion was assumed to be 2 percent of the food ingestion rate due to their hoarding behavior, burying nuts and seeds for times of food scarcity.

Eastern gray squirrel have home ranges reported to be 0.8 to 2.8 ha (Burt and Grossenheider, 1976) (Smithsonian Institution, 2013). Home ranges shift in the fall as yearlings and some adults are establish or re-establish new home ranges. However, home ranges rarely exceed 1 or 2 ha. An average home range of 1.8 ha was used.

Short-Tailed Shrew

The short-tailed shrew ranges throughout the central and eastern United States and can be found in a variety of habitats with abundant vegetation and with sufficient moisture (Burt and Grossenheider, 1976; DeGraaf and Rudis, 1986; USEPA, 1993). Short-tailed shrews consume mostly invertebrates. Small vertebrates can be taken due to the poisonous secretion from their salivary glands that is transmitted to prey when bitten (USEPA, 1993).

Studies of summer diets of short-tailed shrews in New York (as reported in USEPA, 1993) indicate the majority of their diets is made up of invertebrates, with 31 percent to 42 percent of those being earthworms. Hamilton (1941; as cited in USEPA, 1993) also indicates that small mammals make up 5 percent of the summer diet. However, for this assessment, the short-tailed shrew diet was assumed to be 100 percent terrestrial invertebrates.

Average adult body weights from studies in the continental United States (as reported in USEPA, 1993) ranged from 0.015 kg to 0.016 kg. An average adult body weight of 0.0157 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.003 kg, dry matter/day and 0.0024 L/day. However, since the calculated water ingestion rate is approximately 30 percent lower than the average water ingestion rate of 0.0035 L/day reported by the USEPA (1993), the USEPA value of 0.0035 L/day was used instead. The proportion of sediment incidentally ingested by short-tailed shrews was assumed to be 13 percent of the food ingestion rate (Talmadge and Walton, 1993).

Platt (1976; as cited in USEPA, 1993) reported territory size for short-tailed shrews in old field habitat in New York as ranging from 0.03 ha to 0.07 ha, under high prey density, and from 0.1 ha to 0.22 ha, under low prey density. An average of home range size of 0.11 ha was used in this assessment.

Red Fox

Red foxes are present throughout most of the United States occurring in a variety of preferably upland terrestrial habitats, with heavy use of forest edge habitat (DeGraaf and Rudis, 1986; USEPA, 1993; NJDEP, 2012). Red fox is a known resident of Dismal Swamp. There has been some controversy over whether red fox were historically found in New Jersey or whether the European red fox was introduced (NJDEP, 2012). Today, red fox are found throughout the state.

Red fox consume a diet of mostly small mammals, birds, reptiles, amphibians, eggs, insects and fruit and will consume carrion (DeGraaf and Rudis, 1986; USEPA, 1993). While opportunistic feeders, most studies reported in USEPA (1993) indicate a high proportion of small mammals in the diet. Hamilton (1935; as reported in USEPA, 1993) found that most food items found in fox dens in New York and New England were small mammals. The proportion of small mammals and birds in the fall and winter diets of red fox in Maryland were reported in USEPA (1993) to range from 77 percent (in the Piedmont region) to 86 percent (in the Appalachian region) [Hockman and Chapman, 1983, as cited in USEPA (1993)]. The proportion of invertebrates (including other unspecified category listed) was reported to range from 7 percent (in the Appalachian region) to 8 percent (in the Piedmont region). For this assessment, it was assumed that the red fox diet is made up of 92 percent small mammals and 8 percent soil invertebrates.

Average adult body weights from studies in the continental United States (as reported in USEPA, 1993) ranged from 3.9 kg to 5.1 kg. Body weights for red fox in New Jersey are typically about 5.4 kg to 5.9 kg (NJDEP, 2012). An average adult body weight of 4.9 kg was used in this assessment. Based on this body weight, food and water ingestion rates were calculated to be 0.18 kg, dry matter/day and 0.42 L/day. The proportion of soil incidentally ingested was assumed to be 2.8 percent the food ingestion rate. This is equal to the proportion reported by Beyer et al. (1994) for incidental ingestion of soil plus sediment by red fox.

Average home range size for adult red fox from studies in the continental United States (as reported in USEPA, (1993) ranged from 72.5 ha to 1,990 ha. An average home range size of 737 ha was assumed.

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Table J-1: Exposure Parameters for Wildlife Receptor Species
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Representative Wildlife Species	Body Weight kg	Food Ingestion Rate kg/day, dw	Food Ingestion Rate[1] kg/day, ww	Water Ingestion Rate L/day	Plants %	Proportion of Diet			Proportion Sediment/Soil in Diet (%)	Sediment/Soil Ingestion Rate kg/day, dw	Home Range ha
						Invertebrates %	Fish %	Small Mammals %			
Semi-Aquatic Receptors											
Wood duck	0.66	0.054	0.42	0.045	100	--	--	--	2	0.001	15
Mallard	1.1	0.079	0.34	0.064	--	100	--	--	3.3	0.003	303
Red-winged blackbird	0.053	0.01	0.042	0.0083	--	100	--	--	1	0.0001	0.17
Great blue heron	2.3	0.13	0.46	0.10	--	2	98	--	1	0.001	4.5
Belted kingfisher	0.15	0.02	0.075	0.017	--	30	70	--	2	0.0004	1.2
Muskrat	1.2	0.062	0.48	0.11	100	--	--	--	9.4	0.0058	0.17
Raccoon	5.3	0.19	0.81	0.44	--	95	5	--	9.4	0.02	21
Little brown bat	0.008	0.002	0.007	0.001	--	100	--	--	--	--	10
American mink	1.0	0.056	0.21	0.1	--	12	88	--	2	0.001	14
Terrestrial Receptors											
Mourning dove	0.127	0.018	0.02	0.015	100	--	--	--	2	0.0004	2,500
American robin	0.081	0.023	0.098	0.011	--	100	--	--	10.4	0.002	0.24
Red-tailed hawk	1.1	0.035	0.11	0.063	--	--	--	100	1	0.0004	624
Eastern gray squirrel	0.533	0.035	0.04	0.056	100	--	--	--	2	0.0007	1.8
Short-tailed shrew	0.0157	0.003	0.011	0.0035	--	100	--	--	13	0.0003	0.11
Red fox	4.9	0.18	0.58	0.42	--	8	--	92	2.8	0.005	737

Notes:

[1] Food ingestion rates on a dry weight basis are converted to a wet weight basis assuming average moisture contents of 87% for aquatic roots and foliage, 9.3 percent for seeds, 77 percent for invertebrates, 72 percent for fish, and 68 percent for small mammals (USEPA, 1993 and USEPA, 2005e).

APPENDIX K

Exposure Modeling for ERA

Table K-1 Calculation of Hazard Quotients for Wood Duck - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	1.6E-02	8.1E-04	1.7E-02	1,653	16,530	<1	<1
HMW PAHs	--	5.5E-02	6.5E-03	6.1E-02	2	20	<1	<1
Total PCB Aroclors	7.6E-06	4.9E-05	1.5E-04	2.1E-04	0.11	1.1	<1	<1
Mercury	--	1.2E-02	3.0E-04	1.3E-02	0.45	0.9	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU GB in Table 5-10.

Table K-2 Calculation of Hazard Quotients for Mallard - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	6.3E-06	5.3E-01	2.1E-04	9.0E-02	0.11	1.1	1	<1
TCDD TEQ (PCBs)	1.0E-10	4.2E-05	--	7.1E-06	0.000014	0.00014	1	<1
Arsenic	2.2E-04	2.8E-01	4.9E-03	4.8E-02	2.24	4.5	<1	<1
Cadmium	--	2.4E-01	1.9E-03	4.0E-02	1.47	7.7	<1	<1
Chromium	--	2.7E-01	4.6E-02	5.3E-02	2.66	11	<1	<1
Copper	1.1E-04	1.4E+01	4.6E-02	2.4E+00	4.05	37	1	<1
Lead	--	2.5E-01	1.1E-01	6.1E-02	1.63	52	<1	<1
Mercury	--	6.4E-03	4.1E-04	1.1E-03	0.45	0.9	<1	<1
Nickel	2.1E-04	1.3E-01	3.7E-02	2.8E-02	6.71	22	<1	<1
Zinc	3.7E-04	9.1E+00	1.7E-01	1.6E+00	66.1	189	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU GB in Table 5-10.

Table K-3 Calculation of Hazard Quotients for Red-Winged Blackbird - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.7E-05	1.4E+00	1.6E-04	1.4E+00	0.11	1.1	13	1
TCDD TEQ (PCBs)	2.8E-10	1.1E-04	--	1.1E-04	0.000014	0.00014	8	1
Arsenic	6.1E-04	7.4E-01	3.9E-03	7.4E-01	2.24	4.5	<1	<1
Cadmium	--	6.2E-01	1.5E-03	6.2E-01	1.47	7.7	<1	<1
Chromium	--	7.1E-01	3.6E-02	7.4E-01	2.66	11	<1	<1
Copper	3.1E-04	3.8E+01	3.6E-02	3.8E+01	4.05	37	9	1
Lead	--	6.7E-01	8.6E-02	7.5E-01	1.63	52	<1	<1
Mercury	--	1.7E-02	3.3E-04	1.7E-02	0.45	0.9	<1	<1
Nickel	5.8E-04	3.3E-01	2.9E-02	3.6E-01	6.71	22	<1	<1
Zinc	1.0E-03	2.4E+01	1.3E-01	2.4E+01	66.1	189	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU GB in Table 5-10.

Table K-4 Calculation of Hazard Quotients for Great Blue Heron - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	5.0E-06	1.7E+00	5.0E-05	1.7E+00	0.11	1.1	15	2
TCDD TEQ (PCBs)	8.0E-11	7.5E-05	--	7.5E-05	0.000014	0.00014	5	1
Arsenic	1.8E-04	8.6E-02	1.2E-03	8.7E-02	2.24	4.5	<1	<1
Cadmium	--	7.3E-02	4.5E-04	7.4E-02	1.47	7.7	<1	<1
Chromium	--	1.3E-01	1.1E-02	1.4E-01	2.66	11	<1	<1
Copper	8.9E-05	4.2E-01	1.1E-02	4.3E-01	4.05	37	<1	<1
Lead	--	1.4E-01	2.6E-02	1.6E-01	1.63	52	<1	<1
Mercury	--	9.5E-03	1.0E-04	9.6E-03	0.45	0.9	<1	<1
Nickel	1.7E-04	2.2E-01	8.9E-03	2.3E-01	6.71	22	<1	<1
Zinc	2.9E-04	4.3E+00	4.1E-02	4.4E+00	66.1	189	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU GB in Table 5-10.

Table K-5 Calculation of Hazard Quotients for Belted Kingfisher - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.2E-05	3.3E+00	2.4E-04	3.3E+00	0.11	1.1	30	3
TCDD TEQ (PCBs)	2.0E-10	1.5E-04	--	1.5E-04	0.000014	0.00014	11	1
Arsenic	4.3E-04	2.8E-01	5.6E-03	2.9E-01	2.24	4.5	<1	<1
Cadmium	--	2.4E-01	2.1E-03	2.4E-01	1.47	7.7	<1	<1
Chromium	--	3.5E-01	5.2E-02	4.0E-01	2.66	11	<1	<1
Copper	2.2E-04	7.5E+00	5.2E-02	7.6E+00	4.05	37	2	<1
Lead	--	3.6E-01	1.2E-01	4.8E-01	1.63	52	<1	<1
Mercury	--	2.0E-02	4.7E-04	2.0E-02	0.45	0.9	<1	<1
Nickel	4.1E-04	4.4E-01	4.2E-02	4.9E-01	6.71	22	<1	<1
Zinc	7.2E-04	1.2E+01	1.9E-01	1.2E+01	66.1	189	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU GB in Table 5-10.

Table K-6 Calculation of Hazard Quotients for Muskrat - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	7.0E-03	2.4E-03	9.4E-03	65.6	328	<1	<1
HMW PAHs	--	2.4E-01	1.9E-02	2.6E-01	0.615	3.07	<1	<1
Total PCB Aroclors	1.1E-05	4.5E-03	4.5E-04	5.0E-03	0.305	3.05	<1	<1
Mercury	--	3.4E-04	8.9E-04	1.2E-03	1	10	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU GB in Table 5-10.

Table K-7 Calculation of Hazard Quotients for Raccoon - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	9.4E-06	3.3E-01	3.0E-04	3.3E-01	0.305	3.05	1	<1
TCDD TEQ (PCBs)	1.7E-11	6.5E-06	--	6.5E-06	0.000001	0.00001	7	1
Arsenic	3.3E-04	1.4E-01	7.2E-03	1.5E-01	1.04	5.7	<1	<1
Cadmium	--	1.2E-01	2.7E-03	1.2E-01	0.77	7.1	<1	<1
Chromium	--	1.4E-01	6.7E-02	2.0E-01	2.4	35	<1	<1
Copper	1.7E-04	7.0E+00	6.8E-02	7.1E+00	5.6	56	1	<1
Lead	--	1.3E-01	1.6E-01	2.9E-01	4.7	47	<1	<1
Mercury	--	3.5E-03	6.1E-04	4.1E-03	1	10	<1	<1
Nickel	3.1E-04	7.0E-02	5.4E-02	1.2E-01	1.7	13	<1	<1
Zinc	5.5E-04	4.6E+00	2.5E-01	4.8E+00	9.61	292	1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU GB in Table 5-10.

Table K-8 Calculation of Hazard Quotients for Little Brown Bat - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.8E-05	1.5E+00	--	1.5E+00	0.305	3.05	5	<1
TCDD TEQ (PCBs)	3.3E-11	2.7E-05	--	2.7E-05	0.000001	0.00001	27	3
Arsenic	6.3E-04	7.7E-01	--	7.7E-01	1.04	5.7	1	<1
Cadmium	--	6.4E-01	--	6.4E-01	0.77	7.1	1	<1
Chromium	--	7.4E-01	--	7.4E-01	2.4	35	<1	<1
Copper	3.2E-04	3.9E+01	--	3.9E+01	5.6	56	7	1
Lead	--	7.0E-01	--	7.0E-01	4.7	47	<1	<1
Mercury	--	1.7E-02	--	1.7E-02	1	10	<1	<1
Nickel	6.0E-04	3.5E-01	--	3.5E-01	1.7	13	<1	<1
Zinc	1.0E-03	2.5E+01	--	2.5E+01	9.61	292	3	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU GB in Table 5-10.

Table K-9 Calculation of Hazard Quotients for American Mink - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.1E-05	1.6E+00	9.8E-05	1.6E+00	0.11	0.23	14	7
TCDD TEQ (PCBs)	2.0E-11	3.9E-05	--	3.9E-05	0.000001	0.00001	39	4
Arsenic	3.9E-04	9.6E-02	2.3E-03	9.9E-02	1.04	5.7	<1	<1
Cadmium	--	8.2E-02	8.9E-04	8.2E-02	0.77	7.1	<1	<1
Chromium	--	1.3E-01	2.2E-02	1.5E-01	2.4	35	<1	<1
Copper	2.0E-04	1.4E+00	2.2E-02	1.4E+00	5.6	56	<1	<1
Lead	--	1.4E-01	5.1E-02	1.9E-01	4.7	47	<1	<1
Mercury	--	9.0E-03	2.0E-04	9.2E-03	1	10	<1	<1
Nickel	3.7E-04	2.0E-01	1.7E-02	2.2E-01	1.7	13	<1	<1
Zinc	6.4E-04	4.7E+00	8.0E-02	4.7E+00	9.61	292	1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU GB in Table 5-10.

Table K-10 Calculation of Hazard Quotients for Wood Duck - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	5.4E-02	1.2E-02	6.6E-02	1,653	16,530	<1	<1
HMW PAHs	--	4.6E-01	6.2E-02	5.3E-01	2	20	<1	<1
Aldrin	--	4.2E-07	1.3E-06	1.7E-06	0.027	0.27	<1	<1
alpha-BHC	--	9.2E-05	7.6E-06	9.9E-05	0.56	2.25	<1	<1
gamma-BHC	--	5.6E-05	4.1E-06	6.0E-05	0.56	2.25	<1	<1
Chlordane, Total	--	1.6E-05	3.4E-05	5.0E-05	2.14	10.7	<1	<1
Total DDx	--	3.1E-04	2.7E-05	3.3E-04	0.227	4.2	<1	<1
Dieldrin	--	1.0E-03	5.0E-05	1.1E-03	0.0709	1.1	<1	<1
alpha-Endosulfan	--	4.4E-05	3.8E-06	4.8E-05	10	100	<1	<1
Endrin	--	5.3E-05	2.8E-05	8.1E-05	0.01	0.1	<1	<1
Endrin aldehyde	--	3.5E-05	1.1E-05	4.6E-05	0.01	0.1	<1	<1
Endrin ketone	--	8.2E-05	3.3E-05	1.2E-04	0.01	0.1	<1	<1
Heptachlor	--	1.3E-06	2.3E-06	3.6E-06	0.65	6.5	<1	<1
Heptachlor epoxide	--	2.9E-05	1.1E-05	4.0E-05	0.65	6.5	<1	<1
Methoxyclor	--	2.1E-04	9.4E-05	3.0E-04	3.2	32	<1	<1
Total PCB Aroclors	7.6E-06	3.5E-03	1.1E-02	1.4E-02	0.11	1.1	<1	<1
Arsenic	2.7E-04	2.5E-02	1.4E-02	3.9E-02	2.24	4.5	<1	<1
Cadmium	--	7.8E-02	3.5E-03	8.1E-02	1.47	7.7	<1	<1
Chromium	--	1.4E-01	7.0E-02	2.1E-01	2.66	11	<1	<1
Copper	1.4E-04	1.0E+00	1.9E-01	1.2E+00	4.05	37	<1	<1
Lead	--	3.6E-01	2.4E-01	6.0E-01	1.63	52	<1	<1
Mercury	--	1.1E-02	2.4E-04	1.1E-02	0.45	0.9	<1	<1
Nickel	2.5E-04	1.3E-01	6.1E-02	1.9E-01	6.71	22	<1	<1
Selenium	--	4.7E-02	1.8E-03	4.8E-02	0.29	1.2	<1	<1
Silver	--	2.7E-03	3.8E-03	6.5E-03	2.02	20.2	<1	<1
Zinc	4.4E-04	9.9E+00	5.5E-01	1.0E+01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB1 in Table 5-11.

Table K-11 Calculation of Hazard Quotients for Mallard - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.227	4.2	--	--
Heptachlor epoxide	--	--	--	--	0.65	6.5	--	--
Total PCB Aroclors	6.3E-06	5.3E-01	1.5E-02	2.7E-01	0.11	1.1	2	<1
TCDD TEQ (PCBs)	1.0E-10	4.2E-05	--	2.0E-05	0.000014	0.00014	1	<1
Arsenic	2.2E-04	2.8E-01	1.9E-02	1.5E-01	2.24	4.5	<1	<1
Cadmium	--	2.4E-01	4.9E-03	1.2E-01	1.47	7.7	<1	<1
Chromium	--	2.7E-01	9.8E-02	1.8E-01	2.66	11	<1	<1
Copper	1.1E-04	1.4E+01	2.6E-01	7.1E+00	4.05	37	2	<1
Lead	--	2.5E-01	3.4E-01	2.9E-01	1.63	52	<1	<1
Mercury	--	6.4E-03	3.4E-04	3.3E-03	0.45	0.9	<1	<1
Nickel	2.1E-04	1.3E-01	8.4E-02	1.0E-01	6.71	22	<1	<1
Selenium	--	2.8E-01	2.5E-03	1.4E-01	0.29	1.2	<1	<1
Silver	--	3.3E-01	5.3E-03	1.6E-01	2.02	20.2	<1	<1
Zinc	3.7E-04	9.1E+00	7.6E-01	4.8E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB1 in Table 5-11.

Table K-12 Calculation of Hazard Quotients for Red-Winged Blackbird - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.227	4.2	--	--
Heptachlor epoxide	--	--	--	--	0.65	6.5	--	--
Total PCB Aroclors	1.7E-05	1.4E+00	1.2E-02	1.4E+00	0.11	1.1	13	1
TCDD TEQ (PCBs)	2.8E-10	1.1E-04	--	1.1E-04	0.000014	0.00014	8	1
Arsenic	6.1E-04	7.4E-01	1.5E-02	7.5E-01	2.24	4.5	<1	<1
Cadmium	--	6.2E-01	3.9E-03	6.2E-01	1.47	7.7	<1	<1
Chromium	--	7.1E-01	7.7E-02	7.8E-01	2.66	11	<1	<1
Copper	3.1E-04	3.8E+01	2.0E-01	3.8E+01	4.05	37	9	1
Lead	--	6.7E-01	2.7E-01	9.4E-01	1.63	52	1	<1
Mercury	--	1.7E-02	2.7E-04	1.7E-02	0.45	0.9	<1	<1
Nickel	5.8E-04	3.3E-01	6.7E-02	4.0E-01	6.71	22	<1	<1
Selenium	--	7.3E-01	2.0E-03	7.3E-01	0.29	1.2	3	1
Silver	--	8.7E-01	4.2E-03	8.7E-01	2.02	20.2	<1	<1
Zinc	1.0E-03	2.4E+01	6.0E-01	2.4E+01	66.1	189	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB1 in Table 5-11.

Table K-13 Calculation of Hazard Quotients for Great Blue Heron - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	2.3E-03	9.2E-06	2.3E-03	0.227	4.2	<1	<1
Heptachlor epoxide	--	1.6E-03	3.8E-06	1.6E-03	0.65	6.5	<1	<1
Total PCB Aroclors	5.0E-06	1.7E+00	3.6E-03	1.7E+00	0.11	1.1	16	2
TCDD TEQ (PCBs)	8.0E-11	7.5E-05	--	7.5E-05	0.000014	0.00014	5	1
Arsenic	1.8E-04	8.6E-02	4.6E-03	9.1E-02	2.24	4.5	<1	<1
Cadmium	--	7.3E-02	1.2E-03	7.4E-02	1.47	7.7	<1	<1
Chromium	--	1.3E-01	2.4E-02	1.5E-01	2.66	11	<1	<1
Copper	8.9E-05	4.2E-01	6.3E-02	4.9E-01	4.05	37	<1	<1
Lead	--	1.4E-01	8.2E-02	2.2E-01	1.63	52	<1	<1
Mercury	--	9.5E-03	8.2E-05	9.6E-03	0.45	0.9	<1	<1
Nickel	1.7E-04	2.2E-01	2.0E-02	2.4E-01	6.71	22	<1	<1
Selenium	--	2.0E-01	6.1E-04	2.1E-01	0.29	1.2	1	<1
Silver	--	4.7E-02	1.3E-03	4.9E-02	2.02	20.2	<1	<1
Zinc	2.9E-04	4.3E+00	1.8E-01	4.5E+00	66.1	189	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB1 in Table 5-11.

Table K-14 Calculation of Hazard Quotients for Belted Kingfisher - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	4.0E-03	4.3E-05	4.0E-03	0.227	4.2	<1	<1
Heptachlor epoxide	--	2.8E-03	1.8E-05	2.8E-03	0.65	6.5	<1	<1
Total PCB Aroclors	1.2E-05	3.3E+00	1.7E-02	3.3E+00	0.11	1.1	30	3
TCDD TEQ (PCBs)	2.0E-10	1.5E-04	--	1.5E-04	0.000014	0.00014	11	1
Arsenic	4.3E-04	2.8E-01	2.2E-02	3.1E-01	2.24	4.5	<1	<1
Cadmium	--	2.4E-01	5.6E-03	2.5E-01	1.47	7.7	<1	<1
Chromium	--	3.5E-01	1.1E-01	4.6E-01	2.66	11	<1	<1
Copper	2.2E-04	7.5E+00	2.9E-01	7.8E+00	4.05	37	2	<1
Lead	--	3.6E-01	3.9E-01	7.5E-01	1.63	52	<1	<1
Mercury	--	2.0E-02	3.9E-04	2.0E-02	0.45	0.9	<1	<1
Nickel	4.1E-04	4.4E-01	9.6E-02	5.4E-01	6.71	22	<1	<1
Selenium	--	4.9E-01	2.9E-03	5.0E-01	0.29	1.2	2	<1
Silver	--	2.4E-01	6.0E-03	2.5E-01	2.02	20.2	<1	<1
Zinc	7.2E-04	1.2E+01	8.7E-01	1.3E+01	66.1	189	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB1 in Table 5-11.

Table K-15 Calculation of Hazard Quotients for Muskrat - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	1.0E-01	3.5E-02	1.4E-01	66	328	<1	<1
HMW PAHs	--	2.3E+00	1.9E-01	2.5E+00	0.615	3.07	4	1
Aldrin	--	4.4E-07	3.8E-06	4.3E-06	0.2	1	<1	<1
alpha-BHC	--	1.9E-02	2.3E-05	1.9E-02	1.6	3.2	<1	<1
gamma-BHC	--	1.0E-02	1.2E-05	1.0E-02	1.6	3.2	<1	<1
Chlordane, Total	--	1.8E-02	1.0E-04	1.8E-02	4.58	9.16	<1	<1
Total DDx	--	4.3E-05	8.2E-05	1.2E-04	0.147	8	<1	<1
Dieldrin	--	2.5E-02	1.5E-04	2.5E-02	0.015	1.6	2	<1
alpha-Endosulfan	--	5.5E-03	1.1E-05	5.6E-03	0.15	1.5	<1	<1
Endrin	--	2.9E-02	8.5E-05	2.9E-02	0.092	0.92	<1	<1
Endrin aldehyde	--	1.1E-02	3.3E-05	1.2E-02	0.092	0.92	<1	<1
Endrin ketone	--	3.4E-02	9.9E-05	3.4E-02	0.092	0.92	<1	<1
Heptachlor	--	1.7E-07	7.0E-06	7.1E-06	0.13	6.8	<1	<1
Heptachlor epoxide	--	9.4E-05	3.4E-05	1.3E-04	0.13	6.8	<1	<1
Methoxyclor	--	2.3E-04	2.8E-04	5.2E-04	2.5	50	<1	<1
Total PCB Aroclors	1.1E-05	3.2E-01	3.2E-02	3.6E-01	0.305	3.05	1	<1
Arsenic	3.8E-04	3.5E-03	4.1E-02	4.5E-02	1.04	5.7	<1	<1
Cadmium	--	7.2E-03	1.1E-02	1.8E-02	0.77	7.1	<1	<1
Chromium	--	1.0E-02	2.1E-01	2.2E-01	2.4	35	<1	<1
Copper	1.9E-04	6.6E-01	5.6E-01	1.2E+00	5.6	56	<1	<1
Lead	--	7.0E-02	7.3E-01	8.0E-01	4.7	47	<1	<1
Mercury	--	2.8E-04	7.4E-04	1.0E-03	1	10	<1	<1
Nickel	3.6E-04	1.6E-02	1.8E-01	2.0E-01	1.7	13	<1	<1
Selenium	--	1.3E-03	5.5E-03	6.7E-03	0.143	0.8	<1	<1
Silver	--	1.2E-02	1.1E-02	2.4E-02	6.02	60.2	<1	<1
Zinc	6.3E-04	1.6E+01	1.6E+00	1.7E+01	9.61	292	2	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB1 in Table 5-11.

Table K-16 Calculation of Hazard Quotients for Raccoon - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	8.9E-05	5.6E-05	1.5E-04	0.147	8	<1	<1
Heptachlor epoxide	--	6.3E-05	2.3E-05	8.6E-05	0.13	6.8	<1	<1
Total PCB Aroclors	9.4E-06	3.3E-01	2.2E-02	3.5E-01	0.305	3.05	1	<1
TCDD TEQ (PCBs)	1.7E-11	6.5E-06	--	6.5E-06	0.000001	0.00001	7	1
Arsenic	3.3E-04	1.4E-01	2.8E-02	1.7E-01	1.04	5.7	<1	<1
Cadmium	--	1.2E-01	7.2E-03	1.2E-01	0.77	7.1	<1	<1
Chromium	--	1.4E-01	1.4E-01	2.8E-01	2.4	35	<1	<1
Copper	1.7E-04	7.0E+00	3.8E-01	7.4E+00	5.6	56	1	<1
Lead	--	1.3E-01	5.0E-01	6.3E-01	4.7	47	<1	<1
Mercury	--	3.5E-03	5.0E-04	4.0E-03	1	10	<1	<1
Nickel	3.1E-04	7.0E-02	1.2E-01	2.0E-01	1.7	13	<1	<1
Selenium	--	1.4E-01	3.7E-03	1.5E-01	0.143	0.8	1	<1
Silver	--	1.6E-01	7.8E-03	1.7E-01	6.02	60.2	<1	<1
Zinc	5.5E-04	4.6E+00	1.1E+00	5.7E+00	9.61	292	1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB1 in Table 5-11.

Table K-17 Calculation of Hazard Quotients for Little Brown Bat - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.147	8	--	--
Heptachlor epoxide	--	--	--	--	0.13	6.8	--	--
Total PCB Aroclors	1.8E-05	1.5E+00	--	1.5E+00	0.305	3.05	5	<1
TCDD TEQ (PCBs)	3.3E-11	2.7E-05	--	2.7E-05	0.000001	0.00001	27	3
Arsenic	6.3E-04	7.7E-01	--	7.7E-01	1.04	5.7	1	<1
Cadmium	--	6.4E-01	--	6.4E-01	0.77	7.1	1	<1
Chromium	--	7.4E-01	--	7.4E-01	2.4	35	<1	<1
Copper	3.2E-04	3.9E+01	--	3.9E+01	5.6	56	7	1
Lead	--	7.0E-01	--	7.0E-01	4.7	47	<1	<1
Mercury	--	1.7E-02	--	1.7E-02	1	10	<1	<1
Nickel	6.0E-04	3.5E-01	--	3.5E-01	1.7	13	<1	<1
Selenium	--	7.6E-01	--	7.6E-01	0.143	0.8	5	1
Silver	--	9.1E-01	--	9.1E-01	6.02	60.2	<1	<1
Zinc	1.0E-03	2.5E+01	--	2.5E+01	9.61	292	3	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB1 in Table 5-11.

Table K-18 Calculation of Hazard Quotients for American Mink - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	2.0E-03	1.8E-05	2.0E-03	0.147	8	<1	<1
Heptachlor epoxide	--	1.4E-03	7.5E-06	1.4E-03	0.13	6.8	<1	<1
Total PCB Aroclors	1.1E-05	1.6E+00	7.0E-03	1.6E+00	0.11	0.23	14	7
TCDD TEQ (PCBs)	2.0E-11	3.9E-05	--	3.9E-05	0.000001	0.00001	39	4
Arsenic	3.9E-04	9.6E-02	9.0E-03	1.1E-01	1.04	5.7	<1	<1
Cadmium	--	8.2E-02	2.3E-03	8.4E-02	0.77	7.1	<1	<1
Chromium	--	1.3E-01	4.6E-02	1.8E-01	2.4	35	<1	<1
Copper	2.0E-04	1.4E+00	1.2E-01	1.5E+00	5.6	56	<1	<1
Lead	--	1.4E-01	1.6E-01	3.0E-01	4.7	47	<1	<1
Mercury	--	9.0E-03	1.6E-04	9.1E-03	1	10	<1	<1
Nickel	3.7E-04	2.0E-01	4.0E-02	2.4E-01	1.7	13	<1	<1
Selenium	--	2.0E-01	1.2E-03	2.0E-01	0.143	0.8	1	<1
Silver	--	6.5E-02	2.5E-03	6.7E-02	6.02	60.2	<1	<1
Zinc	6.4E-04	4.5E+00	3.6E-01	4.8E+00	9.61	292	1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB1 in Table 5-11.

Table K-19 Calculation of Hazard Quotients for Wood Duck - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	2.9E-02	3.0E-03	3.2E-02	1653	16530	<1	<1
HMW PAHs	--	3.2E-01	4.1E-02	3.6E-01	2	20	<1	<1
alpha-BHC	--	1.2E-04	9.7E-06	1.3E-04	0.56	2.25	<1	<1
beta-BHC	--	3.3E-04	2.7E-05	3.6E-04	0.56	2.25	<1	<1
Chlordane, Total	--	3.6E-05	7.4E-05	1.1E-04	2.14	10.7	<1	<1
Total DDx	--	9.0E-04	1.1E-04	1.0E-03	0.227	4.2	<1	<1
alpha-Endosulfan	--	2.1E-05	1.8E-06	2.3E-05	10	100	<1	<1
Endrin	--	9.5E-05	5.1E-05	1.5E-04	0.01	0.1	<1	<1
Endrin ketone	--	2.4E-05	9.7E-06	3.4E-05	0.01	0.1	<1	<1
Methoxyclor	--	4.4E-04	2.0E-04	6.3E-04	3.2	32	<1	<1
Total PCB Aroclors	7.6E-06	1.9E-03	5.8E-03	7.7E-03	0.11	1.1	<1	<1
Arsenic	2.7E-04	2.3E-02	1.2E-02	3.5E-02	2.24	4.5	<1	<1
Cadmium	--	3.3E-01	4.9E-02	3.8E-01	1.47	7.7	<1	<1
Chromium	--	1.6E-01	7.9E-02	2.4E-01	2.66	11	<1	<1
Copper	1.4E-04	1.0E+00	1.7E-01	1.2E+00	4.05	37	<1	<1
Lead	--	4.4E-01	3.5E-01	7.9E-01	1.63	52	<1	<1
Mercury	--	2.2E-02	8.5E-04	2.3E-02	0.45	0.9	<1	<1
Nickel	2.5E-04	1.2E-01	5.4E-02	1.8E-01	6.71	22	<1	<1
Selenium	--	1.8E-01	6.3E-03	1.9E-01	0.29	1.2	1	<1
Silver	--	1.7E-02	2.4E-02	4.1E-02	2.02	20.2	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB2 in Table 5-12.

Table K-20 Calculation of Hazard Quotients for Mallard - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.227	4.2	--	--
Heptachlor epoxide	--	--	--	--	0.65	6.5	--	--
Total PCB Aroclors	6.3E-06	5.3E-01	8.0E-03	5.4E-02	0.11	1.1	<1	<1
TCDD TEQ (PCBs)	1.0E-10	4.2E-05	--	4.2E-06	0.000014	0.00014	<1	<1
Arsenic	2.2E-04	2.8E-01	1.7E-02	3.0E-02	2.24	4.5	<1	<1
Cadmium	--	2.4E-01	6.8E-02	3.0E-02	1.47	7.7	<1	<1
Chromium	--	2.7E-01	1.1E-01	3.8E-02	2.66	11	<1	<1
Copper	1.1E-04	1.4E+01	2.4E-01	1.5E+00	4.05	37	<1	<1
Lead	--	2.5E-01	4.9E-01	7.3E-02	1.63	52	<1	<1
Mercury	--	6.4E-03	1.2E-03	7.5E-04	0.45	0.9	<1	<1
Nickel	2.1E-04	1.3E-01	7.5E-02	2.0E-02	6.71	22	<1	<1
Selenium	--	2.8E-01	8.7E-03	2.9E-02	0.29	1.2	<1	<1
Silver	--	3.3E-01	3.3E-02	3.6E-02	2.02	20.2	<1	<1
Zinc	3.7E-04	9.1E+00	8.5E-01	9.8E-01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB2 in Table 5-12.

Table K-21 Calculation of Hazard Quotients for Red-Winged Blackbird - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.227	4.2	--	--
Heptachlor epoxide	--	--	--	--	0.65	6.5	--	--
Total PCB Aroclors	1.7E-05	1.4E+00	6.4E-03	1.4E+00	0.11	1.1	13	1
TCDD TEQ (PCBs)	2.8E-10	1.1E-04	--	1.1E-04	0.000014	0.00014	8	1
Arsenic	6.1E-04	7.4E-01	1.3E-02	7.5E-01	2.24	4.5	<1	<1
Cadmium	--	6.2E-01	5.4E-02	6.7E-01	1.47	7.7	<1	<1
Chromium	--	7.1E-01	8.7E-02	7.9E-01	2.66	11	<1	<1
Copper	3.1E-04	3.8E+01	1.9E-01	3.8E+01	4.05	37	9	1
Lead	--	6.7E-01	3.9E-01	1.1E+00	1.63	52	1	<1
Mercury	--	1.7E-02	9.4E-04	1.8E-02	0.45	0.9	<1	<1
Nickel	5.8E-04	3.3E-01	6.0E-02	3.9E-01	6.71	22	<1	<1
Selenium	--	7.3E-01	6.9E-03	7.4E-01	0.29	1.2	3	1
Silver	--	8.7E-01	2.7E-02	9.0E-01	2.02	20.2	<1	<1
Zinc	1.0E-03	2.4E+01	6.7E-01	2.4E+01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB2 in Table 5-12.

Table K-22 Calculation of Hazard Quotients for Great Blue Heron - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	2.3E-03	3.9E-05	2.3E-03	0.227	4.2	<1	<1
Heptachlor epoxide	--	1.6E-03	--	1.6E-03	0.65	6.5	--	--
Total PCB Aroclors	5.0E-06	1.7E+00	1.9E-03	1.7E+00	0.11	1.1	16	2
TCDD TEQ (PCBs)	8.0E-11	7.5E-05	--	7.5E-05	0.000014	0.00014	5	1
Arsenic	1.8E-04	8.6E-02	4.1E-03	9.0E-02	2.24	4.5	<1	<1
Cadmium	--	7.3E-02	1.7E-02	9.0E-02	1.47	7.7	<1	<1
Chromium	--	1.3E-01	2.7E-02	1.5E-01	2.66	11	<1	<1
Copper	8.9E-05	4.2E-01	5.8E-02	4.8E-01	4.05	37	<1	<1
Lead	--	1.4E-01	1.2E-01	2.5E-01	1.63	52	<1	<1
Mercury	--	9.5E-03	2.9E-04	9.8E-03	0.45	0.9	<1	<1
Nickel	1.7E-04	2.2E-01	1.8E-02	2.4E-01	6.71	22	<1	<1
Selenium	--	2.0E-01	2.1E-03	2.1E-01	0.29	1.2	1	<1
Silver	--	4.7E-02	8.1E-03	5.6E-02	2.02	20.2	<1	<1
Zinc	2.9E-04	4.3E+00	2.1E-01	4.5E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB2 in Table 5-12.

Table K-23 Calculation of Hazard Quotients for Belted Kingfisher - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	4.0E-03	1.8E-04	4.2E-03	0.227	4.2	<1	<1
Heptachlor epoxide	--	2.8E-03	--	2.8E-03	0.65	6.5	--	--
Total PCB Aroclors	1.2E-05	3.3E+00	9.2E-03	3.3E+00	0.11	1.1	30	3
TCDD TEQ (PCBs)	2.0E-10	1.5E-04	--	1.5E-04	0.000014	0.00014	11	1
Arsenic	4.3E-04	2.8E-01	1.9E-02	3.0E-01	2.24	4.5	<1	<1
Cadmium	--	2.4E-01	7.8E-02	3.2E-01	1.47	7.7	<1	<1
Chromium	--	3.5E-01	1.3E-01	4.7E-01	2.66	11	<1	<1
Copper	2.2E-04	7.5E+00	2.7E-01	7.8E+00	4.05	37	2	<1
Lead	--	3.6E-01	5.6E-01	9.1E-01	1.63	52	1	<1
Mercury	--	2.0E-02	1.3E-03	2.1E-02	0.45	0.9	<1	<1
Nickel	4.1E-04	4.4E-01	8.6E-02	5.3E-01	6.71	22	<1	<1
Selenium	--	4.9E-01	1.0E-02	5.0E-01	0.29	1.2	2	<1
Silver	--	2.4E-01	3.8E-02	2.8E-01	2.02	20.2	<1	<1
Zinc	7.2E-04	1.2E+01	9.7E-01	1.3E+01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB2 in Table 5-12.

Table K-24 Calculation of Hazard Quotients for Muskrat - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	2.6E-02	9.1E-03	3.5E-02	65.6	328	<1	<1
HMW PAHs	--	1.5E+00	1.2E-01	1.6E+00	0.615	3.07	3	1
alpha-BHC	--	2.4E-02	2.9E-05	2.4E-02	1.6	3.2	<1	<1
beta-BHC	--	6.7E-02	8.1E-05	6.7E-02	1.6	3.2	<1	<1
Chlordane, Total	--	3.9E-02	2.2E-04	4.0E-02	4.58	9.16	<1	<1
Total DDx	--	1.8E-04	3.4E-04	5.2E-04	0.147	8	<1	<1
alpha-Endosulfan	--	2.7E-03	5.5E-06	2.7E-03	0.15	1.5	<1	<1
Endrin	--	5.3E-02	1.5E-04	5.3E-02	0.092	0.92	1	<1
Endrin ketone	--	1.0E-02	2.9E-05	1.0E-02	0.092	0.92	<1	<1
Methoxyclor	--	4.9E-04	6.0E-04	1.1E-03	2.5	50	<1	<1
Total PCB Aroclors	1.1E-05	1.8E-01	1.7E-02	1.9E-01	0.305	3.05	1	<1
Arsenic	3.8E-04	3.1E-03	3.7E-02	4.0E-02	1.04	5.7	<1	<1
Cadmium	--	1.0E-01	1.5E-01	2.5E-01	0.77	7.1	<1	<1
Chromium	--	1.1E-02	2.4E-01	2.5E-01	2.4	35	<1	<1
Copper	1.9E-04	6.4E-01	5.2E-01	1.2E+00	5.6	56	<1	<1
Lead	--	1.0E-01	1.1E+00	1.2E+00	4.7	47	<1	<1
Mercury	--	9.8E-04	2.6E-03	3.5E-03	1	10	<1	<1
Nickel	3.6E-04	1.4E-02	1.6E-01	1.8E-01	1.7	13	<1	<1
Selenium	--	4.4E-03	1.9E-02	2.3E-02	0.143	0.8	<1	<1
Silver	--	7.7E-02	7.2E-02	1.5E-01	6.02	60.2	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB2 in Table 5-12.

Table K-25 Calculation of Hazard Quotients for Raccoon - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	8.9E-05	2.3E-04	3.2E-04	0.147	8	<1	<1
Heptachlor epoxide	--	6.3E-05	--	6.3E-05	0.13	6.8	--	--
Total PCB Aroclors	9.4E-06	3.3E-01	1.2E-02	3.4E-01	0.305	3.05	1	<1
TCDD TEQ (PCBs)	1.7E-11	6.5E-06	--	6.5E-06	0.000001	0.00001	7	1
Arsenic	3.3E-04	1.4E-01	2.5E-02	1.7E-01	1.04	5.7	<1	<1
Cadmium	--	1.2E-01	1.0E-01	2.2E-01	0.77	7.1	<1	<1
Chromium	--	1.4E-01	1.6E-01	3.0E-01	2.4	35	<1	<1
Copper	1.7E-04	7.0E+00	3.5E-01	7.4E+00	5.6	56	1	<1
Lead	--	1.3E-01	7.2E-01	8.5E-01	4.7	47	<1	<1
Mercury	--	3.5E-03	1.7E-03	5.2E-03	1	10	<1	<1
Nickel	3.1E-04	7.0E-02	1.1E-01	1.8E-01	1.7	13	<1	<1
Selenium	--	1.4E-01	1.3E-02	1.6E-01	0.143	0.8	1	<1
Silver	--	1.6E-01	4.9E-02	2.1E-01	6.02	60.2	<1	<1
Zinc	5.5E-04	4.6E+00	1.3E+00	5.8E+00	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB2 in Table 5-12.

Table K-26 Calculation of Hazard Quotients for Little Brown Bat - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.147	8	--	--
Heptachlor epoxide	--	--	--	--	0.13	6.8	--	--
Total PCB Aroclors	1.8E-05	1.5E+00	--	1.5E+00	0.305	3.05	5	<1
TCDD TEQ (PCBs)	3.3E-11	2.7E-05	--	2.7E-05	0.000001	0.00001	27	3
Arsenic	6.3E-04	7.7E-01	--	7.7E-01	1.04	5.7	1	<1
Cadmium	--	6.4E-01	--	6.4E-01	0.77	7.1	1	<1
Chromium	--	7.4E-01	--	7.4E-01	2.4	35	<1	<1
Copper	3.2E-04	3.9E+01	--	3.9E+01	5.6	56	7	1
Lead	--	7.0E-01	--	7.0E-01	4.7	47	<1	<1
Mercury	--	1.7E-02	--	1.7E-02	1	10	<1	<1
Nickel	6.0E-04	3.5E-01	--	3.5E-01	1.7	13	<1	<1
Selenium	--	7.6E-01	--	7.6E-01	0.143	0.8	5	1
Silver	--	9.1E-01	--	9.1E-01	6.02	60.2	<1	<1
Zinc	1.0E-03	2.5E+01	--	2.5E+01	9.61	292	3	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB2 in Table 5-12.

Table K-27 Calculation of Hazard Quotients for American Mink - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	2.0E-03	7.6E-05	2.1E-03	0.147	8	<1	<1
Heptachlor epoxide	--	1.4E-03	--	1.4E-03	0.13	6.8	--	--
Total PCB Aroclors	1.1E-05	1.6E+00	3.8E-03	1.6E+00	0.11	0.23	14	7
TCDD TEQ (PCBs)	2.0E-11	3.9E-05	--	3.9E-05	0.000001	0.00001	39	4
Arsenic	3.9E-04	9.6E-02	8.1E-03	1.0E-01	1.04	5.7	<1	<1
Cadmium	--	8.2E-02	3.2E-02	1.1E-01	0.77	7.1	<1	<1
Chromium	--	1.3E-01	5.2E-02	1.8E-01	2.4	35	<1	<1
Copper	2.0E-04	1.4E+00	1.1E-01	1.5E+00	5.6	56	<1	<1
Lead	--	1.4E-01	2.3E-01	3.7E-01	4.7	47	<1	<1
Mercury	--	9.0E-03	5.6E-04	9.5E-03	1	10	<1	<1
Nickel	3.7E-04	2.0E-01	3.6E-02	2.4E-01	1.7	13	<1	<1
Selenium	--	2.0E-01	4.2E-03	2.1E-01	0.143	0.8	1	<1
Silver	--	6.5E-02	1.6E-02	8.1E-02	6.02	60.2	<1	<1
Zinc	6.4E-04	4.5E+00	4.0E-01	4.9E+00	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB2 in Table 5-12.

Table K-28 Calculation of Hazard Quotients for Wood Duck - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	5.9E-02	1.4E-02	7.3E-02	1,653	16,530	<1	<1
HMW PAHs	--	4.1E-01	5.4E-02	4.6E-01	2	20	<1	<1
Aldrin	--	8.2E-07	2.5E-06	3.3E-06	0.027	0.27	<1	<1
alpha-BHC	--	1.1E-04	9.5E-06	1.2E-04	0.56	2.25	<1	<1
beta-BHC	--	5.6E-04	4.5E-05	6.0E-04	0.56	2.25	<1	<1
gamma-BHC	--	1.1E-04	8.4E-06	1.2E-04	0.56	2.25	<1	<1
Chlordane, Total	--	7.2E-05	1.5E-04	2.2E-04	2.14	10.7	<1	<1
Total DDx	--	1.0E-03	1.4E-04	1.2E-03	0.227	4.2	<1	<1
Dieldrin	--	1.0E-02	5.0E-04	1.1E-02	0.0709	1.1	<1	<1
alpha-Endosulfan	--	7.7E-04	6.6E-05	8.3E-04	10	100	<1	<1
beta-Endosulfan	--	1.9E-04	1.7E-05	2.1E-04	10	100	<1	<1
Endrin	--	8.3E-05	4.4E-05	1.3E-04	0.01	0.1	<1	<1
Endrin aldehyde	--	9.5E-05	3.0E-05	1.2E-04	0.01	0.1	<1	<1
Endrin ketone	--	4.1E-05	1.7E-05	5.8E-05	0.01	0.1	<1	<1
Heptachlor	--	2.7E-06	4.8E-06	7.5E-06	0.65	6.5	<1	<1
Heptachlor epoxide	--	1.5E-05	6.1E-06	2.1E-05	0.65	6.5	<1	<1
Methoxyclor	--	1.0E-04	4.6E-05	1.5E-04	3.2	32	<1	<1
Total PCB Aroclors	7.6E-06	3.6E-03	1.1E-02	1.4E-02	0.11	1.1	<1	<1
Arsenic	2.7E-04	2.0E-02	1.1E-02	3.1E-02	2.24	4.5	<1	<1
Cadmium	--	2.1E-01	2.1E-02	2.3E-01	1.47	7.7	<1	<1
Chromium	--	1.4E-01	6.7E-02	2.0E-01	2.66	11	<1	<1
Copper	1.4E-04	9.5E-01	1.5E-01	1.1E+00	4.05	37	<1	<1
Lead	--	3.8E-01	2.6E-01	6.4E-01	1.63	52	<1	<1
Mercury	--	2.5E-02	1.1E-03	2.6E-02	0.45	0.9	<1	<1
Nickel	2.5E-04	9.9E-02	4.1E-02	1.4E-01	6.71	22	<1	<1
Selenium	--	6.1E-02	2.3E-03	6.3E-02	0.29	1.2	<1	<1
Silver	--	8.6E-03	1.2E-02	2.1E-02	2.02	20.2	<1	<1
Zinc	4.4E-04	9.2E+00	4.7E-01	9.7E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB3 in Table 5-13.

Table K-29 Calculation of Hazard Quotients for Mallard - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.227	4.2	--	--
Heptachlor epoxide	--	--	--	--	0.65	6.5	--	--
Total PCB Aroclors	6.3E-06	5.3E-01	1.5E-02	1.2E-01	0.11	1.1	1	<1
TCDD TEQ (PCBs)	1.0E-10	4.2E-05	--	9.4E-06	0.000014	0.00014	1	<1
Arsenic	2.2E-04	2.8E-01	1.5E-02	6.7E-02	2.24	4.5	<1	<1
Cadmium	--	2.4E-01	2.9E-02	5.9E-02	1.47	7.7	<1	<1
Chromium	--	2.7E-01	9.3E-02	8.1E-02	2.66	11	<1	<1
Copper	1.1E-04	1.4E+01	2.1E-01	3.3E+00	4.05	37	1	<1
Lead	--	2.5E-01	3.7E-01	1.4E-01	1.63	52	<1	<1
Mercury	--	6.4E-03	1.5E-03	1.8E-03	0.45	0.9	<1	<1
Nickel	2.1E-04	1.3E-01	5.7E-02	4.1E-02	6.71	22	<1	<1
Selenium	--	2.8E-01	3.2E-03	6.3E-02	0.29	1.2	<1	<1
Silver	--	3.3E-01	1.7E-02	7.9E-02	2.02	20.2	<1	<1
Zinc	3.7E-04	9.1E+00	6.6E-01	2.2E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB3 in Table 5-13.

Table K-30 Calculation of Hazard Quotients for Red-Winged Blackbird - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.227	4.2	--	--
Heptachlor epoxide	--	--	--	--	0.65	6.5	--	--
Total PCB Aroclors	1.7E-05	1.4E+00	1.2E-02	1.4E+00	0.11	1.1	13	1
TCDD TEQ (PCBs)	2.8E-10	1.1E-04	--	1.1E-04	0.000014	0.00014	8	1
Arsenic	6.1E-04	7.4E-01	1.2E-02	7.5E-01	2.24	4.5	<1	<1
Cadmium	--	6.2E-01	2.3E-02	6.4E-01	1.47	7.7	<1	<1
Chromium	--	7.1E-01	7.4E-02	7.8E-01	2.66	11	<1	<1
Copper	3.1E-04	3.8E+01	1.6E-01	3.8E+01	4.05	37	9	1
Lead	--	6.7E-01	2.9E-01	9.6E-01	1.63	52	1	<1
Mercury	--	1.7E-02	1.2E-03	1.8E-02	0.45	0.9	<1	<1
Nickel	5.8E-04	3.3E-01	4.5E-02	3.8E-01	6.71	22	<1	<1
Selenium	--	7.3E-01	2.6E-03	7.3E-01	0.29	1.2	3	1
Silver	--	8.7E-01	1.4E-02	8.8E-01	2.02	20.2	<1	<1
Zinc	1.0E-03	2.4E+01	5.2E-01	2.4E+01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB3 in Table 5-13.

Table K-31 Calculation of Hazard Quotients for Great Blue Heron - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	2.3E-03	4.7E-05	2.3E-03	0.227	4.2	<1	<1
Heptachlor epoxide	--	1.6E-03	2.1E-06	1.6E-03	0.65	6.5	<1	<1
Total PCB Aroclors	5.0E-06	1.7E+00	3.6E-03	1.7E+00	0.11	1.1	16	2
TCDD TEQ (PCBs)	8.0E-11	7.5E-05	--	7.5E-05	0.000014	0.00014	5	1
Arsenic	1.8E-04	8.6E-02	3.6E-03	9.0E-02	2.24	4.5	<1	<1
Cadmium	--	7.3E-02	7.0E-03	8.0E-02	1.47	7.7	<1	<1
Chromium	--	1.3E-01	2.3E-02	1.5E-01	2.66	11	<1	<1
Copper	8.9E-05	4.2E-01	5.0E-02	4.7E-01	4.05	37	<1	<1
Lead	--	1.4E-01	8.9E-02	2.2E-01	1.63	52	<1	<1
Mercury	--	9.5E-03	3.6E-04	9.9E-03	0.45	0.9	<1	<1
Nickel	1.7E-04	2.2E-01	1.4E-02	2.3E-01	6.71	22	<1	<1
Selenium	--	2.0E-01	7.8E-04	2.1E-01	0.29	1.2	1	<1
Silver	--	4.7E-02	4.2E-03	5.2E-02	2.02	20.2	<1	<1
Zinc	2.9E-04	4.3E+00	1.6E-01	4.5E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB3 in Table 5-13.

Table K-32 Calculation of Hazard Quotients for Belted Kingfisher - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	4.0E-03	2.2E-04	4.2E-03	0.227	4.2	<1	<1
Heptachlor epoxide	--	2.8E-03	9.7E-06	2.8E-03	0.65	6.5	<1	<1
Total PCB Aroclors	1.2E-05	3.3E+00	1.7E-02	3.3E+00	0.11	1.1	30	3
TCDD TEQ (PCBs)	2.0E-10	1.5E-04	--	1.5E-04	0.000014	0.00014	11	1
Arsenic	4.3E-04	2.8E-01	1.7E-02	3.0E-01	2.24	4.5	<1	<1
Cadmium	--	2.4E-01	3.3E-02	2.7E-01	1.47	7.7	<1	<1
Chromium	--	3.5E-01	1.1E-01	4.5E-01	2.66	11	<1	<1
Copper	2.2E-04	7.5E+00	2.4E-01	7.7E+00	4.05	37	2	<1
Lead	--	3.6E-01	4.2E-01	7.8E-01	1.63	52	<1	<1
Mercury	--	2.0E-02	1.7E-03	2.2E-02	0.45	0.9	<1	<1
Nickel	4.1E-04	4.4E-01	6.5E-02	5.1E-01	6.71	22	<1	<1
Selenium	--	4.9E-01	3.7E-03	5.0E-01	0.29	1.2	2	<1
Silver	--	2.4E-01	2.0E-02	2.6E-01	2.02	20.2	<1	<1
Zinc	7.2E-04	1.2E+01	7.5E-01	1.3E+01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB3 in Table 5-13.

Table K-33 Calculation of Hazard Quotients for Muskrat - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	1.2E-01	4.3E-02	1.7E-01	65.6	328	<1	<1
HMW PAHs	--	2.0E+00	1.6E-01	2.2E+00	0.615	3.07	4	1
Aldrin	--	8.6E-07	7.5E-06	8.3E-06	0.2	1	<1	<1
alpha-BHC	--	2.4E-02	2.9E-05	2.4E-02	1.6	3.2	<1	<1
beta-BHC	--	1.1E-01	1.3E-04	1.1E-01	1.6	3.2	<1	<1
gamma-BHC	--	2.1E-02	2.5E-05	2.1E-02	1.6	3.2	<1	<1
Chlordane, Total	--	8.0E-02	4.5E-04	8.0E-02	4.58	9.16	<1	<1
Total DDx	--	2.2E-04	4.2E-04	6.3E-04	0.147	8	<1	<1
Dieldrin	--	2.5E-01	1.5E-03	2.5E-01	0.015	1.6	17	<1
alpha-Endosulfan	--	9.6E-02	2.0E-04	9.7E-02	0.15	1.5	1	<1
beta-Endosulfan	--	2.4E-02	5.0E-05	2.4E-02	0.15	1.5	<1	<1
Endrin	--	4.6E-02	1.3E-04	4.6E-02	0.092	0.92	1	<1
Endrin aldehyde	--	3.1E-02	8.9E-05	3.1E-02	0.092	0.92	<1	<1
Endrin ketone	--	1.7E-02	5.0E-05	1.7E-02	0.092	0.92	<1	<1
Heptachlor	--	3.5E-07	1.4E-05	1.5E-05	0.13	6.8	<1	<1
Heptachlor epoxide	--	5.0E-05	1.8E-05	6.9E-05	0.13	6.8	<1	<1
Methoxyclor	--	1.1E-04	1.4E-04	2.5E-04	2.5	50	<1	<1
Total PCB Aroclors	1.1E-05	3.3E-01	3.2E-02	3.6E-01	0.305	3.05	1	<1
Arsenic	3.8E-04	2.7E-03	3.2E-02	3.5E-02	1.04	5.7	<1	<1
Cadmium	--	4.3E-02	6.3E-02	1.1E-01	0.77	7.1	<1	<1
Chromium	--	9.6E-03	2.0E-01	2.1E-01	2.4	35	<1	<1
Copper	1.9E-04	6.1E-01	4.5E-01	1.1E+00	5.6	56	<1	<1
Lead	--	7.6E-02	8.0E-01	8.7E-01	4.7	47	<1	<1
Mercury	--	1.2E-03	3.2E-03	4.5E-03	1	10	<1	<1
Nickel	3.6E-04	1.0E-02	1.2E-01	1.3E-01	1.7	13	<1	<1
Selenium	--	1.6E-03	7.0E-03	8.6E-03	0.143	0.8	<1	<1
Silver	--	4.0E-02	3.7E-02	7.7E-02	6.02	60.2	<1	<1
Zinc	6.3E-04	1.4E+01	1.4E+00	1.5E+01	9.61	292	2	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB3 in Table 5-13.

Table K-34 Calculation of Hazard Quotients for Raccoon - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	8.9E-05	2.8E-04	3.7E-04	0.147	8	<1	<1
Heptachlor epoxide	--	6.3E-05	1.3E-05	7.5E-05	0.13	6.8	<1	<1
Total PCB Aroclors	9.4E-06	3.3E-01	2.2E-02	3.5E-01	0.305	3.05	1	<1
TCDD TEQ (PCBs)	1.7E-11	6.5E-06	--	6.5E-06	0.000001	0.00001	7	1
Arsenic	3.3E-04	1.4E-01	2.2E-02	1.6E-01	1.04	5.7	<1	<1
Cadmium	--	1.2E-01	4.3E-02	1.6E-01	0.77	7.1	<1	<1
Chromium	--	1.4E-01	1.4E-01	2.7E-01	2.4	35	<1	<1
Copper	1.7E-04	7.0E+00	3.0E-01	7.3E+00	5.6	56	1	<1
Lead	--	1.3E-01	5.4E-01	6.7E-01	4.7	47	<1	<1
Mercury	--	3.5E-03	2.2E-03	5.7E-03	1	10	<1	<1
Nickel	3.1E-04	7.0E-02	8.4E-02	1.5E-01	1.7	13	<1	<1
Selenium	--	1.4E-01	4.7E-03	1.5E-01	0.143	0.8	1	<1
Silver	--	1.6E-01	2.5E-02	1.9E-01	6.02	60.2	<1	<1
Zinc	5.5E-04	4.6E+00	9.7E-01	5.5E+00	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB3 in Table 5-13.

Table K-35 Calculation of Hazard Quotients for Little Brown Bat - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.147	8	--	--
Heptachlor epoxide	--	--	--	--	0.13	6.8	--	--
Total PCB Aroclors	1.8E-05	1.5E+00	--	1.5E+00	0.305	3.05	5	<1
TCDD TEQ (PCBs)	3.3E-11	2.7E-05	--	2.7E-05	0.000001	0.00001	27	3
Arsenic	6.3E-04	7.7E-01	--	7.7E-01	1.04	5.7	1	<1
Cadmium	--	6.4E-01	--	6.4E-01	0.77	7.1	1	<1
Chromium	--	7.4E-01	--	7.4E-01	2.4	35	<1	<1
Copper	3.2E-04	3.9E+01	--	3.9E+01	5.6	56	7	1
Lead	--	7.0E-01	--	7.0E-01	4.7	47	<1	<1
Mercury	--	1.7E-02	--	1.7E-02	1	10	<1	<1
Nickel	6.0E-04	3.5E-01	--	3.5E-01	1.7	13	<1	<1
Selenium	--	7.6E-01	--	7.6E-01	0.143	0.8	5	1
Silver	--	9.1E-01	--	9.1E-01	6.02	60.2	<1	<1
Zinc	1.0E-03	2.5E+01	--	2.5E+01	9.61	292	3	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB3 in Table 5-13.

Table K-36 Calculation of Hazard Quotients for American Mink - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	2.0E-03	9.1E-05	2.1E-03	0.147	8	<1	<1
Heptachlor epoxide	--	1.4E-03	4.0E-06	1.4E-03	0.13	6.8	<1	<1
Total PCB Aroclors	1.1E-05	1.6E+00	7.1E-03	1.6E+00	0.11	0.23	14	7
TCDD TEQ (PCBs)	2.0E-11	3.9E-05	--	3.9E-05	0.000001	0.00001	39	4
Arsenic	3.9E-04	9.6E-02	7.0E-03	1.0E-01	1.04	5.7	<1	<1
Cadmium	--	8.2E-02	1.4E-02	9.5E-02	0.77	7.1	<1	<1
Chromium	--	1.3E-01	4.4E-02	1.8E-01	2.4	35	<1	<1
Copper	2.0E-04	1.4E+00	9.8E-02	1.4E+00	5.6	56	<1	<1
Lead	--	1.4E-01	1.8E-01	3.1E-01	4.7	47	<1	<1
Mercury	--	9.0E-03	7.1E-04	9.7E-03	1	10	<1	<1
Nickel	3.7E-04	2.0E-01	2.7E-02	2.3E-01	1.7	13	<1	<1
Selenium	--	2.0E-01	1.5E-03	2.0E-01	0.143	0.8	1	<1
Silver	--	6.5E-02	8.2E-03	7.3E-02	6.02	60.2	<1	<1
Zinc	6.4E-04	4.5E+00	3.1E-01	4.8E+00	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB3 in Table 5-13.

Table K-37 Calculation of Hazard Quotients for Wood Duck - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	3.1E-02	3.6E-03	3.5E-02	1653	16530	<1	<1
HMW PAHs	--	2.2E-01	2.7E-02	2.4E-01	2	20	<1	<1
Aldrin	--	1.3E-06	4.0E-06	5.3E-06	0.027	0.27	<1	<1
alpha-BHC	--	1.4E-04	1.1E-05	1.5E-04	0.56	2.25	<1	<1
beta-BHC	--	2.9E-04	2.3E-05	3.1E-04	0.56	2.25	<1	<1
gamma-BHC	--	1.6E-04	1.2E-05	1.8E-04	0.56	2.25	<1	<1
Chlordane, Total	--	3.9E-05	8.2E-05	1.2E-04	2.14	10.7	<1	<1
Total DDx	--	8.9E-04	1.1E-04	1.0E-03	0.227	4.2	<1	<1
Dieldrin	--	5.1E-04	2.5E-05	5.3E-04	0.0709	1.1	<1	<1
alpha-Endosulfan	--	1.4E-04	1.2E-05	1.5E-04	10	100	<1	<1
beta-Endosulfan	--	4.8E-04	4.1E-05	5.2E-04	10	100	<1	<1
Endosulfan sulfate	--	3.1E-04	2.1E-05	3.3E-04	10	100	<1	<1
Endrin	--	1.4E-04	7.5E-05	2.2E-04	0.01	0.1	<1	<1
Endrin aldehyde	--	1.0E-04	3.1E-05	1.3E-04	0.01	0.1	<1	<1
Endrin ketone	--	5.3E-05	2.1E-05	7.5E-05	0.01	0.1	<1	<1
Heptachlor epoxide	--	1.4E-04	5.6E-05	2.0E-04	0.65	6.5	<1	<1
Methoxyclor	--	1.2E-04	5.3E-05	1.7E-04	3.2	32	<1	<1
Total PCB Aroclors	7.6E-06	4.6E-03	1.4E-02	1.8E-02	0.11	1.1	<1	<1
Arsenic	2.7E-04	1.8E-02	9.5E-03	2.8E-02	2.24	4.5	<1	<1
Cadmium	--	1.4E-01	1.1E-02	1.5E-01	1.47	7.7	<1	<1
Chromium	--	1.1E-01	5.2E-02	1.6E-01	2.66	11	<1	<1
Copper	1.4E-04	8.4E-01	1.1E-01	9.5E-01	4.05	37	<1	<1
Lead	--	2.9E-01	1.7E-01	4.6E-01	1.63	52	<1	<1
Mercury	--	9.3E-03	1.8E-04	9.5E-03	0.45	0.9	<1	<1
Selenium	--	1.6E-01	5.5E-03	1.6E-01	0.29	1.2	1	<1
Silver	--	2.3E-03	3.3E-03	5.6E-03	2.02	20.2	<1	<1
Zinc	4.4E-04	8.2E+00	3.9E-01	8.6E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB4 in Table 5-14.

Table K-38 Calculation of Hazard Quotients for Mallard - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.227	4.2	--	--
Heptachlor epoxide	--	--	--	--	0.65	6.5	--	--
Total PCB Aroclors	6.3E-06	5.3E-01	1.9E-02	1.5E-01	0.11	1.1	1	<1
TCDD TEQ (PCBs)	1.0E-10	4.2E-05	--	1.2E-05	0.000014	0.00014	1	<1
Arsenic	2.2E-04	2.8E-01	1.3E-02	8.1E-02	2.24	4.5	<1	<1
Cadmium	--	2.4E-01	1.5E-02	6.9E-02	1.47	7.7	<1	<1
Chromium	--	2.7E-01	7.3E-02	9.4E-02	2.66	11	<1	<1
Copper	1.1E-04	1.4E+01	1.5E-01	4.0E+00	4.05	37	1	<1
Lead	--	2.5E-01	2.3E-01	1.3E-01	1.63	52	<1	<1
Mercury	--	6.4E-03	2.5E-04	1.8E-03	0.45	0.9	<1	<1
Nickel	2.1E-04	1.3E-01	3.7E-02	4.5E-02	6.71	22	<1	<1
Selenium	--	2.8E-01	7.6E-03	7.9E-02	0.29	1.2	<1	<1
Silver	--	3.3E-01	4.6E-03	9.2E-02	2.02	20.2	<1	<1
Zinc	3.7E-04	9.1E+00	5.4E-01	2.6E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB4 in Table 5-14.

Table K-39 Calculation of Hazard Quotients for Red-Winged Blackbird - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.227	4.2	--	--
Heptachlor epoxide	--	--	--	--	0.65	6.5	--	--
Total PCB Aroclors	1.7E-05	1.4E+00	1.5E-02	1.4E+00	0.11	1.1	13	1
TCDD TEQ (PCBs)	2.8E-10	1.1E-04	--	1.1E-04	0.000014	0.00014	8	1
Arsenic	6.1E-04	7.4E-01	1.0E-02	7.5E-01	2.24	4.5	<1	<1
Cadmium	--	6.2E-01	1.2E-02	6.3E-01	1.47	7.7	<1	<1
Chromium	--	7.1E-01	5.8E-02	7.6E-01	2.66	11	<1	<1
Copper	3.1E-04	3.8E+01	1.2E-01	3.8E+01	4.05	37	9	1
Lead	--	6.7E-01	1.8E-01	8.5E-01	1.63	52	1	<1
Mercury	--	1.7E-02	2.0E-04	1.7E-02	0.45	0.9	<1	<1
Nickel	5.8E-04	3.3E-01	3.0E-02	3.6E-01	6.71	22	<1	<1
Selenium	--	7.3E-01	6.0E-03	7.4E-01	0.29	1.2	3	1
Silver	--	8.7E-01	3.7E-03	8.7E-01	2.02	20.2	<1	<1
Zinc	1.0E-03	2.4E+01	4.3E-01	2.4E+01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB4 in Table 5-14.

Table K-40 Calculation of Hazard Quotients for Great Blue Heron - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	3.8E-05	3.8E-05	0.227	4.2	<1	<1
Heptachlor epoxide	--	2.4E-03	1.9E-05	2.5E-03	0.65	6.5	<1	<1
Total PCB Aroclors	5.0E-06	2.3E+00	4.7E-03	2.3E+00	0.11	1.1	21	2
TCDD TEQ (PCBs)	8.0E-11	3.7E-05	--	3.7E-05	0.000014	0.00014	3	<1
Arsenic	1.8E-04	3.7E-03	3.2E-03	7.1E-03	2.24	4.5	<1	<1
Cadmium	--	5.1E-02	3.6E-03	5.5E-02	1.47	7.7	<1	<1
Chromium	--	4.9E-02	1.8E-02	6.7E-02	2.66	11	<1	<1
Copper	8.9E-05	3.7E-01	3.7E-02	4.1E-01	4.05	37	<1	<1
Lead	--	1.3E-01	5.6E-02	1.9E-01	1.63	52	<1	<1
Mercury	--	9.0E-03	6.0E-05	9.0E-03	0.45	0.9	<1	<1
Nickel	1.7E-04	7.1E-02	9.0E-03	8.0E-02	6.71	22	<1	<1
Selenium	--	2.8E-01	1.8E-03	2.8E-01	0.29	1.2	1	<1
Silver	--	4.5E-02	1.1E-03	4.6E-02	2.02	20.2	<1	<1
Zinc	2.9E-04	6.4E+00	1.3E-01	6.5E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB4 in Table 5-14.

Table K-41 Calculation of Hazard Quotients for Belted Kingfisher - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	1.8E-04	1.8E-04	0.227	4.2	<1	<1
Heptachlor epoxide	--	4.3E-03	8.9E-05	4.4E-03	0.65	6.5	<1	<1
Total PCB Aroclors	1.2E-05	4.3E+00	2.2E-02	4.3E+00	0.11	1.1	39	4
TCDD TEQ (PCBs)	2.0E-10	8.5E-05	--	8.5E-05	0.000014	0.00014	6	1
Arsenic	4.3E-04	1.4E-01	1.5E-02	1.5E-01	2.24	4.5	<1	<1
Cadmium	--	2.0E-01	1.7E-02	2.2E-01	1.47	7.7	<1	<1
Chromium	--	2.1E-01	8.3E-02	3.0E-01	2.66	11	<1	<1
Copper	2.2E-04	7.4E+00	1.7E-01	7.6E+00	4.05	37	2	<1
Lead	--	3.5E-01	2.7E-01	6.1E-01	1.63	52	<1	<1
Mercury	--	1.9E-02	2.8E-04	1.9E-02	0.45	0.9	<1	<1
Nickel	4.1E-04	1.8E-01	4.3E-02	2.3E-01	6.71	22	<1	<1
Selenium	--	6.2E-01	8.7E-03	6.3E-01	0.29	1.2	2	1
Silver	--	2.4E-01	5.3E-03	2.4E-01	2.02	20.2	<1	<1
Zinc	7.2E-04	1.6E+01	6.1E-01	1.6E+01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB4 in Table 5-14.

Table K-42 Calculation of Hazard Quotients for Muskrat - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	3.1E-02	1.1E-02	4.2E-02	65.6	328	<1	<1
HMW PAHs	--	1.0E+00	8.3E-02	1.1E+00	0.615	3.07	2	<1
Aldrin	--	1.4E-06	1.2E-05	1.3E-05	0.2	1	<1	<1
alpha-BHC	--	2.8E-02	3.4E-05	2.8E-02	1.6	3.2	<1	<1
beta-BHC	--	5.8E-02	7.0E-05	5.8E-02	1.6	3.2	<1	<1
gamma-BHC	--	3.1E-02	3.7E-05	3.1E-02	1.6	3.2	<1	<1
Chlordane, Total	--	4.3E-02	2.5E-04	4.4E-02	4.58	9.16	<1	<1
Total DDx	--	1.8E-04	3.4E-04	5.2E-04	0.147	8	<1	<1
Dieldrin	--	1.3E-02	7.5E-05	1.3E-02	0.015	1.6	1	<1
alpha-Endosulfan	--	1.8E-02	3.6E-05	1.8E-02	0.15	1.5	<1	<1
beta-Endosulfan	--	6.0E-02	1.2E-04	6.0E-02	0.15	1.5	<1	<1
Endosulfan sulfate	--	3.1E-02	6.5E-05	3.1E-02	0.15	1.5	<1	<1
Endrin	--	7.8E-02	2.3E-04	7.8E-02	0.092	0.92	1	<1
Endrin aldehyde	--	3.2E-02	9.4E-05	3.2E-02	0.092	0.92	<1	<1
Endrin ketone	--	2.2E-02	6.5E-05	2.2E-02	0.092	0.92	<1	<1
Heptachlor epoxide	--	4.6E-04	1.7E-04	6.3E-04	0.13	6.8	<1	<1
Methoxyclor	--	1.3E-04	1.6E-04	2.9E-04	2.5	50	<1	<1
Total PCB Aroclors	1.1E-05	4.2E-01	4.2E-02	4.7E-01	0.305	3.05	2	<1
Arsenic	3.8E-04	2.4E-03	2.9E-02	3.1E-02	1.04	5.7	<1	<1
Cadmium	--	2.2E-02	3.2E-02	5.4E-02	0.77	7.1	<1	<1
Chromium	--	7.6E-03	1.6E-01	1.7E-01	2.4	35	<1	<1
Copper	1.9E-04	5.4E-01	3.3E-01	8.6E-01	5.6	56	<1	<1
Lead	--	4.8E-02	5.0E-01	5.5E-01	4.7	47	<1	<1
Mercury	--	2.0E-04	5.3E-04	7.4E-04	1	10	<1	<1
Selenium	--	3.8E-03	1.6E-02	2.0E-02	0.143	0.8	<1	<1
Silver	--	1.1E-02	1.0E-02	2.1E-02	6.02	60.2	<1	<1
Zinc	6.3E-04	1.1E+01	1.2E+00	1.2E+01	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB4 in Table 5-14.

Table K-43 Calculation of Hazard Quotients for Raccoon - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	2.3E-04	2.3E-04	0.147	8	<1	<1
Heptachlor epoxide	--	9.7E-05	1.2E-04	2.1E-04	0.13	6.8	<1	<1
Total PCB Aroclors	9.4E-06	3.5E-01	2.8E-02	3.8E-01	0.305	3.05	1	<1
TCDD TEQ (PCBs)	1.7E-11	5.3E-06	--	5.3E-06	0.000001	0.00001	5	1
Arsenic	3.3E-04	1.4E-01	2.0E-02	1.6E-01	1.04	5.7	<1	<1
Cadmium	--	1.2E-01	2.2E-02	1.4E-01	0.77	7.1	<1	<1
Chromium	--	1.3E-01	1.1E-01	2.4E-01	2.4	35	<1	<1
Copper	1.7E-04	7.0E+00	2.2E-01	7.3E+00	5.6	56	1	<1
Lead	--	1.3E-01	3.4E-01	4.7E-01	4.7	47	<1	<1
Mercury	--	3.4E-03	3.6E-04	3.8E-03	1	10	<1	<1
Nickel	3.1E-04	6.5E-02	5.5E-02	1.2E-01	1.7	13	<1	<1
Selenium	--	1.5E-01	1.1E-02	1.6E-01	0.143	0.8	1	<1
Silver	--	1.6E-01	6.8E-03	1.7E-01	6.02	60.2	<1	<1
Zinc	5.5E-04	4.7E+00	7.9E-01	5.4E+00	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB4 in Table 5-14.

Table K-44 Calculation of Hazard Quotients for Little Brown Bat - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.147	8	--	--
Heptachlor epoxide	--	--	--	--	0.13	6.8	--	--
Total PCB Aroclors	1.8E-05	1.5E+00	--	1.5E+00	0.305	3.05	5	<1
TCDD TEQ (PCBs)	3.3E-11	2.7E-05	--	2.7E-05	0.000001	0.00001	27	3
Arsenic	6.3E-04	7.7E-01	--	7.7E-01	1.04	5.7	1	<1
Cadmium	--	6.4E-01	--	6.4E-01	0.77	7.1	1	<1
Chromium	--	7.4E-01	--	7.4E-01	2.4	35	<1	<1
Copper	3.2E-04	3.9E+01	--	3.9E+01	5.6	56	7	1
Lead	--	7.0E-01	--	7.0E-01	4.7	47	<1	<1
Mercury	--	1.7E-02	--	1.7E-02	1	10	<1	<1
Nickel	6.0E-04	3.5E-01	--	3.5E-01	1.7	13	<1	<1
Selenium	--	7.6E-01	--	7.6E-01	0.143	0.8	5	1
Silver	--	9.1E-01	--	9.1E-01	6.02	60.2	<1	<1
Zinc	1.0E-03	2.5E+01	--	2.5E+01	9.61	292	3	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB4 in Table 5-14.

Table K-45 Calculation of Hazard Quotients for American Mink - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	7.5E-05	7.5E-05	0.147	8	<1	<1
Heptachlor epoxide	--	2.2E-03	3.7E-05	2.2E-03	0.13	6.8	<1	<1
Total PCB Aroclors	1.1E-05	2.1E+00	9.2E-03	2.1E+00	0.11	0.23	19	9
TCDD TEQ (PCBs)	2.0E-11	1.1E-05	--	1.1E-05	0.000001	0.00001	11	1
Arsenic	3.9E-04	2.2E-02	6.3E-03	2.9E-02	1.04	5.7	<1	<1
Cadmium	--	6.2E-02	7.0E-03	6.9E-02	0.77	7.1	<1	<1
Chromium	--	6.2E-02	3.5E-02	9.7E-02	2.4	35	<1	<1
Copper	2.0E-04	1.3E+00	7.2E-02	1.4E+00	5.6	56	<1	<1
Lead	--	1.3E-01	1.1E-01	2.4E-01	4.7	47	<1	<1
Mercury	--	8.5E-03	1.2E-04	8.6E-03	1	10	<1	<1
Nickel	3.7E-04	7.2E-02	1.8E-02	9.0E-02	1.7	13	<1	<1
Selenium	--	2.7E-01	3.6E-03	2.7E-01	0.143	0.8	2	<1
Silver	--	6.3E-02	2.2E-03	6.5E-02	6.02	60.2	<1	<1
Zinc	6.4E-04	6.4E+00	2.6E-01	6.6E+00	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB4 in Table 5-14.

Table K-46 Calculation of Hazard Quotients for Wood Duck - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	2.4E-02	2.0E-03	2.6E-02	1,653	16,530	<1	<1
HMW PAHs	--	1.9E-01	2.4E-02	2.1E-01	2	20	<1	<1
alpha-BHC	--	3.3E-04	2.7E-05	3.6E-04	0.56	2.25	<1	<1
beta-BHC	--	1.4E-04	1.1E-05	1.5E-04	0.56	2.25	<1	<1
gamma-BHC	--	9.6E-04	7.1E-05	1.0E-03	0.56	2.25	<1	<1
Chlordane, Total	--	5.0E-04	1.0E-03	1.5E-03	2.14	10.7	<1	<1
Total DDx	--	5.3E-03	1.2E-03	6.5E-03	0.227	4.2	<1	<1
Dieldrin	--	1.7E-02	8.2E-04	1.8E-02	0.0709	1.1	<1	<1
beta-Endosulfan	--	5.8E-03	5.0E-04	6.2E-03	10	100	<1	<1
Endrin	--	5.3E-04	2.8E-04	8.1E-04	0.01	0.1	<1	<1
Endrin aldehyde	--	3.7E-04	1.2E-04	4.9E-04	0.01	0.1	<1	<1
Endrin ketone	--	8.2E-05	3.3E-05	1.2E-04	0.01	0.1	<1	<1
Heptachlor epoxide	--	1.1E-03	4.4E-04	1.5E-03	0.65	6.5	<1	<1
Methoxyclor	--	3.3E-04	1.5E-04	4.8E-04	3.2	32	<1	<1
Total PCB Aroclors	7.6E-06	1.6E-02	4.7E-02	6.3E-02	0.11	1.1	1	<1
Arsenic	2.7E-04	2.6E-02	1.4E-02	4.0E-02	2.24	4.5	<1	<1
Cadmium	--	3.0E-01	4.1E-02	3.4E-01	1.47	7.7	<1	<1
Chromium	--	1.0E-01	5.0E-02	1.5E-01	2.66	11	<1	<1
Copper	1.4E-04	8.7E-01	1.2E-01	9.9E-01	4.05	37	<1	<1
Lead	--	4.1E-01	3.1E-01	7.2E-01	1.63	52	<1	<1
Mercury	--	1.4E-02	3.5E-04	1.4E-02	0.45	0.9	<1	<1
Nickel	2.5E-04	1.0E-01	4.4E-02	1.5E-01	6.71	22	<1	<1
Selenium	--	1.8E-01	6.3E-03	1.9E-01	0.29	1.2	1	<1
Silver	--	3.7E-03	5.2E-03	8.9E-03	2.02	20.2	<1	<1
Zinc	4.4E-04	8.7E+00	4.3E-01	9.1E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB5 in Table 5-15.

Table K-47 Calculation of Hazard Quotients for Mallard - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.227	4.2	--	--
Heptachlor epoxide	--	--	--	--	0.65	6.5	--	--
Total PCB Aroclors	6.3E-06	5.3E-01	6.6E-02	9.3E-02	0.11	1.1	1	<1
TCDD TEQ (PCBs)	1.0E-10	4.2E-05	--	6.5E-06	0.000014	0.00014	<1	<1
Arsenic	2.2E-04	2.8E-01	1.9E-02	4.7E-02	2.24	4.5	<1	<1
Cadmium	--	2.4E-01	5.7E-02	4.5E-02	1.47	7.7	<1	<1
Chromium	--	2.7E-01	7.0E-02	5.3E-02	2.66	11	<1	<1
Copper	1.1E-04	1.4E+01	1.7E-01	2.3E+00	4.05	37	1	<1
Lead	--	2.5E-01	4.3E-01	1.1E-01	1.63	52	<1	<1
Mercury	--	6.4E-03	4.9E-04	1.1E-03	0.45	0.9	<1	<1
Nickel	2.1E-04	1.3E-01	6.1E-02	2.9E-02	6.71	22	<1	<1
Selenium	--	2.8E-01	8.7E-03	4.5E-02	0.29	1.2	<1	<1
Silver	--	3.3E-01	7.3E-03	5.3E-02	2.02	20.2	<1	<1
Zinc	3.7E-04	9.1E+00	5.9E-01	1.5E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB5 in Table 5-15.

Table K-48 Calculation of Hazard Quotients for Red-Winged Blackbird - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values			
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.227	4.2	--	--
Heptachlor epoxide	--	--	--	--	0.65	6.5	--	--
Total PCB Aroclors	1.7E-05	1.4E+00	5.2E-02	1.4E+00	0.11	1.1	13	1
TCDD TEQ (PCBs)	2.8E-10	1.1E-04	--	1.1E-04	0.000014	0.00014	8	1
Arsenic	6.1E-04	7.4E-01	1.5E-02	7.5E-01	2.24	4.5	<1	<1
Cadmium	--	6.2E-01	4.5E-02	6.6E-01	1.47	7.7	<1	<1
Chromium	--	7.1E-01	5.5E-02	7.6E-01	2.66	11	<1	<1
Copper	3.1E-04	3.8E+01	1.3E-01	3.8E+01	4.05	37	9	1
Lead	--	6.7E-01	3.4E-01	1.0E+00	1.63	52	1	<1
Mercury	--	1.7E-02	3.9E-04	1.7E-02	0.45	0.9	<1	<1
Nickel	5.8E-04	3.3E-01	4.9E-02	3.8E-01	6.71	22	<1	<1
Selenium	--	7.3E-01	6.9E-03	7.4E-01	0.29	1.2	3	1
Silver	--	8.7E-01	5.8E-03	8.8E-01	2.02	20.2	<1	<1
Zinc	1.0E-03	2.4E+01	4.7E-01	2.4E+01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB5 in Table 5-15.

Table K-49 Calculation of Hazard Quotients for Great Blue Heron - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values			
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	4.4E-03	4.1E-04	4.8E-03	0.227	4.2	<1	<1
Heptachlor epoxide	--	3.2E-03	1.5E-04	3.3E-03	0.65	6.5	<1	<1
Total PCB Aroclors	5.0E-06	5.0E+00	1.6E-02	5.0E+00	0.11	1.1	46	5
TCDD TEQ (PCBs)	8.0E-11	1.7E-04	--	1.7E-04	0.000014	0.00014	12	1
Arsenic	1.8E-04	1.3E-02	4.7E-03	1.8E-02	2.24	4.5	<1	<1
Cadmium	--	4.7E-02	1.4E-02	6.1E-02	1.47	7.7	<1	<1
Chromium	--	3.6E-02	1.7E-02	5.3E-02	2.66	11	<1	<1
Copper	8.9E-05	5.2E-01	4.0E-02	5.6E-01	4.05	37	<1	<1
Lead	--	1.0E-01	1.0E-01	2.1E-01	1.63	52	<1	<1
Mercury	--	3.5E-02	1.2E-04	3.5E-02	0.45	0.9	<1	<1
Nickel	1.7E-04	1.7E-03	1.5E-02	1.7E-02	6.71	22	<1	<1
Selenium	--	2.9E-01	2.1E-03	2.9E-01	0.29	1.2	1	<1
Silver	--	4.1E-02	1.8E-03	4.2E-02	2.02	20.2	<1	<1
Zinc	2.9E-04	5.8E+00	1.4E-01	6.0E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB5 in Table 5-15.

Table K-50 Calculation of Hazard Quotients for Belted Kingfisher - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values			
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	7.7E-03	1.9E-03	9.7E-03	0.227	4.2	<1	<1
Heptachlor epoxide	--	5.6E-03	7.0E-04	6.3E-03	0.65	6.5	<1	<1
Total PCB Aroclors	1.2E-05	9.1E+00	7.5E-02	9.2E+00	0.11	1.1	84	8
TCDD TEQ (PCBs)	2.0E-10	3.3E-04	--	3.3E-04	0.000014	0.00014	23	2
Arsenic	4.3E-04	1.5E-01	2.2E-02	1.8E-01	2.24	4.5	<1	<1
Cadmium	--	1.9E-01	6.5E-02	2.6E-01	1.47	7.7	<1	<1
Chromium	--	1.9E-01	8.0E-02	2.7E-01	2.66	11	<1	<1
Copper	2.2E-04	7.7E+00	1.9E-01	7.9E+00	4.05	37	2	<1
Lead	--	3.0E-01	4.9E-01	8.0E-01	1.63	52	<1	<1
Mercury	--	6.5E-02	5.6E-04	6.5E-02	0.45	0.9	<1	<1
Nickel	4.1E-04	6.2E-02	7.0E-02	1.3E-01	6.71	22	<1	<1
Selenium	--	6.4E-01	1.0E-02	6.5E-01	0.29	1.2	2	1
Silver	--	2.3E-01	8.3E-03	2.4E-01	2.02	20.2	<1	<1
Zinc	7.2E-04	1.5E+01	6.8E-01	1.5E+01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB5 in Table 5-15.

Table K-51 Calculation of Hazard Quotients for Muskrat - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	1.8E-02	6.1E-03	2.4E-02	65.6	328	<1	<1
HMW PAHs	--	8.8E-01	7.2E-02	9.5E-01	0.615	3.07	2	<1
alpha-BHC	--	6.9E-02	8.3E-05	6.9E-02	1.6	3.2	<1	<1
beta-BHC	--	2.8E-02	3.3E-05	2.8E-02	1.6	3.2	<1	<1
gamma-BHC	--	1.8E-01	2.1E-04	1.8E-01	1.6	3.2	<1	<1
Chlordane, Total	--	5.5E-01	3.1E-03	5.5E-01	4.58	9.16	<1	<1
Total DDx	--	1.9E-03	3.6E-03	5.6E-03	0.147	8	<1	<1
Dieldrin	--	4.2E-01	2.5E-03	4.2E-01	0.015	1.6	28	<1
beta-Endosulfan	--	7.2E-01	1.5E-03	7.3E-01	0.15	1.5	5	<1
Endrin	--	2.9E-01	8.5E-04	2.9E-01	0.092	0.92	3	<1
Endrin aldehyde	--	1.2E-01	3.5E-04	1.2E-01	0.092	0.92	1	<1
Endrin ketone	--	3.4E-02	9.9E-05	3.4E-02	0.092	0.92	<1	<1
Heptachlor epoxide	--	3.6E-03	1.3E-03	4.9E-03	0.13	6.8	<1	<1
Methoxyclor	--	3.7E-04	4.5E-04	8.2E-04	2.5	50	<1	<1
Total PCB Aroclors	1.1E-05	1.5E+00	1.4E-01	1.6E+00	0.305	3.05	5	1
Arsenic	3.8E-04	3.5E-03	4.2E-02	4.5E-02	1.04	5.7	<1	<1
Cadmium	--	8.4E-02	1.2E-01	2.1E-01	0.77	7.1	<1	<1
Chromium	--	7.2E-03	1.5E-01	1.6E-01	2.4	35	<1	<1
Copper	1.9E-04	5.6E-01	3.6E-01	9.2E-01	5.6	56	<1	<1
Lead	--	9.0E-02	9.4E-01	1.0E+00	4.7	47	<1	<1
Mercury	--	4.1E-04	1.1E-03	1.5E-03	1	10	<1	<1
Nickel	3.6E-04	1.1E-02	1.3E-01	1.4E-01	1.7	13	<1	<1
Selenium	--	4.4E-03	1.9E-02	2.3E-02	0.143	0.8	<1	<1
Silver	--	1.7E-02	1.6E-02	3.2E-02	6.02	60.2	<1	<1
Zinc	6.3E-04	1.2E+01	1.3E+00	1.4E+01	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB5 in Table 5-15.

Table K-52 Calculation of Hazard Quotients for Raccoon - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values			
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	1.7E-04	2.5E-03	2.7E-03	0.147	8	<1	<1
Heptachlor epoxide	--	1.3E-04	9.0E-04	1.0E-03	0.13	6.8	<1	<1
Total PCB Aroclors	9.4E-06	4.6E-01	9.7E-02	5.5E-01	0.305	3.05	2	<1
TCDD TEQ (PCBs)	1.7E-11	7.9E-06	--	7.9E-06	0.000001	0.00001	8	1
Arsenic	3.3E-04	1.4E-01	2.8E-02	1.7E-01	1.04	5.7	<1	<1
Cadmium	--	1.2E-01	8.4E-02	2.0E-01	0.77	7.1	<1	<1
Chromium	--	1.3E-01	1.0E-01	2.4E-01	2.4	35	<1	<1
Copper	1.7E-04	7.0E+00	2.5E-01	7.3E+00	5.6	56	1	<1
Lead	--	1.3E-01	6.4E-01	7.7E-01	4.7	47	<1	<1
Mercury	--	4.5E-03	7.2E-04	5.2E-03	1	10	<1	<1
Nickel	3.1E-04	6.2E-02	9.0E-02	1.5E-01	1.7	13	<1	<1
Selenium	--	1.5E-01	1.3E-02	1.6E-01	0.143	0.8	1	<1
Silver	--	1.6E-01	1.1E-02	1.7E-01	6.02	60.2	<1	<1
Zinc	5.5E-04	4.6E+00	8.8E-01	5.5E+00	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB5 in Table 5-15.

Table K-53 Calculation of Hazard Quotients for Little Brown Bat - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values			
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.147	8	--	--
Heptachlor epoxide	--	--	--	--	0.13	6.8	--	--
Total PCB Aroclors	1.8E-05	1.5E+00	--	1.5E+00	0.305	3.05	5	<1
TCDD TEQ (PCBs)	3.3E-11	2.7E-05	--	2.7E-05	0.000001	0.00001	27	3
Arsenic	6.3E-04	7.7E-01	--	7.7E-01	1.04	5.7	1	<1
Cadmium	--	6.4E-01	--	6.4E-01	0.77	7.1	1	<1
Chromium	--	7.4E-01	--	7.4E-01	2.4	35	<1	<1
Copper	3.2E-04	3.9E+01	--	3.9E+01	5.6	56	7	1
Lead	--	7.0E-01	--	7.0E-01	4.7	47	<1	<1
Mercury	--	1.7E-02	--	1.7E-02	1	10	<1	<1
Nickel	6.0E-04	3.5E-01	--	3.5E-01	1.7	13	<1	<1
Selenium	--	7.6E-01	--	7.6E-01	0.143	0.8	5	1
Silver	--	9.1E-01	--	9.1E-01	6.02	60.2	<1	<1
Zinc	1.0E-03	2.5E+01	--	2.5E+01	9.61	292	3	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB5 in Table 5-15.

Table K-54 Calculation of Hazard Quotients for American Mink - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values			
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	3.9E-03	8.0E-04	4.7E-03	0.147	8	<1	<1
Heptachlor epoxide	--	2.8E-03	2.9E-04	3.1E-03	0.13	6.8	<1	<1
Total PCB Aroclors	1.1E-05	4.5E+00	3.1E-02	4.6E+00	0.11	0.23	42	20
TCDD TEQ (PCBs)	2.0E-11	7.1E-05	--	7.1E-05	0.000001	0.00001	71	7
Arsenic	3.9E-04	3.1E-02	9.1E-03	4.0E-02	1.04	5.7	<1	<1
Cadmium	--	5.8E-02	2.7E-02	8.6E-02	0.77	7.1	<1	<1
Chromium	--	5.1E-02	3.3E-02	8.4E-02	2.4	35	<1	<1
Copper	2.0E-04	1.4E+00	7.9E-02	1.5E+00	5.6	56	<1	<1
Lead	--	1.1E-01	2.1E-01	3.2E-01	4.7	47	<1	<1
Mercury	--	3.2E-02	2.3E-04	3.2E-02	1	10	<1	<1
Nickel	3.7E-04	1.0E-02	2.9E-02	4.0E-02	1.7	13	<1	<1
Selenium	--	2.8E-01	4.2E-03	2.8E-01	0.143	0.8	2	<1
Silver	--	5.9E-02	3.5E-03	6.2E-02	6.02	60.2	<1	<1
Zinc	6.4E-04	5.9E+00	2.8E-01	6.1E+00	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB5 in Table 5-15.

Table K-55 Calculation of Hazard Quotients for Wood Duck - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	1.3E-02	4.9E-04	1.3E-02	1653	16530	<1	<1
HMW PAHs	--	6.7E-02	8.0E-03	7.5E-02	2	20	<1	<1
alpha-BHC	--	1.7E-05	1.4E-06	1.9E-05	0.56	2.25	<1	<1
beta-BHC	--	3.3E-04	2.6E-05	3.5E-04	0.56	2.25	<1	<1
delta-BHC	--	4.7E-04	6.1E-05	5.3E-04	0.56	2.25	<1	<1
Chlordane, Total	--	3.2E-05	6.7E-05	9.9E-05	2.14	10.7	<1	<1
Total DDx	--	1.9E-04	1.4E-05	2.0E-04	0.227	4.2	<1	<1
Dieldrin	--	9.1E-04	4.5E-05	9.6E-04	0.0709	1.1	<1	<1
beta-Endosulfan	--	5.2E-05	4.5E-06	5.6E-05	10	100	<1	<1
Methoxyclor	--	3.3E-05	1.5E-05	4.8E-05	3.2	32	<1	<1
Total PCB Aroclors	7.6E-06	2.5E-04	7.6E-04	1.0E-03	0.11	1.1	<1	<1
Cadmium	--	2.6E-01	3.1E-02	2.9E-01	1.47	7.7	<1	<1
Chromium	--	1.0E-01	5.0E-02	1.5E-01	2.66	11	<1	<1
Copper	1.4E-04	8.5E-01	1.1E-01	9.6E-01	4.05	37	<1	<1
Lead	--	4.6E-01	3.8E-01	8.3E-01	1.63	52	1	<1
Mercury	--	1.3E-02	3.1E-04	1.3E-02	0.45	0.9	<1	<1
Nickel	2.5E-04	1.4E-01	6.4E-02	2.0E-01	6.71	22	<1	<1
Silver	--	6.3E-03	9.0E-03	1.5E-02	2.02	20.2	<1	<1
Zinc	4.4E-04	8.7E+00	4.3E-01	9.1E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB6 in Table 5-16.

Table K-56 Calculation of Hazard Quotients for Mallard - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	6.3E-06	3.5E-01	1.1E-03	7.5E-02	0.11	1.1	1	<1
TCDD TEQ (PCBs)	1.0E-10	3.3E-06	--	7.0E-07	0.000014	0.00014	<1	<1
Cadmium	--	5.6E-01	4.3E-02	1.3E-01	1.47	7.7	<1	<1
Chromium		2.7E-01	7.0E-02	7.3E-02	2.66	11	<1	<1
Copper	1.1E-04	1.1E+01	1.6E-01	2.3E+00	4.05	37	1	<1
Lead	--	1.2E+00	5.2E-01	3.7E-01	1.63	52	<1	<1
Mercury	--	8.1E-03	4.3E-04	1.8E-03	0.45	0.9	<1	<1
Selenium	--	1.8E-01	4.1E-03	3.9E-02	0.29	1.2	<1	<1
Silver	--	1.2E-01	1.3E-02	2.8E-02	2.02	20.2	<1	<1
Zinc	3.7E-04	7.3E+00	5.9E-01	1.7E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB6 in Table 5-16.

Table K-57 Calculation of Hazard Quotients for Red-Winged Blackbird - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.7E-05	9.2E-01	8.4E-04	9.2E-01	0.11	1.1	8	1
TCDD TEQ (PCBs)	2.8E-10	8.6E-06	--	8.6E-06	0.000014	0.00014	1	<1
Cadmium	--	1.5E+00	3.4E-02	1.5E+00	1.47	7.7	1	<1
Chromium		7.1E-01	5.5E-02	7.6E-01	2.66	11	<1	<1
Copper	3.1E-04	2.8E+01	1.2E-01	2.8E+01	4.05	37	7	1
Lead	--	3.1E+00	4.1E-01	3.5E+00	1.63	52	2	<1
Mercury	--	2.1E-02	3.4E-04	2.2E-02	0.45	0.9	<1	<1
Selenium	--	4.6E-01	3.3E-03	4.6E-01	0.29	1.2	2	<1
Silver	--	3.1E-01	9.9E-03	3.2E-01	2.02	20.2	<1	<1
Zinc	1.0E-03	1.9E+01	4.7E-01	2.0E+01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-8 and for sediment and biota in EU BB6 in Table 5-15.

Table K-58 Calculation of Hazard Quotients for Great Blue Heron - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	5.0E-06	1.3E+00	2.6E-04	1.3E+00	0.11	1.1	12	1
TCDD TEQ (PCBs)	8.0E-11	5.2E-06	--	5.2E-06	0.000014	0.00014	<1	<1
Cadmium	--	7.4E-03	1.0E-02	1.8E-02	1.47	7.7	<1	<1
Chromium		3.6E-03	1.7E-02	2.1E-02	2.66	11	<1	<1
Copper	8.9E-05	3.5E-01	3.8E-02	3.8E-01	4.05	37	<1	<1
Lead	--	1.4E-01	1.3E-01	2.7E-01	1.63	52	<1	<1
Mercury	--	6.4E-03	1.0E-04	6.5E-03	0.45	0.9	<1	<1
Selenium	--	3.0E-01	1.0E-03	3.0E-01	0.29	1.2	1	<1
Silver	--	4.9E-02	3.0E-03	5.2E-02	2.02	20.2	<1	<1
Zinc	2.9E-04	4.2E+00	1.4E-01	4.4E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-8 and for sediment and biota in EU BB6 in Table 5-15.

Table K-59 Calculation of Hazard Quotients for Belted Kingfisher - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.2E-05	2.4E+00	1.2E-03	2.4E+00	0.11	1.1	22	2
TCDD TEQ (PCBs)	2.0E-10	1.1E-05	--	1.1E-05	0.000014	0.00014	1	<1
Cadmium	--	2.8E-01	4.9E-02	3.3E-01	1.47	7.7	<1	<1
Chromium		1.3E-01	8.0E-02	2.1E-01	2.66	11	<1	<1
Copper	2.2E-04	5.6E+00	1.8E-01	5.8E+00	4.05	37	1	<1
Lead	--	8.0E-01	6.0E-01	1.4E+00	1.63	52	1	<1
Mercury	--	1.5E-02	4.9E-04	1.6E-02	0.45	0.9	<1	<1
Selenium	--	6.2E-01	4.7E-03	6.2E-01	0.29	1.2	2	1
Silver	--	1.4E-01	1.4E-02	1.6E-01	2.02	20.2	<1	<1
Zinc	7.2E-04	1.1E+01	6.8E-01	1.2E+01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-8 and for sediment and biota in EU BB6 in Table 5-15.

Table K-60 Calculation of Hazard Quotients for Muskrat - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	4.2E-03	1.5E-03	5.7E-03	65.6	328	<1	<1
HMW PAHs	--	3.0E-01	2.4E-02	3.2E-01	0.615	3.07	1	<1
alpha-BHC	--	3.6E-03	4.3E-06	3.6E-03	1.6	3.2	<1	<1
beta-BHC	--	6.6E-02	8.0E-05	6.6E-02	1.6	3.2	<1	<1
delta-BHC	--	1.5E-01	1.8E-04	1.5E-01	1.6	3.2	<1	<1
Chlordane, Total	--	3.5E-02	2.0E-04	3.6E-02	4.58	9.16	<1	<1
Total DDx	--	2.3E-05	4.4E-05	6.6E-05	0.147	8	<1	<1
Dieldrin	--	2.3E-02	1.3E-04	2.3E-02	0.015	1.6	2	<1
beta-Endosulfan	--	6.5E-03	1.3E-05	6.5E-03	0.15	1.5	<1	<1
Methoxyclor	--	3.7E-05	4.5E-05	8.2E-05	2.5	50	<1	<1
Total PCB Aroclors	1.1E-05	2.3E-02	2.3E-03	2.6E-02	0.305	3.05	<1	<1
Cadmium	--	6.4E-02	9.4E-02	1.6E-01	0.77	7.1	<1	<1
Chromium	--	7.2E-03	1.5E-01	1.6E-01	2.4	35	<1	<1
Copper	1.9E-04	5.4E-01	3.4E-01	8.8E-01	5.6	56	<1	<1
Lead	--	1.1E-01	1.1E+00	1.2E+00	4.7	47	<1	<1
Mercury	--	3.5E-04	9.2E-04	1.3E-03	1	10	<1	<1
Nickel	3.6E-04	1.6E-02	1.9E-01	2.1E-01	1.7	13	<1	<1
Silver	--	2.9E-02	2.7E-02	5.6E-02	6.02	60.2	<1	<1
Zinc	6.3E-04	1.2E+01	1.3E+00	1.4E+01	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU BB6 in Table 5-16.

Table K-61 Calculation of Hazard Quotients for Raccoon - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	9.4E-06	2.2E-01	1.6E-03	2.2E-01	0.305	3.05	1	<1
TCDD TEQ (PCBs)	1.7E-11	5.1E-07	--	5.1E-07	0.000001	0.00001	1	<1
Cadmium	--	2.7E-01	6.4E-02	3.4E-01	0.77	7.1	<1	<1
Chromium		1.3E-01	1.0E-01	2.3E-01	2.4	35	<1	<1
Copper	1.7E-04	5.2E+00	2.3E-01	5.5E+00	5.6	56	1	<1
Lead	--	5.8E-01	7.7E-01	1.3E+00	4.7	47	<1	<1
Mercury	--	4.2E-03	6.3E-04	4.8E-03	1	10	<1	<1
Selenium	--	9.7E-02	6.1E-03	1.0E-01	0.143	0.8	1	<1
Silver	--	5.9E-02	1.8E-02	7.7E-02	6.02	60.2	<1	<1
Zinc	5.5E-04	3.7E+00	8.7E-01	4.6E+00	9.61	292	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-8 and for sediment and biota in EU BB6 in Table 5-15.

Table K-62 Calculation of Hazard Quotients for Little Brown Bat - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.8E-05	9.5E-01	--	9.5E-01	0.305	3.05	3	<1
TCDD TEQ (PCBs)	3.3E-11	2.5E-06	--	2.5E-06	0.000001	0.00001	3	<1
Cadmium	--	1.5E+00	--	1.5E+00	0.77	7.1	2	<1
Chromium		7.4E-01	--	7.4E-01	2.4	35	<1	<1
Copper	3.2E-04	2.9E+01	--	2.9E+01	5.6	56	5	1
Lead	--	3.2E+00	--	3.2E+00	4.7	47	1	<1
Mercury	--	2.2E-02	--	2.2E-02	1	10	<1	<1
Selenium	--	4.8E-01	--	4.8E-01	0.143	0.8	3	1
Silver	--	3.2E-01	--	3.2E-01	6.02	60.2	<1	<1
Zinc	1.0E-03	2.0E+01	--	2.0E+01	9.61	292	2	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-8 and for sediment and biota in EU BB6 in Table 5-15.

Table K-63 Calculation of Hazard Quotients for American Mink - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.1E-05	1.2E+00	5.0E-04	1.2E+00	0.11	0.23	11	5
TCDD TEQ (PCBs)	2.0E-11	1.5E-06	--	1.5E-06	0.000001	0.00001	2	<1
Cadmium	--	4.5E-02	2.1E-02	6.5E-02	0.77	7.1	<1	<1
Chromium		2.1E-02	3.3E-02	5.5E-02	2.4	35	<1	<1
Copper	2.0E-04	1.0E+00	7.5E-02	1.1E+00	5.6	56	<1	<1
Lead	--	2.0E-01	2.5E-01	4.5E-01	4.7	47	<1	<1
Mercury	--	6.3E-03	2.0E-04	6.5E-03	1	10	<1	<1
Selenium	--	2.8E-01	2.0E-03	2.9E-01	0.143	0.8	2	<1
Silver	--	5.1E-02	6.0E-03	5.7E-02	6.02	60.2	<1	<1
Zinc	6.4E-04	4.3E+00	2.8E-01	4.6E+00	9.61	292	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-8 and for sediment and biota in EU BB6 in Table 5-15.

Table K-64 Calculation of Hazard Quotients for Wood Duck - EU SL
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	4.2E-02	6.8E-03	4.9E-02	1653	16530	<1	<1
HMW PAHs	--	6.2E-01	8.4E-02	7.1E-01	2	20	<1	<1
Chlordane, Total	--	9.6E-05	2.0E-04	3.0E-04	2.14	10.7	<1	<1
Total DDx	--	2.7E-03	5.0E-04	3.2E-03	0.227	4.2	<1	<1
Lead	--	5.3E-01	4.8E-01	1.0E+00	1.63	52	1	<1
Mercury	--	2.0E-02	7.1E-04	2.1E-02	0.45	0.9	<1	<1
Silver	--	1.3E-03	1.8E-03	3.1E-03	2.02	20.2	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU SL in Table 5-17.

Table K-65 Calculation of Hazard Quotients for Mallard - EU SL
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	6.3E-06	5.3E-01	1.3E-04	1.1E-01	0.11	1.1	1	<1
TCDD TEQ (PCBs)	1.0E-10	4.2E-05	--	8.5E-06	0.000014	0.00014	1	<1
Arsenic	2.2E-04	2.8E-01	7.6E-03	5.8E-02	2.24	4.5	<1	<1
Cadmium	--	2.4E-01	5.7E-03	4.9E-02	1.47	7.7	<1	<1
Chromium	--	2.7E-01	9.4E-02	7.3E-02	2.66	11	<1	<1
Copper	1.1E-04	1.4E+01	1.9E-01	2.9E+00	4.05	37	1	<1
Lead	--	2.5E-01	6.7E-01	1.9E-01	1.63	52	<1	<1
Mercury	--	6.4E-03	9.9E-04	1.5E-03	0.45	0.9	<1	<1
Nickel	2.1E-04	1.3E-01	5.7E-02	3.7E-02	6.71	22	<1	<1
Selenium	--	2.8E-01	--	5.6E-02	0.29	1.2	<1	<1
Silver	--	3.3E-01	2.5E-03	6.8E-02	2.02	20.2	<1	<1
Zinc	3.7E-04	9.1E+00	6.9E-01	2.0E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU SL in Table 5-17.

Table K-66 Calculation of Hazard Quotients for Red-Winged Blackbird - EU SL
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.7E-05	1.4E+00	1.0E-04	1.4E+00	0.11	1.1	13	1
TCDD TEQ (PCBs)	2.8E-10	1.1E-04	--	1.1E-04	0.000014	0.00014	8	1
Arsenic	6.1E-04	7.4E-01	6.0E-03	7.4E-01	2.24	4.5	<1	<1
Cadmium	--	6.2E-01	4.6E-03	6.2E-01	1.47	7.7	<1	<1
Chromium	--	7.1E-01	7.5E-02	7.8E-01	2.66	11	<1	<1
Copper	3.1E-04	3.8E+01	1.5E-01	3.8E+01	4.05	37	9	1
Lead	--	6.7E-01	5.3E-01	1.2E+00	1.63	52	1	<1
Mercury	--	1.7E-02	7.8E-04	1.7E-02	0.45	0.9	<1	<1
Nickel	5.8E-04	3.3E-01	4.6E-02	3.8E-01	6.71	22	<1	<1
Selenium	--	7.3E-01	--	7.3E-01	0.29	1.2	3	1
Silver	--	8.7E-01	2.0E-03	8.7E-01	2.02	20.2	<1	<1
Zinc	1.0E-03	2.4E+01	5.5E-01	2.4E+01	66.1	189	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU SL in Table 5-17.

Table K-67 Calculation of Hazard Quotients for Great Blue Heron - EU SL
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	5.0E-06	1.4E+00	3.2E-05	1.4E+00	0.11	1.1	13	1
TCDD TEQ (PCBs)	8.0E-11	2.2E-05	--	2.2E-05	0.000014	0.00014	2	<1
Arsenic	1.8E-04	3.7E-03	1.8E-03	5.7E-03	2.24	4.5	<1	<1
Cadmium	--	3.1E-03	1.4E-03	4.5E-03	1.47	7.7	<1	<1
Chromium	--	3.6E-03	2.3E-02	2.6E-02	2.66	11	<1	<1
Copper	8.9E-05	1.9E-01	4.5E-02	2.4E-01	4.05	37	<1	<1
Lead	--	3.4E-03	1.6E-01	1.6E-01	1.63	52	<1	<1
Mercury	--	8.4E-05	2.4E-04	3.2E-04	0.45	0.9	<1	<1
Nickel	1.7E-04	1.7E-03	1.4E-02	1.6E-02	6.71	22	<1	<1
Selenium	--	3.7E-03	--	3.7E-03	0.29	1.2	<1	<1
Silver	--	4.4E-03	6.1E-04	5.0E-03	2.02	20.2	<1	<1
Zinc	2.9E-04	1.2E-01	1.7E-01	2.9E-01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU SL in Table 5-17.

Table K-68 Calculation of Hazard Quotients for Belted Kingfisher - EU SL
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.2E-05	2.7E+00	1.5E-04	2.7E+00	0.11	1.1	25	2
TCDD TEQ (PCBs)	2.0E-10	5.8E-05	--	5.8E-05	0.000014	0.00014	4	<1
Arsenic	4.3E-04	1.4E-01	8.7E-03	1.5E-01	2.24	4.5	<1	<1
Cadmium	--	1.2E-01	6.6E-03	1.2E-01	1.47	7.7	<1	<1
Chromium	--	1.3E-01	1.1E-01	2.4E-01	2.66	11	<1	<1
Copper	2.2E-04	7.1E+00	2.1E-01	7.3E+00	4.05	37	2	<1
Lead	--	1.3E-01	7.6E-01	8.9E-01	1.63	52	1	<1
Mercury	--	3.1E-03	1.1E-03	4.2E-03	0.45	0.9	<1	<1
Nickel	4.1E-04	6.2E-02	6.6E-02	1.3E-01	6.71	22	<1	<1
Selenium	--	1.4E-01	--	1.4E-01	0.29	1.2	<1	<1
Silver	--	1.6E-01	2.9E-03	1.7E-01	2.02	20.2	<1	<1
Zinc	7.2E-04	4.4E+00	7.9E-01	5.2E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU SL in Table 5-17.

Table K-69 Calculation of Hazard Quotients for Muskrat - EU SL
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
LMW PAHs	--	5.8E-02	2.0E-02	7.9E-02	65.6	328	<1	<1
HMW PAHs	--	3.1E+00	2.5E-01	3.4E+00	0.615	3.07	5	1
Chlordane, Total	--	1.1E-01	6.0E-04	1.1E-01	4.58	9.16	<1	<1
Total DDx	--	7.8E-04	1.5E-03	2.3E-03	0.147	8	<1	<1
Lead	--	1.4E-01	1.4E+00	1.6E+00	4.7	47	<1	<1
Mercury	--	8.2E-04	2.1E-03	3.0E-03	1	10	<1	<1
Silver	--	5.8E-03	5.5E-03	1.1E-02	6.02	60.2	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU SL in Table 5-17.

Table K-70 Calculation of Hazard Quotients for Raccoon - EU SL
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	9.4E-06	3.1E-01	1.9E-04	3.1E-01	0.305	3.05	1	<1
TCDD TEQ (PCBs)	1.7E-11	5.1E-06	--	5.1E-06	0.000001	0.00001	5	1
Arsenic	3.3E-04	1.4E-01	1.1E-02	1.5E-01	1.04	5.7	<1	<1
Cadmium	--	1.1E-01	8.5E-03	1.2E-01	0.77	7.1	<1	<1
Chromium	--	1.3E-01	1.4E-01	2.7E-01	2.4	35	<1	<1
Copper	1.7E-04	7.0E+00	2.7E-01	7.3E+00	5.6	56	1	<1
Lead	--	1.2E-01	9.8E-01	1.1E+00	4.7	47	<1	<1
Mercury	--	3.1E-03	1.5E-03	4.5E-03	1	10	<1	<1
Nickel	3.1E-04	6.2E-02	8.5E-02	1.5E-01	1.7	13	<1	<1
Selenium	--	1.4E-01	--	1.4E-01	0.143	0.8	1	<1
Silver	--	1.6E-01	3.7E-03	1.7E-01	6.02	60.2	<1	<1
Zinc	5.5E-04	4.4E+00	1.0E+00	5.4E+00	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU SL in Table 5-17.

Table K-71 Calculation of Hazard Quotients for Little Brown Bat - EU SL
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.8E-05	1.5E+00	--	1.5E+00	0.305	3.05	5	<1
TCDD TEQ (PCBs)	3.3E-11	2.7E-05	--	2.7E-05	0.000001	0.00001	27	3
Arsenic	6.3E-04	7.7E-01	--	7.7E-01	1.04	5.7	1	<1
Cadmium	--	6.4E-01	--	6.4E-01	0.77	7.1	1	<1
Chromium	--	7.4E-01	--	7.4E-01	2.4	35	<1	<1
Copper	3.2E-04	3.9E+01	--	3.9E+01	5.6	56	7	1
Lead	--	7.0E-01	--	7.0E-01	4.7	47	<1	<1
Mercury	--	1.7E-02	--	1.7E-02	1	10	<1	<1
Nickel	6.0E-04	3.5E-01	--	3.5E-01	1.7	13	<1	<1
Selenium	--	7.6E-01	--	7.6E-01	0.143	0.8	5	1
Silver	--	9.1E-01	--	9.1E-01	6.02	60.2	<1	<1
Zinc	1.0E-03	2.5E+01	--	2.5E+01	9.61	292	3	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU SL in Table 5-17.

Table K-72 Calculation of Hazard Quotients for American Mink - EU SL
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Sediment (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.1E-05	1.3E+00	6.2E-05	1.3E+00	0.11	0.23	12	6
TCDD TEQ (PCBs)	2.0E-11	6.2E-06	--	6.2E-06	0.000001	0.00001	6	1
Arsenic	3.9E-04	2.2E-02	3.6E-03	2.6E-02	1.04	5.7	<1	<1
Cadmium	--	1.9E-02	2.7E-03	2.1E-02	0.77	7.1	<1	<1
Chromium	--	2.1E-02	4.5E-02	6.6E-02	2.4	35	<1	<1
Copper	2.0E-04	1.1E+00	8.9E-02	1.2E+00	5.6	56	<1	<1
Lead	--	2.0E-02	3.2E-01	3.4E-01	4.7	47	<1	<1
Mercury	--	5.0E-04	4.7E-04	9.7E-04	1	10	<1	<1
Nickel	3.7E-04	1.0E-02	2.7E-02	3.8E-02	1.7	13	<1	<1
Selenium	--	2.2E-02	--	2.2E-02	0.143	0.8	<1	<1
Silver	--	2.6E-02	1.2E-03	2.8E-02	6.02	60.2	<1	<1
Zinc	6.4E-04	7.2E-01	3.3E-01	1.0E+00	9.61	292	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for sediment and biota in EU SL in Table 5-17.

Table K-73 Calculation of Hazard Quotients for Mourning Dove - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	2.1E-01	1.3E-02	4.5E-03	2	20	<1	<1
Total PCB Aroclors	1.1E-04	6.9E-05	1.0E-04	5.8E-06	0.11	1.1	<1	<1
Cadmium	--	9.0E-02	1.5E-03	1.9E-03	1.47	7.7	<1	<1
Chromium	--	2.4E-01	5.7E-02	6.0E-03	2.66	11	<1	<1
Mercury	--	6.4E-02	2.0E-03	1.3E-03	0.45	0.9	<1	<1
Zinc	6.5E-03	1.1E+01	2.3E-01	2.4E-01	66.1	189	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU GB in Table 5-10.

Table K-74 Calculation of Hazard Quotients for American Robin - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.5E-05	5.4E-02	1.2E-03	5.5E-02	0.11	1.1	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU GB in Table 5-10.

Table K-75 Calculation of Hazard Quotients for Red-Tailed Hawk - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	6.4E-06	6.4E-02		6.4E-02	0.11	1.1	1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU GB in Table 5-10.

Table K-76 Calculation of Hazard Quotients for Eastern Gray Squirrel - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	9.8E-02	1.2E-02	1.1E-01	0.615	3.07	<1	<1
Total PCB Aroclors	1.1E-04	3.2E-05	9.6E-05	2.4E-04	0.305	3.05	<1	<1
Cadmium	--	4.2E-02	1.4E-03	4.3E-02	0.77	7.1	<1	<1
Chromium	--	1.1E-01	5.4E-02	1.6E-01	2.4	35	<1	<1
Mercury	--	3.0E-02	1.8E-03	3.2E-02	1	10	<1	<1
Zinc	6.5E-03	5.3E+00	2.2E-01	5.5E+00	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU GB in Table 5-10.

Table K-77 Calculation of Hazard Quotients for Short-Tailed Shrew - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		HQ_{NOAEL}	HQ_{LOAEL}
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	(unitless)	(unitless)
Total PCB Aroclors	1.7E-05	5.4E-02	1.5E-03	5.6E-02	0.305	3.05	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU GB in Table 5-10.

Table K-78 Calculation of Hazard Quotients for Red Fox - EU GB
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		HQ_{NOAEL}	HQ_{LOAEL}
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	(unitless)	(unitless)
Total PCB Aroclors	9.5E-06	3.4E-02	7.6E-05	3.4E-02	0.305	3.05	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU GB in Table 5-10.

Table K-79 Calculation of Hazard Quotients for Mourning Dove - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	1.9E-01	1.2E-02	1.2E-02	2	20	<1	<1
Aldrin	--	1.3E-06	1.9E-06	1.9E-07	0.027	0.27	<1	<1
gamma-BHC	--	9.0E-06	3.3E-07	5.5E-07	0.56	2.25	<1	<1
Chlordane, Total	--	3.1E-04	3.2E-04	3.7E-05	2.14	10.7	<1	<1
Total DDx	--	2.2E-03	1.6E-04	1.4E-04	0.227	4.2	<1	<1
Dieldrin	--	1.7E-03	4.1E-05	1.0E-04	0.0709	1.1	<1	<1
Total PCB Aroclors	1.1E-04	8.0E-04	1.2E-03	1.2E-04	0.11	1.1	<1	<1
Cadmium	--	1.2E-01	2.5E-03	7.1E-03	1.47	7.7	<1	<1
Lead	--	4.8E-01	1.3E-01	3.6E-02	1.63	52	<1	<1
Mercury	--	2.1E-02	2.6E-04	1.3E-03	0.45	0.9	<1	<1
Selenium	--	1.2E-01	2.3E-03	7.2E-03	0.29	1.2	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB1 in Table 5-11.

Table K-80 Calculation of Hazard Quotients for American Robin - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.5E-05	1.1E+00	2.5E-02	1.1E+00	0.11	1.1	10	1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB1 in Table 5-11.

Table K-81 Calculation of Hazard Quotients for Red-Tailed Hawk - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	6.4E-06	6.4E-02	6.1E-04	1.5E-02	0.11	1.1	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB1 in Table 5-11.

Table K-82 Calculation of Hazard Quotients for Eastern Gray Squirrel - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	9.1E-02	1.1E-02	1.0E-01	0.615	3.07	<1	<1
Aldrin	--	6.0E-07	1.8E-06	2.4E-06	0.2	1	<1	<1
gamma-BHC	--	4.2E-06	3.1E-07	4.5E-06	1.6	3.2	<1	<1
Chlordane, Total	--	1.4E-04	3.0E-04	4.4E-04	4.58	9.16	<1	<1
Total DDx	--	1.0E-03	1.5E-04	1.2E-03	0.147	8	<1	<1
Dieldrin	--	7.8E-04	3.8E-05	8.2E-04	0.015	1.6	<1	<1
Total PCB Aroclors	1.1E-04	3.7E-04	1.1E-03	1.6E-03	0.305	3.05	<1	<1
Cadmium	--	5.5E-02	2.3E-03	5.8E-02	0.77	7.1	<1	<1
Lead	--	2.2E-01	1.2E-01	3.5E-01	4.7	47	<1	<1
Mercury	--	9.9E-03	2.4E-04	1.0E-02	1	10	<1	<1
Selenium	--	5.6E-02	2.1E-03	5.8E-02	0.143	0.8	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB1 in Table 5-11.

Table K-83 Calculation of Hazard Quotients for Short-Tailed Shrew - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	2.5E-05	6.3E-01	1.8E-02	6.5E-01	0.305	3.05	2	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB1 in Table 5-11.

Table K-84 Calculation of Hazard Quotients for Red Fox - EU BB1
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	9.5E-06	4.0E-02	8.9E-04	8.1E-03	0.305	3.05	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB1 in Table 5-11.

Table K-85 Calculation of Hazard Quotients for Mourning Dove - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	7.6E-02	4.4E-03	9.7E-04	2	20	<1	<1
Total PCB Aroclors	1.1E-04	7.0E-04	1.0E-03	2.2E-05	0.11	1.1	<1	<1
Selenium	--	1.4E-01	2.6E-03	1.7E-03	0.29	1.2	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB2 in Table 5-12.

Table K-86 Calculation of Hazard Quotients for American Robin - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.5E-05	9.6E-01	2.2E-02	9.8E-01	0.11	1.1	9	1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB2 in Table 5-12.

Table K-87 Calculation of Hazard Quotients for Red-Tailed Hawk - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	6.4E-06	6.4E-02	5.3E-04	3.1E-03	0.11	1.1	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB2 in Table 5-12.

Table K-88 Calculation of Hazard Quotients for Eastern Gray Squirrel - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	3.6E-02	4.2E-03	4.0E-02	0.615	3.07	<1	<1
Total PCB Aroclors	1.1E-04	3.2E-04	9.8E-04	1.4E-03	0.305	3.05	<1	<1
Selenium	--	6.7E-02	2.5E-03	6.9E-02	0.143	0.8	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB2 in Table 5-12.

Table K-89 Calculation of Hazard Quotients for Short-Tailed Shrew - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	2.5E-05	5.5E-01	1.6E-02	5.7E-01	0.305	3.05	2	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB2 in Table 5-12.

Table K-90 Calculation of Hazard Quotients for Red Fox - EU BB2
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	9.5E-06	3.4E-02	7.7E-04	1.4E-03	0.305	3.05	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB2 in Table 5-12.

Table K-91 Calculation of Hazard Quotients for Mourning Dove - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	4.3E-01	2.8E-02	1.2E-02	2	20	<1	<1
Aldrin	--	1.6E-06	2.4E-06	1.1E-07	0.027	0.27	<1	<1
beta-BHC	--	6.9E-05	2.8E-06	1.9E-06	0.56	2.25	<1	<1
Chlordane, Total	--	4.7E-05	4.9E-05	2.6E-06	2.14	10.7	<1	<1
Total DDx	--	1.3E-03	7.8E-05	3.7E-05	0.227	4.2	<1	<1
Dieldrin	--	1.5E-03	3.5E-05	4.0E-05	0.0709	1.1	<1	<1
Endrin ketone	--	4.0E-05	8.0E-06	1.3E-06	0.01	0.1	<1	<1
Heptachlor	--	3.1E-05	2.8E-05	1.6E-06	0.65	6.5	<1	<1
Total PCB Aroclors	1.1E-04	3.3E-03	5.0E-03	2.3E-04	0.11	1.1	<1	<1
Cadmium	--	2.2E-01	7.8E-03	6.2E-03	1.47	7.7	<1	<1
Chromium	--	4.0E-01	9.7E-02	1.3E-02	2.66	11	<1	<1
Copper	2.0E-03	6.2E+00	3.9E+00	2.7E-01	4.05	37	<1	<1
Lead	--	2.6E+00	2.8E+00	1.5E-01	1.63	52	<1	<1
Mercury	--	8.0E-02	3.0E-03	2.3E-03	0.45	0.9	<1	<1
Selenium	--	3.2E-01	5.4E-03	8.8E-03	0.29	1.2	<1	<1
Silver	--	2.9E-02	2.1E-02	1.4E-03	2.02	20.2	<1	<1
Zinc	6.5E-03	3.8E+01	2.0E+00	1.1E+00	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB3 in Table 5-13.

Table K-92 Calculation of Hazard Quotients for American Robin - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	1.5E-05	4.6E+00	1.0E-01	4.7E+00	0.11	1.1	43	4

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB3 in Table 5-13.

Table K-93 Calculation of Hazard Quotients for Red-Tailed Hawk - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	6.4E-06	6.4E-02	2.5E-03	7.2E-03	0.11	1.1	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB3 in Table 5-13.

Table K-94 Calculation of Hazard Quotients for Eastern Gray Squirrel - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	2.0E-01	2.6E-02	2.3E-01	0.615	3.07	<1	<1
Aldrin	--	7.3E-07	2.2E-06	2.9E-06	0.2	1	<1	<1
beta-BHC	--	3.2E-05	2.6E-06	3.5E-05	1.6	3.2	<1	<1
Chlordane, Total	--	2.2E-05	4.5E-05	6.7E-05	4.58	9.16	<1	<1
Total DDx	--	6.0E-04	7.3E-05	6.7E-04	0.147	8	<1	<1
Dieldrin	--	6.8E-04	3.3E-05	7.1E-04	0.015	1.6	<1	<1
Endrin ketone	--	1.9E-05	7.5E-06	2.6E-05	0.092	0.92	<1	<1
Heptachlor	--	1.5E-05	2.6E-05	4.1E-05	0.13	6.8	<1	<1
Total PCB Aroclors	1.1E-04	1.5E-03	4.7E-03	6.3E-03	0.305	3.05	<1	<1
Cadmium	--	1.0E-01	7.3E-03	1.1E-01	0.77	7.1	<1	<1
Chromium	--	1.9E-01	9.1E-02	2.8E-01	2.4	35	<1	<1
Copper	2.0E-03	2.9E+00	3.6E+00	6.5E+00	5.6	56	1	<1
Lead	--	1.2E+00	2.6E+00	3.9E+00	4.7	47	1	<1
Mercury	--	3.7E-02	2.8E-03	4.0E-02	1	10	<1	<1
Selenium	--	1.5E-01	5.0E-03	1.5E-01	0.143	0.8	1	<1
Silver	--	1.4E-02	1.9E-02	3.3E-02	6.02	60.2	<1	<1
Zinc	6.5E-03	1.8E+01	1.9E+00	2.0E+01	9.61	292	2	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB3 in Table 5-13.

Table K-95 Calculation of Hazard Quotients for Short-Tailed Shrew - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	2.5E-05	2.6E+00	7.5E-02	2.7E+00	0.305	3.05	9	1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB3 in Table 5-13.

Table K-96 Calculation of Hazard Quotients for Red Fox - EU BB3
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total PCB Aroclors	9.5E-06	3.4E-02	3.7E-03	3.5E-03	0.305	3.05	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB3 in Table 5-13.

Table K-97 Calculation of Hazard Quotients for Mourning Dove - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	3.1E-01	1.9E-02	1.1E-02	2	20	<1	<1
Aldrin	--	3.8E-05	5.7E-05	3.1E-06	0.027	0.27	<1	<1
gamma-BHC	--	4.9E-04	1.8E-05	1.7E-05	0.56	2.25	<1	<1
Chlordane, Total	--	2.0E-04	2.1E-04	1.3E-05	2.14	10.7	<1	<1
Total DDx	--	6.9E-03	7.2E-04	2.5E-04	0.227	4.2	<1	<1
Dieldrin	--	2.0E-02	4.9E-04	6.8E-04	0.0709	1.1	<1	<1
beta-Endosulfan	--	1.9E-02	8.2E-04	6.6E-04	10	100	<1	<1
Methoxyclor	--	2.6E-04	6.0E-05	1.1E-05	3.2	32	<1	<1
Total PCB Aroclors	1.1E-04	1.2E-02	1.8E-02	1.0E-03	0.11	1.1	<1	<1
Cadmium	--	2.9E-01	1.3E-02	1.0E-02	1.47	7.7	<1	<1
Chromium	--	5.6E-01	1.4E-01	2.3E-02	2.66	11	<1	<1
Copper	2.0E-03	1.9E+00	1.9E-01	6.8E-02	4.05	37	<1	<1
Lead	--	8.0E-01	3.4E-01	3.8E-02	1.63	52	<1	<1
Mercury	--	3.4E-02	6.2E-04	1.2E-03	0.45	0.9	<1	<1
Selenium	--	1.0E-01	2.0E-03	3.5E-03	0.29	1.2	<1	<1
Silver	--	1.6E-02	1.1E-02	9.0E-04	2.02	20.2	<1	<1
Zinc	6.5E-03	1.3E+01	2.9E-01	4.4E-01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB4 in Table 5-14.

Table K-98 Calculation of Hazard Quotients for American Robin - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Dieldrin	--	--	--	--	0.0709	1.1	--	--
Heptachlor epoxide	--	--	--	--	0.65	6.5	--	--
Total PCB Aroclors	1.5E-05	3.0E+00	3.8E-01	3.4E+00	0.11	1.1	31	3

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soilediment and biota in EU BB4 in Table 5-14.

Table K-99 Calculation of Hazard Quotients for Red-Tailed Hawk - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Dieldrin	--	2.9E-03	2.5E-04	4.2E-04	0.0709	1.1	<1	<1
Heptachlor epoxide	--	1.5E-02	4.4E-06	2.0E-03	0.65	6.5	<1	<1
Total PCB Aroclors	6.4E-06	2.1E-01	9.3E-03	3.0E-02	0.11	1.1	<1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for surface soilediment and biota in EU BB4 in Table 5-14.

Table K-100 Calculation of Hazard Quotients for Eastern Gray Squirrel - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	1.4E-01	1.8E-02	1.6E-01	0.615	3.07	<1	<1
Aldrin	--	1.8E-05	5.3E-05	7.1E-05	0.2	1	<1	<1
gamma-BHC	--	2.3E-04	1.7E-05	2.4E-04	1.6	3.2	<1	<1
Chlordane, Total	--	9.2E-05	1.9E-04	2.8E-04	4.58	9.16	<1	<1
Total DDx	--	3.2E-03	6.8E-04	3.9E-03	0.147	8	<1	<1
Dieldrin	--	9.4E-03	4.6E-04	9.8E-03	0.015	1.6	1	<1
beta-Endosulfan	--	8.9E-03	7.6E-04	9.6E-03	0.15	1.5	<1	<1
Methoxyclor	--	1.2E-04	5.6E-05	1.8E-04	2.5	50	<1	<1
Total PCB Aroclors	1.1E-04	5.7E-03	1.7E-02	2.3E-02	0.305	3.05	<1	<1
Cadmium	--	1.3E-01	1.2E-02	1.5E-01	0.77	7.1	<1	<1
Chromium	--	2.6E-01	1.3E-01	3.9E-01	2.4	35	<1	<1
Copper	2.0E-03	8.7E-01	1.7E-01	1.0E+00	5.6	56	<1	<1
Lead	--	3.7E-01	3.1E-01	6.9E-01	4.7	47	<1	<1
Mercury	--	1.6E-02	5.8E-04	1.6E-02	1	10	<1	<1
Selenium	--	4.9E-02	1.8E-03	5.1E-02	0.143	0.8	<1	<1
Silver	--	7.4E-03	1.1E-02	1.8E-02	6.02	60.2	<1	<1
Zinc	6.5E-03	6.0E+00	2.7E-01	6.3E+00	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB4 in Table 5-14.

Table K-101 Calculation of Hazard Quotients for Short-Tailed Shrew - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Dieldrin	--	--	--	--	0.015	1.6	--	--
Heptachlor epoxide	--	--	--	--	0.13	6.8	--	--
Total PCB Aroclors	2.5E-05	9.6E+00	2.7E-01	9.9E+00	0.305	3.05	32	3

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soilediment and biota in EU BB4 in Table 5-14.

Table K-102 Calculation of Hazard Quotients for Red Fox - EU BB4
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Dieldrin	--	1.4E-03	3.6E-04	2.0E-04	0.015	1.6	<1	<1
Heptachlor epoxide	--	7.4E-03	6.4E-06	8.4E-04	0.13	6.8	<1	<1
Total PCB Aroclors	9.5E-06	1.1E-01	1.4E-02	1.4E-02	0.305	3.05	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soilediment and biota in EU BB4 in Table 5-14.

Table K-103 Calculation of Hazard Quotients for Mourning Dove - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	6.2E-01	4.1E-02	1.2E-02	2	20	<1	<1
Aldrin	--	7.2E-07	1.1E-06	3.4E-08	0.027	0.27	<1	<1
beta-BHC	--	1.1E-05	4.3E-07	2.1E-07	0.56	2.25	<1	<1
gamma-BHC	--	1.5E-05	5.5E-07	2.9E-07	0.56	2.25	<1	<1
Chlordane, Total	--	1.6E-04	1.6E-04	6.0E-06	2.14	10.7	<1	<1
Total DDx	--	1.6E-01	4.6E-02	3.8E-03	0.227	4.2	<1	<1
Dieldrin	--	5.7E-01	1.4E-02	1.1E-02	0.0709	1.1	<1	<1
Endrin aldehyde	--	7.0E-03	1.1E-03	1.5E-04	0.01	0.1	<1	<1
Heptachlor epoxide	-	1.2E-02	2.5E-03	2.8E-04	0.65	6.5	<1	<1
Total PCB Aroclors	1.1E-04	3.1E-02	4.6E-02	1.5E-03	0.11	1.1	<1	<1
Cadmium	--	3.7E-01	2.0E-02	7.4E-03	1.47	7.7	<1	<1
Chromium	--	2.6E-01	6.2E-02	6.0E-03	2.66	11	<1	<1
Copper	2.0E-03	2.3E+00	3.2E-01	4.9E-02	4.05	37	<1	<1
Lead	--	1.0E+00	5.4E-01	3.0E-02	1.63	52	<1	<1
Mercury	--	4.0E-02	8.5E-04	7.7E-04	0.45	0.9	<1	<1
Selenium	--	2.6E-01	4.5E-03	5.0E-03	0.29	1.2	<1	<1
Silver	--	1.2E-02	8.9E-03	4.0E-04	2.02	20.2	<1	<1
Zinc	6.5E-03	2.0E+01	6.1E-01	3.8E-01	66.1	189	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB5 in Table 5-15.

Table K-104 Calculation of Hazard Quotients for American Robin - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.227	4.2	--	--
Dieldrin	--	--	--	--	0.0709	1.1	--	--
Total PCB Aroclors	1.5E-05	4.3E+01	9.7E-01	4.3E+01	0.11	1.1	395	40

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB5 in Table 5-15.

Table K-105 Calculation of Hazard Quotients for Red-Tailed Hawk - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	1.3E-02	2.3E-02	2.8E-03	0.227	4.2	<1	<1
Dieldrin	--	8.1E-03	7.0E-03	1.1E-03	0.0709	1.1	<1	<1
Total PCB Aroclors	6.4E-06	9.3E-01	2.3E-02	7.2E-02	0.11	1.1	1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB5 in Table 5-15.

Table K-106 Calculation of Hazard Quotients for Eastern Gray Squirrel - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	2.9E-01	3.8E-02	3.3E-01	0.615	3.07	1	<1
Aldrin	--	3.4E-07	1.0E-06	1.3E-06	0.2	1	<1	<1
beta-BHC	--	5.0E-06	4.0E-07	5.4E-06	1.6	3.2	<1	<1
gamma-BHC	--	7.0E-06	5.2E-07	7.5E-06	1.6	3.2	<1	<1
Chlordane, Total	--	7.3E-05	1.5E-04	2.2E-04	4.58	9.16	<1	<1
Total DDx	--	7.3E-02	4.3E-02	1.2E-01	0.147	8	1	<1
Dieldrin	--	2.7E-01	1.3E-02	2.8E-01	0.015	1.6	19	<1
Endrin aldehyde	--	3.3E-03	1.0E-03	4.3E-03	0.092	0.92	<1	<1
Heptachlor epoxide	-	5.8E-03	2.3E-03	8.1E-03	0.13	6.8	<1	<1
Total PCB Aroclors	1.1E-04	1.4E-02	4.3E-02	5.8E-02	0.305	3.05	<1	<1
Cadmium	--	1.7E-01	1.9E-02	1.9E-01	0.77	7.1	<1	<1
Chromium	--	1.2E-01	5.8E-02	1.8E-01	2.4	35	<1	<1
Copper	2.0E-03	1.1E+00	3.0E-01	1.4E+00	5.6	56	<1	<1
Lead	--	4.9E-01	5.0E-01	9.9E-01	4.7	47	<1	<1
Mercury	--	1.9E-02	7.9E-04	2.0E-02	1	10	<1	<1
Selenium	--	1.2E-01	4.2E-03	1.3E-01	0.143	0.8	1	<1
Silver	--	5.8E-03	8.3E-03	1.4E-02	6.02	60.2	<1	<1
Zinc	6.5E-03	9.1E+00	5.7E-01	9.7E+00	9.61	292	1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB5 in Table 5-15.

Table K-107 Calculation of Hazard Quotients for Short-Tailed Shrew - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.147	8	--	--
Dieldrin	--	--	--	--	0.015	1.6	--	--
Total PCB Aroclors	2.5E-05	2.4E+01	6.9E-01	2.5E+01	0.305	3.05	82	8

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB5 in Table 5-15.

Table K-108 Calculation of Hazard Quotients for Red Fox - EU BB5
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	6.5E-03	3.4E-02	2.6E-03	0.147	8	<1	<1
Dieldrin	--	4.0E-03	1.0E-02	9.1E-04	0.015	1.6	<1	<1
Total PCB Aroclors	9.5E-06	5.0E-01	3.4E-02	3.4E-02	0.305	3.05	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB5 in Table 5-15.

Table K-109 Calculation of Hazard Quotients for Mourning Dove - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	4.8E-01	3.1E-02	1.3E-02	2	20	<1	<1
Aldrin	--	3.4E-06	5.1E-06	2.2E-07	0.027	0.27	<1	<1
Chlordane, Total	--	1.1E-05	1.1E-05	5.7E-07	2.14	10.7	<1	<1
Total DDx	--	5.0E-04	2.2E-05	1.4E-05	0.227	4.2	<1	<1
Dieldrin	--	3.5E-03	8.5E-05	9.2E-05	0.0709	1.1	<1	<1
Endrin ketone	--	2.8E-05	5.5E-06	8.6E-07	0.01	0.1	<1	<1
Total PCB Aroclors	1.1E-04	5.7E-02	8.6E-02	3.7E-03	0.11	1.1	<1	<1
Cadmium	--	2.3E-01	8.4E-03	6.2E-03	1.47	7.7	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB6 in Table 5-16.

Table K-110 Calculation of Hazard Quotients for American Robin - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.227	4.2	--	--
Dieldrin	--	--	--	--	0.0709	1.1	--	--
Total PCB Aroclors	1.5E-05	7.9E+01	1.8E+00	8.1E+01	0.11	1.1	732	73

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB6 in Table 5-16.

Table K-111 Calculation of Hazard Quotients for Red-Tailed Hawk - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	1.3E-02	1.1E-05	1.3E-03	0.227	4.2	<1	<1
Dieldrin	--	7.9E-03	4.3E-05	8.3E-04	0.0709	1.1	<1	<1
Total PCB Aroclors	6.4E-06	9.1E-01	4.4E-02	1.0E-01	0.11	1.1	1	<1

Notes:

Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB6 in Table 5-16.

Table K-112 Calculation of Hazard Quotients for Eastern Gray Squirrel - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
HMW PAHs	--	2.2E-01	2.9E-02	2.5E-01	0.615	3.07	<1	<1
Aldrin	--	1.6E-06	4.8E-06	6.4E-06	0.2	1	<1	<1
Chlordane, Total	--	5.0E-06	1.0E-05	1.5E-05	4.58	9.16	<1	<1
Total DDx	--	2.3E-04	2.1E-05	2.5E-04	0.147	8	<1	<1
Dieldrin	--	1.6E-03	7.9E-05	1.7E-03	0.015	1.6	<1	<1
Endrin ketone	--	1.3E-05	5.2E-06	1.8E-05	0.092	0.92	<1	<1
Total PCB Aroclors	1.1E-04	2.7E-02	8.0E-02	1.1E-01	0.305	3.05	<1	<1
Cadmium	--	1.1E-01	7.8E-03	1.2E-01	0.77	7.1	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB6 in Table 5-16.

Table K-113 Calculation of Hazard Quotients for Short-Tailed Shrew - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	--	--	--	0.147	8	--	--
Dieldrin	--	--	--	--	0.015	1.6	--	--
Total PCB Aroclors	2.5E-05	4.5E+01	1.3E+00	4.6E+01	0.305	3.05	152	15

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB6 in Table 5-16.

Table K-114 Calculation of Hazard Quotients for Red Fox - EU BB6
Cornell-Dubilier Electronics Superfund Site: OU4 Bound Brook

Chemical of Potential Ecological Concern (COPEC)	Intakes				Toxicity Reference Values		Hazard Quotients	
	Water (mg/kg bw-day)	Diet (mg/kg bw-day)	Soil (mg/kg bw-day)	Total (mg/kg bw-day)	NOAEL-based TRV (mg/kg bw-day)	LOAEL-based TRV (mg/kg bw-day)	HQ_{NOAEL} (unitless)	HQ_{LOAEL} (unitless)
Total DDx	--	6.5E-03	1.6E-05	5.7E-04	0.147	8	<1	<1
Dieldrin	--	4.0E-03	6.3E-05	3.5E-04	0.015	1.6	<1	<1
Total PCB Aroclors	9.5E-06	5.0E-01	6.4E-02	5.0E-02	0.305	3.05	<1	<1

Notes:
Exposure point concentrations for surface water shown in Table 5-9 and for surface soil and biota in EU BB6 in Table 5-16.

APPENDIX L

Toxicity and Bioaccumulation Testing Report
(Submitted on CD)