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November 6th, 2009

Ms. Leah Evison
U. S. EPA - Region 5
77 West Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

RE: Sauget Area 1 - Sauget Area 1 Ecological Risk Assessment Summary and Addendum

Dear Leah:

Attached for your approval, is a copy of the *Sauget Area 1 Ecological Risk Assessment Summary and Addendum* which incorporates the changes requested in your October 26th, 2009 email.

Any questions, please advise.

Sincerely

Steven D. Smith
Project Coordinator

cc: Distribution List Attached

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Sauget Area 1

Remedial Investigation/Feasibility Study

Ecological Risk Assessment

Summary and Addendum

Sauget and Cahokia, Illinois

November 6, 2009

Submitted To:

US Environmental Protection Agency
Chicago, Illinois

Submitted By:

Solutia Inc., St. Louis, Missouri

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1.0 Introduction

Sauget Area 1, which is located east of the Mississippi River within the Villages of Sauget and Cahokia, Illinois, consists of three closed municipal and/or industrial waste disposal areas (Sites G, H, I), one backfilled impoundment (Site L), one former borrow pit (Site M), one closed demolition debris disposal area (Site N) and Dead Creek, a 17,000 ft. long intermittent stream that discharges to Prairie du Pont Creek. When Sauget Area 1 was investigated by the Illinois Environmental Protection Agency (IEPA) in the 1980s, Dead Creek was subdivided into six segments (Figure 1):

- Creek Segment A — Alton & Southern Railroad to Queeny Avenue
- Creek Segment B — Queeny Avenue to Judith Lane
- Creek Segment C — Judith Lane to Cahokia Street
- Creek Segment D — Cahokia Street to Jerome Lane
- Creek Segment E — Jerome Lane to Route 157
- Creek Segment F — Route 157 to Prairie du Pont Creek

Creek Segment A was remediated by Cerro Flow Products in 1990/1991 under a plan approved by IEPA. Approximately 27,500 tons of sediments were excavated and taken to several permitted landfills. A liner was installed and Creek Segment A was filled with clean soil.

Solutia remediated Creek Segments B, C, D, E and F by removing 46,000 cubic yards of sediments in 2001/2002 and 12,400 cubic yards of creek bottom soils from Segments B, D, E, and F and sediments from Borrow Pit Lake in 2005/2006. Excavated sediments and soils were transferred to a RCRA and TSCA-compliant on-site containment cell constructed adjacent to the west bank of Creek Segment B just north of Judith Lane (Figure 1).

Menzie-Cura & Associates performed two ecological risk assessments (ERAs) for Sauget Area 1: 1) the June 30, 2001 "Ecological Risk Assessment for Sauget Area 1" and 2) the June 21, 2002 "Ecological Risk Assessment on Dead Creek Bottom Soil". The first Sauget Area 1 ERA, which focused on floodplain soils and sediments in Creek Segment F, was completed under the January 19, 1999 Administrative Order on Consent to perform an Engineering Evaluation/Cost Analysis (EE/CA) for soils, sediments, surface water and air and a Remedial Investigation/Feasibility Study (RI/FS) for groundwater. A second ecological risk assessment, performed under the June 28, 1999 Unilateral Administrative Order (USEPA Docket No. V-W-99-C-554 as modified on May 31, 2000 and amended on August 29, 2001) for a time-critical removal action in Dead Creek, focused on residual constituent concentrations in creek bottom soils after completion of sediment removal.

This Ecological Risk Assessment Addendum is intended to complete the Sauget Area 1 Ecological Risk Assessment process by addressing the remaining work identified during an August 19, 2008 meeting with USEPA and recorded in meeting minutes distributed by CH2M Hill on August 20, 2008. Remaining work is outlined below and discussed in the following sections of the Ecological Risk Assessment Addendum:

Section 2.0 Site-Specific, Risk-Based Concentrations
Section 3.0 Creek Bottom Soil Residual Concentrations
Section 4.0 Groundwater Discharge to Mississippi River

Section 5.0 Terrestrial Organism Screening
Section 6.0 Threatened and Endangered Species
Section 7.0 Summary of Ecological Risk Assessment Activities

2.0 Site-Specific, Risk-Based Concentrations

Site-specific, risk-based concentrations (RBCs) for protection of fish in Dead Creek were developed as described below using fish tissue and sediment analytical data included in the January 2001 Sauget Area 1 EE/CA and RI/FS Support Sampling Plan Data Report. The RBCs were derived for the protection of forage fish, not benthic biota or higher trophic level wildlife. The 2001 ERA evaluated the benthic invertebrate community as a prey base for forage fish and determined that impacts to benthic invertebrates were not correlated with sediment concentrations and were more likely impacted by regional habitat conditions. The 2002 ERA indicated that sediment concentrations did not pose a risk to piscivorous wildlife (river otter and great blue heron) therefore; RBCs for higher trophic level receptors were not warranted.

Forage fish analytical data were used to develop RBCs because the higher trophic-level fish present in the Borrow Pit Lake (large mouth bass and brown bullheads) were not found in Dead Creek. Reference Area analytical data were also used in the RBC determinations because these data: 1) provided information on lower concentration ranges than data collected in Dead Creek and the Borrow Pit Lake, 2) allowed inclusion of compounds that were not detected in sediment and fish tissue samples collected in Dead Creek and the Borrow Pit Lake and 3) increased the size of the data set and, thereby, reduced uncertainty. By agreement with USEPA, RBCs were developed for residual concentrations of known bioaccumulative compounds (Total DDT, Dieldrin, gamma-Chlordane, Total PCBs, Dioxin TEQ and Mercury), Bis(2-ethylhexyl)phthalate and site-specific metals (Copper, Lead and Zinc).

Fish tissue and sediment samples were collected from Dead Creek, the Borrow Pit Lake and two Reference Areas during implementation of the September 9, 1999 Sauget Area 1 RI/FS Support Sampling Plan. Data collection started in September 1999 and was completed in April 2000. One composite forage fish tissue sample was collected in Creek Segment B, one was collected in Creek Segment D and three were collected in the Borrow Pit Lake. One composite forage fish sample was collected from each of the two Reference Areas. Sediment samples were collected at three locations within each creek segment (Creek Segments B, C, D, E and F), three locations in the Borrow Pit Lake and two sampling stations in each of the two reference areas. All samples were analyzed for VOCs (Method 8260B), SVOCs (Method 8270C), Pesticides (8081A), Herbicides (8151A), PCBs (Method 680), Dioxin (Method 8290), Mercury (Method 7471A) and Metals (Method 6010B). Analytical results were submitted to USEPA in the January 2001 Sauget Area 1 EE/CA and RI/FS Support Sampling Plan Data Report.

Two methods were used to develop RBCs for Dead Creek: 1) biota to sediment accumulation factors (BSAFs) and biota accumulation factors (BAFs) coupled with whole-fish toxicity values and 2) linear regression of fish tissue and sediment analytical data. BSAFs and BAFs were used to derive RBCs for Total DDT, Dieldrin, gamma-Chlordane, Bis(2-ethylyhexyl)phthalate, Chromium, Lead and Mercury and linear regression was used to derive RBCs for Total PCBs, Dioxin TEQ, Copper and Zinc. Derivation of these RBCs is discussed below:

2.1 BSAF Risk-Based Concentrations

RBCs for Total DDT, Dieldrin, gamma-Chlordane, Bis(2-ethylyhexyl)phthalate, Chromium, Lead and Mercury were established for Dead Creek using site-specific BSAFs and BAFs and whole-fish toxicity values from the literature. Average forage fish tissue and sediment concentration data from Creek Segment B, Creek Segment D, the Borrow Pit Lake and the two Reference Areas (Appendix C of the June 21, 2002 "Ecological Risk Assessment on Dead Creek Bottom Soil") were used in the following equations to determine site-specific biota to sediment accumulation factors (BSAFs) for non-polar organics and biota accumulation factors (BAFs) for polar organics and metals:

1) Non-Polar Organics: $BSAF = (Concentration_{Organism} / f_{Lipid}) / (Concentration_{Sediment} / f_{OC}$

2) Polar Organics and Metals: $BAF = Concentration_{Organism} / Concentration_{Sediment}$

Where:
$Concentration_{Organism}$ = Concentration of compound in fish tissue (wet weight)
f_{Lipid} = Fraction of lipid in fish tissue (wet weight)
$Concentration_{Sediment}$ = Concentration of compound in sediment (dry weight)
f_{OC} = Fraction of organic carbon in sediment (dry weight)

As shown below, RBCs were determined by dividing the whole-fish toxicity value obtained from the literature by the BSAF or BAF for each compound derived from site-specific forage fish tissue and sediment analytical data:

Summary of BSAFs, BAFs and Risk-Based Concentrations for Protection of Fish in Dead Creek

		Biota to Sediment Accumulation Factors				Bioaccumulation Factors		
Sampling Location	**Sample**	**4',4'-DDE**	**Dieldrin**	**Chlordane**	**BEHP**	**Chromium**	**Lead**	**Mercury**
CS - B	Comp 1	NA	NA	NA	ND	0.00613	0.00143	ND
CS - D	Comp 1	ND	ND	ND	0.311	0.00607	0.00218	0.193
Borrow Pit Lake	Comp 1	6.7	ND	ND	2.01	0.0147	ND	0.419
	Comp 2	12.4	ND	ND	2.57	0.0138	ND	4.84
	Comp 3	15.3	ND	ND	ND	0.012	0.0123	ND
Reference Area 1	Comp 1	0.645	0.867	ND	0.609	0.0126	ND	0.952
Reference Area 2	Comp 1	ND	ND	ND	2.57	0.021	ND	1.17
	Comp 2	0.557	0.686	1	0.825	0.0224	0.0174	1.47
	Comp 3	NA	NA	NA	0.775	0.081	ND	1.06
	Average BSAF/BAF	7.12	0.777	1	1.38	0.0211	0.00833	1.42
Whole-Body Toxicity Value for Fish [1]		29.2 [2]	3.7 [3]	16.6 [4]	0.66 [5]	5.5 [6]	26.2 [7]	0.25 [8]
Site-Specific, Risk-Based Concentration [9]		4.1	4.76	16.6	0.478	261	3,150	0.18

Notes:
1) Whole-body toxicity values for fish concentrations in mg/kg wet weight
2) Metcalf, R.L., 1974. W.J. Hayes, Ed., Essays in Toxicology, 5:17-38, Academic Press
   – Mosquito fish mortality (NOED for combined exposure route)
3) Gakstatter, J.H. and C.M. Weiss, 1967. Trans. Amer. Fish Soc., 96: 301-307
   – Immature Bluegill behavior (LOED for absorption exposure route)
4) Parrish, P.R., S.C. Schimmel, D.J. Hansen, J.M. Patrick and J. Forester, 1976. Journal of Toxicology and Environmental Health, 1:485-494
   – Adult Pinfish mortality (LOED for combined exposure route)

5) Barrows, M.E., S.R. Petrocelli, K.J. Macek and J.J. Carroll, 1980. Haque, R., Ed., Dynamics, Exposure and Hazard Assessment of Toxic Chemicals, p. 379-392
   – Immature Bluegill mortality (NOED for absorption exposure route)
6) Van De Putte, L., J. Lubbers and Z. Kolar, 1981. Aquatic Toxicol., 1:3-18
   – Immature Rainbow trout mortality (NOED for absorption exposure route)
7) Weber, D.N., A. Russo, D.B. Seale and R.E. Spieler, 1991. Aquatic Toxicol., 21:71-80
   – Immature Fathead minnow behavior (LOED for absorption exposure route)
8) Friedman, A.S., M.C. Watzin, T. Brinck-Johnsen and J.C. Letter, 1996. Aquat. Toxicol. 35:265-278
   – Immature Walleye mortality (NOED for ingestion exposure route)
9) Site-specific, risk-based concentrations in mg/kg

Two sources were used to identify the toxicity reference values for fish: 1) the USACE Residue Effects Data Base (www.wes.army.mil/el/ered) and 2) Jarvinen, A.W. and G.T. Ankley, 1999. Studies that examined effects on growth, survival or reproduction were selected for development of body burden toxicity reference values. If more than one appropriate study was available, the lowest NOED (no observed effects dose) or LOED (Lowest Observed Effects Dose) was selected for use in determining the site-specific, risk-based concentration.

2.2 Linear Regression Risk-Based Concentrations

Plots of Total PCBs, Dioxin TEQ, Copper and Zinc concentrations indicated there was a strong linear relationship between sediment concentrations and fish tissue concentrations. For this reason, linear regression was used to establish the relationship between fish tissue and sediment concentrations of Total PCBs, Dioxin TEQ, Copper and Zinc (Appendix D of the June 21, 2002 "Ecological Risk Assessment on Dead Creek Bottom Soil"). Site-specific, risk-based concentrations for Total PCBs, Dioxin TEQ, Copper and Zinc, developed using these linear regression equations, are presented below:

Summary of Linear Regression Equations and Risk-Based Concentrations for Protection of Fish in Dead Creek

Constituent	Toxicity Value [1] (mg/kg)	Fish Tissue / Sediment Relationship [2]	RBC (mg/kg)
Total PCBs	0.95 [3]	Ln [PCB Fish / lipids] = 1.6666 + 0.6806 (Ln [PCB Sediments / foc])	0.58
Dioxin TEQ	0.00005 [4]	Ln [TEQ Fish / lipids] = - 1.748 + 0.7556 (Ln [TEQ Sediments / foc])	0.00051
Copper	12.1 [5]	Ln [Copper Fish] = - 1.9295 + 0.4371 (Ln [Copper Sediments])	24,792
Zinc	50 [6]	Ln [Zinc Fish] = 2.4275 + 0.1754 (Ln [Zinc Sediments])	4,739

Notes:
1) Whole-body toxicity values for fish concentrations in mg/kg wet weight
2) Lipids = 0.015 and foc (Fraction Organic Carbon) = 0.016 (Table 4-1, June 21, 2002 Dead Creek Final Remedy Creek, Bottom Soil Engineering Evaluation/Cost Assessment, Volume 3 - Ecological Risk Assessment, Menzie-Cura & Associates, Chelmsford, Massachusetts)
3) Adams, S.M., W.D. Crumby, M.S. Greeley Jr., M.G. Ryon and E.M. Schilling, 1992. Environmental Toxicology and Chemistry, 11:1549-1557
   – Redbreast sunfish reproduction and growth (NOED for field study)
4) USEPA, 1993. EPA/600/R-93-055
   – Rainbow trout mortality (NOED for absorption exposure route)
5) Stouthart, J.H.X., J.L.M. Haans, R.A.C. Lock and S.E.W. Bonga, 1996. Environmental Toxicology and Chemistry, 15(3):376-383
   – Common carp reproduction (NOED for combined exposure route)
6) Spehar, R.L., E.N. Leonard and D.L. Defoe, 1978. Trans Am. Fish. Soc., 107(2):354-360
   – American flagfish mortality (NOED/LOED for combined exposure route)

3.0 Creek Bottom Soil Residual Concentrations

Page 2 of "Sauget Area 1 Engineering Evaluation/Cost Analysis Sampling Plan for Dead Creek Soil to Groundwater Leaching Investigation" (included here as Appendix 8), which was submitted to USEPA on April 27, 2007 and was approved by USEPA on May 24, 2007 (approval letter included as Appendix 9) presents a table showing constituents detected in residual creek bottom soils with the potential to leach to groundwater above Illinois Class I Groundwater Standards, based on a site-specific leaching evaluation conducted in 2003.

The USEPA Approved 2007 Sampling Plan goes on to state that the cadmium exceedences noted in the table on page 2 would be further evaluated using groundwater sampling, and that Creek Segment B would be handled separately. The remaining exceedences, which were for Dieldrin in Creek Segments D and E, and beta-bhc and 1,1,2,2-tetrachloroethane in Creek Segment F, were excavated, as described in the Sampling Plan. The Sampling Plan concluded that the excavations were complete. Some of the soil-to-groundwater based excavations overlap with the RBC based excavations and are discussed together below.

3.1 Sediment Removal Action Residual Concentrations

Solutia excavated 46,000 cubic yards of sediments from Creek Segments B, C, D, E and F in 2001/2002 under a time-critical removal action order (UAO) issued by USEPA in 1999 to replace culverts. This order was modified on May 31, 2000 to include removal of sediments from Creek Segments B, C, D and E and amended on August 29, 2001 to include removal of sediments from Creek Segment F including the Borrow Pit Lake (however, sediments in Borrow Pit Lake were not excavated until 2005/2006). Excavated sediments were transferred to an on-site RCRA and TSCA-compliant containment cell constructed adjacent to the west bank of Dead Creek just north of Judith Lane (Figure 1).

After completion of sediment removal, creek bottom soil samples were collected on sampling transects located at approximately 100 ft. intervals in Creek Segment B, 150-ft. intervals in Creek Segments C, D and E and 400-ft. intervals in Creek Segment F, and analyzed for VOCs, SVOCs, Pesticides, Herbicides, PCBs, Dioxin and Metals (Appendix 1). RBCs were exceeded at the following transects:

Creek Bottom Soil Sampling Locations with Concentrations Greater than Site-Specific, Risk-Based Concentrations

Creek Segment	Constituent	Transect
Creek Segment B	Bis(2-ethylhexyl)phthalate	T3
	Total PCBs	T0, T1, T3, T5, T6, T8, T11 and T17
	Dioxin TEQ	T0, T3, T16 and T17
	Mercury	T0, T1, T2, T3, T6, T9, T11, T12 and T17
	Zinc	T0, T4, T8, T11 and T12
Creek Segment C	Mercury	T6
Creek Segment D	Total PCBs	T6
	Dioxin TEQ	T6
	Mercury	T4
	Zinc	T1 and T2
Creek Segment E	Mercury	T2, T6, T8, T9, T10, T11, T12, T13, T14, T15, T16 and T17
	Zinc	T16

Creek Segment F	**Dioxin TEQ**	**T5**
	Mercury	**T3, T5, T9 and T14**
	Zinc	**T5**

3.2 Soil Removal Action Work Plans

On November 2, 2005, USEPA approved the October 28, 2005 "Sauget Area 1 Time Critical Sediment Removal Action, Revised Creek Bottom Soil Removal Work Plan, Creek Segments B, D and F" for excavation of creek bottom soils with residual concentrations greater than RBCs. Mercury removal was not considered necessary in Creek Segments C, D and E because public-health protection measures (dewatering to control mosquitoes) resulted in a habitat that was not conducive to a sustainable fish population.

A second work plan, "Sauget Area 1 Time Critical Sediment Removal Action, Soil and Sediment Removal Work Plan, Dead Creek Segment F and Borrow Pit Lake", was submitted to USEPA on December 8, 2005. Agency approval of the work plan on December 21, 2005 allowed excavation of mercury at concentrations higher than the 0.18 mg/kg RBC in Creek Segment F and the Borrow Pit Lake, which are habitats conducive to a sustainable fish population.

Removal of creek bottom soils at Creek Segment E Transect 16 was approved by USEPA on February 23, 2006 so that the residual concentration of Dieldrin in excess of the 0.0153 mg/kg site-specific TACO Tier II criteria for soil to groundwater leaching at this sampling location could be transferred to the Judith Lane containment cell.

3.3 Soil Removal Action Residual Concentrations

Creek Segment B – RBCs were exceeded at Creek Segment B Transects T0, T1, T2, T3, T4, T5, T6, T8, T9, T11, T12, T16 and T17. Excavation was conducted at the following locations and depths in order to remove these creek bottom soils:

Summary of Creek Bottom Soil Excavation Locations and Depths in Creek Segment B

Excavation Location		Excavation Depth
Start	**Finish**	**(Feet)**
T0+00	**T1+12.5**	**3.6**
T1+87.5	**T2+37.5**	**2.4**
T2+37.5	**T3+37.5**	**6.2**
T4+87.5	**T5+12.5**	**1.8**
T5+87.5	**T6+62.5**	**1.5**
T7+87.5	**T8+12.5**	**1.6**
T8+87.5	**T9+12.5**	**1.9**
T10+87.5	**T11+12.5**	**1.7**
T11+87.5	**T12+12.5**	**1.6**
T15+50	**T16+50**	**1.7**
T16+87.5	**T17+37.5**	**1.7**

Excavation started at Queeny Avenue and worked to downstream to the Judith Lane. A total of 2,300 cubic yards of soil was removed between December 6 and 22, 2005. Confirmation soil sampling was performed to ensure the excavated areas no longer contained concentrations of constituents that exceeded their respective RBCs. Confirmation soil samples, collected at a depth of one foot below the

base of each excavated area, demonstrated that concentrations of Total PCBs, Bis(2-ethylhexyl)phthalate, Mercury, Zinc, and Dioxin TEQ were below RBCs throughout the entire length of Creek Segment B. Confirmation sample locations and analytical results are included in Appendix 2.

Creek Segment D – After completion of sediment removal, creek bottom soils at sampling transects T1 and T2 in Creek Segment D had residual zinc concentrations greater than the 4,379 mg/kg RBC. Excavation of these soils was completed on January 11, 2006 after a total of 840.5 cubic yards of creek bottom soil was removed to an average depth of 1.6 ft. between T0+00 and T3+15. Excavated soil was transferred to the Judith Lane containment cell. Post-excavation soil sampling demonstrated that residual zinc concentrations in the excavation area were below the RBC (Appendix 2).

Creek bottom soils in the southern portion of Creek Segment D (Sampling Transect T6), just upstream of Jerome Lane, contained residual concentrations of Total PCBs and Dioxin TEQ that exceeded their respective RBCs of 0.58 and 0.00051 mg/kg after completion of sediment removal. Excavation to an average depth of 1.3 ft. between stations T5+00 and T6+50 was completed on January 18, 2006. A total of 282.5 cubic yards of creek bottom soil was transferred to the Judith Lane containment cell. An additional 77 cubic yards was removed to cleanup cross contamination resulting from transfer soil from the excavation area at the south end of Creek Segment D to the truck loading area on the south side of Kinder Street. Post-excavation confirmatory sampling demonstrated that Total PCB concentrations were below the RBC of 0.58 mg/kg but the Dioxin TEQ RBC of 0.00051 mg/kg was exceeded at transect T5. An additional 180 cubic yards of material was excavated between CSD-T5 and CSD-T5+50 on March 8, 2006. Pre-excavation sampling was conducted in order to target the excavation to remove material above the Dioxin TEQ RBC.

Creek Segment E - Creek bottom soil sampling after sediment removal revealed that Dieldrin concentrations at sampling transect T16 exceeded the 0.0153 mg/kg TACO Tier II site-specific criterion established for soil to groundwater leaching in Creek Segment E. In addition, Zinc concentrations exceeded the 4,379 mg/kg RBC. Between October 31 and November 1, 2006, approximately 20 cubic yards of wet soil were excavated to a depth of 0.75 ft from 15 feet upstream to 15 feet downstream of T16 in order to remove Dieldrin concentrations above the soil to groundwater leaching criterion. Ground corn cobs, a drying agent, were mixed with the excavated soils prior to transporting the excavated material to Waste Management's Milam Landfill in East St. Louis, Illinois. Confirmation sampling at 13 locations in the bottom of the excavation area (Appendix 2) demonstrated that Dieldrin concentrations were non-detect at all locations with detection limits ranging from 0.00035 mg/kg to 0.00042 mg/kg. Given the complete removal of residual concentrations of Dieldrin from this excavation area, it is reasonable to assume that residual Zinc concentrations higher than the RBC were also removed.

Creek Segment F - After completion of sediment removal from Creek Segment F in 2002, beta-BHC was present in creek bottom soils at transect T3 with a concentration greater than the 0.00222 mg/kg site-specific, soil to groundwater leaching criterion. At sampling transect T5, Dioxin TEQ and Zinc were detected in creek bottom soils at a concentration higher than their respective RBCs of 0.00051 mg/kg and 4,739 mg/kg. Mercury was detected in creek bottom soils at concentrations higher than the 0.18 mg/kg RBC at sampling transects T3, T5, T9 and T14. Excavation of creek bottom soils at sampling transects T3, T5, T9 and T14 started on January 25, 2006 and was completed on February 16, 2006. Approximately 1,328 cubic yards of wet soil were removed from Creek Segment F at the following

excavation locations, mixed with a drying/solidifying agent ("Code L") and then transferred to the Judith Lane containment cell:

Summary of Creek Bottom Soil Excavation Locations, Depths and Targeted Constituents in Creek Segment F

Excavation Location		Excavation Depth (Feet)	Targeted Constituents
Start	Finish		
T2+200	T3+200	1.1	beta-BHC and Mercury
T4+200	T5+200	1.2	Dioxin TEQ, Mercury and Zinc
T8+200	T9+200	0.8	Mercury
T13+200	T15+00	1.0	Mercury

Confirmatory sampling in the bottom of the excavated areas demonstrated that residual concentrations of beta-BHC, Dioxin TEQ, Mercury and Zinc were below RBCs (Appendix 2).

Borrow Pit Lake – Although concentrations in the three sediments collected in 1999 were below the RBCs, the 2001 ERA indicated the potential for risks to fish in Borrow Pit Lake due to Mercury. Therefore, the mitigation plan developed as required by the 2001 UAO (Solutia Inc., 2002) required an investigation to delineate any areas within the Borrow Pit Lake where Mercury concentrations exceed the RBC.

In May 2003, surface and subsurface sediment samples were collected from the Borrow Pit Lake to characterize the extent of Mercury concentrations greater than the 0.18 mg/kg RBC. Samples were collected from the center point of 60 grid cells; cells north of the confluence of Dead Creek were 300 ft. by 300 ft. in size and cells south of the confluence were 200 ft. by 200 ft. Surface sediment samples (0 to 6 inches) were collected from all 60 grid cells while subsurface sediment samples (6 to 18 inches) were collected from odd numbered cells. Mercury concentrations exceeded the RBC in Grid Cells 30, 31, 32, 33, 34, 36, 38, 49 and 50 (Appendix 3).

Excavation of sediments from these grid cells was initiated on January 31, 2006 and completed on February 22, 2006. Grid Cells 30, 31, 32, 33, 34, 36 and 49 were excavated to an average depth of 0.6 ft. below ground surface while Grid Cells 38 and 50 were excavated to an average depth of 1.3 ft. and 0.9 ft. below ground surface, respectively. A total of 6,500 cubic yards of sediment were removed and transferred to the Judith Lane containment cell during this time period. Excavation of an additional 761 cubic yards of sediment was done in Grid Cells 38 and 49 between February 24 and 28, 2006 in order to achieve the RBC. The access ramp into Grid Cell 49 was removed in two steps; excavation of 40 cubic yards on March 7, 2006 and 14 cubic yards on March 24, 2006. In total, 7,315 cubic yards of sediment were excavated from the Borrow Pit Lake and transferred to the Judith Lane containment cell.

Confirmatory samples collected from the excavation areas demonstrated that residual concentrations of mercury were less than the site-specific, risk-based concentration of 0.18 mg/kg (Appendix 3).

4.0 Groundwater Discharge to Mississippi River

4.1 Groundwater Mass Flux to Mississippi River

Groundwater modeling (GSI Environmental, 2008; Appendix 4) established that the total mass flux of Chlorobenzene (MCB); 1,4-Dichlorobenzene (DCB), Perchloroethylene (PCE), Trichloroethylene (TCE), Dichloroethylene (DCE), Vinyl Chloride (VC) and 2,4-D discharging to the Mississippi River from Sauget Area 1, Sauget Area 2, Clayton Chemical and the W.G. Krummrich facility in 2006 (with the Groundwater Migration Control System (GMCS) on) was 619 kilograms per year. This total is comprised of the following:

- Sauget Area 1 contributed a total of 142 kilograms per year;
- Sauget Area 2 contributed a total of 321 kilograms per year;
- Clayton Chemical contributed a total of 87 kilograms per year; and
- W. G. Krummrich Plant contributed a total of 69 kilograms per year.

4.2 Ecological Impact of Groundwater Mass Flux in 2000

Surface water and sediment samples were collected in the Mississippi River in October 2000 to determine the impact of groundwater discharge from the W.G. Krummrich facility in response to a May 3, 2000 Administrative Order on Consent (USEPA Docket No. R8H-5-00-003). Samples were collected in the Mississippi River at two locations upstream of Sauget Area 2 Site R, nine locations adjacent to Site R and two locations downstream of Site R (Menzie-Cura & Associates, 2001). Sampling locations are shown in Appendix 5. The nine samples adjacent to Site R were collected on three sampling transects running perpendicular to the river bank. One transect was located at the north end of Site R, another was located at the center of Site R and the third was located at the south end of Site R. Surface water and sediment samples were collected 50, 150 and 300 feet from shore at each transect because a reconnaissance survey, carried out in September 2000 with USEPA, demonstrated that site-related VOCs were only detected within 300 feet of the shoreline.

Bioassays, using Cerodaphnia dubia and Fat Head Minnows (Pimephales promelas), were conducted on the surface water samples to determine the toxicity, if any, of these environmental media to sensitive organisms. Hyallela azteca and Fat Head Minnows were used to perform bioassays on the sediment samples.

Results of the surface water and sediment toxicity testing are summarized below and presented in Appendix 5: (Note that the data below was taken prior to the construction and start-up of the barrier wall and Groundwater Migration Control System.)

Summary of October 2000 Mississippi River Surface Water and Sediment Bioassay Results at Sauget Area 2 Site R

			Surface Water Bioassays (7-Day Chronic)				Sediment Bioassays (28-Day Chronic)			
		Sampling Station	Ceriodaphnia		Fat Head Minnows		Hyallela		Fat Head Minnows	
Sampling Location		Number	Survival	Reproduction	Survival	Growth	Survival	Growth	Survival	Growth
• Upstream of Site R		11	No	No	No	No	No	No	No	No
		12	No	No	No	No	No	No	No	No
• Adjacent to Site R										
Upstream Sampling Transect										
Distance from Shore	50 Ft.	8	No	Yes	No	No	No	No	No	No
	150 Ft.	9	No	Yes	No	No	No	No	Yes	Yes
	300 Ft.	10	No	Yes	No	No	No	No	No	No
Middle Sampling Transect										
Distance from Shore	50 Ft.	5	No	Yes	No	No	Yes	Yes	Yes	Yes
	150 Ft.	6	No	No	No	No	No	No	No	No
	300 Ft.	7	No	No	No	No	No	No	No	No
Downstream Transect										
Distance from Shore	50 Ft.	2	Yes	Yes	No	No	No	No	No	No
	150 Ft.	3	Yes	Yes	No	No	No	No	Yes	Yes
	300 Ft.	4	Yes	Yes	No	No	No	No	No	Yes
• Downstream of Site R		13	No	No	Yes	Yes	No	No	No	No
		1	No	No	Yes	Yes	No	No	No	No

NOTES: 1) "Yes" - Indicates a statistically significant reduction in organism response when compared to one or more control groups.

Impact of Groundwater Discharge North of Site R - Sampling station 12 is located immediately upstream of Sauget Area 2 Site R in an area where impacted groundwater from the W.G. Krummrich facility, Sauget Area 1, Sauget Area 2, and other Sauget industries discharges to the Mississippi River. With no observed effects on survival or reproduction of Ceriodaphnia, Pimephales or Hyallela, which are sensitive test organisms, discharge of this impacted groundwater does not adversely impact the Mississippi River.

USEPA agreed with this conclusion when it verified that migration of contaminated groundwater from the W.G. Krummrich facility was under control on May 26, 2004 (CA750 Environmental Indicator).

Impact of Groundwater Discharge at Site R - Sauget Area 2 Site R contributed a mass flux of 18,337 kilograms per year to the Mississippi River in 2006. Surface water and sediment bioassay results from sampling stations 2, 3, 4, 5, 6, 7, 8, 9 and 10, which are located in the Site R plume discharge area, show that this mass flux adversely impacts the Mississippi River. Statistically-significant effects on Fat Head Minnow survival and growth were observed in bioassays performed on sediment samples collected in the Mississippi River at the north end of Site R, the center of Site R and the south end of Site R. Adverse impacts on Hyallela survival and growth were only observed in sediment samples collected at the center of Site R. Statistically-significant effects on Ceriodaphnia survival and reproduction were observed in bioassays performed on surface water samples collected at the south end of Site R, while adverse effects on Ceriodaphnia growth were observed at its center and north end. The Sauget Area 2 Groundwater

Migration Control System, a 3,300 ft. long, 140 ft. deep, "U"-shaped barrier wall with three extraction wells on its upgradient side, was installed in 2003/2004 to control mass flux from Site R and other upgradient source areas.

Impact of Groundwater Discharge South of Site R - Sampling stations 1 and 13 were located more than two miles south of the Sauget Area 1 source areas, too far downstream to be used for assessing the impact of groundwater discharge from Sites G, H and I on the Mississippi River. However, bioassays were performed on surface water and sediment samples collected in the Mississippi River at Site Q North in 2002 as part of the Sauget Area 2 Sites RI/FS Support Sampling Plan. These results, which are discussed below, were used to assess the impact of discharges from the Sauget Area 1 source areas on the Mississippi River.

4.3 Ecological Impact of Groundwater Mass Flux in 2002

Surface water and sediment samples were collected at seven sampling stations in the Mississippi River adjacent to Site Q North in November 2002 as part of the Sauget Area 2 Sites RI/FS Support Sampling Plan (Appendix 6). Ceriodaphnia dubia and Pimephales promelas were used as test organisms for the surface water bioassays and Hyallela azteca and Chironomous tentans were used for the sediment bioassays. Bioassay results are summarized below:

Summary of November 2002 Mississippi River Surface Water & Sediment Bioassay Results at Sauget Area 2 Site Q North

			Surface Water Bioassays (7-Day Chronic)				Sediment Bioassays (10-Day Chronic)			
			Ceriodaphnia		Fat Head Minnows		Hyallela		Chironomous	
Sampling Location		Sampling Station Number	Survival	Reproduction	Survival	Growth	Survival	Growth	Survival	Growth
● Upstream Sampling Transect										
Distance from Shore	50 Ft.	R3AU	Yes	Yes	No	No	No	No	No	No
	150 Ft.	R3BU	No	Yes	No	No	No	No	No	No
● Middle Sampling Transect										
Distance from Shore	50 Ft.	R3AM	No	Yes	No	No	No	No	No	No
	150 Ft.	R3BM	No	Yes	No	No	No	No	No	No
	300 Ft.	R3CM	No	No	No	No	No	No	No	No
● Downstream Transect										
Distance from Shore	50 Ft.	R3AD	No	Yes	No	No	No	No	No	No
	150 Ft.	R3BD	No	No	No	No	No	No	No	No

NOTES: 1) "Yes" - Indicates a statistically significant reduction in organism response when compared to one or more control groups.

No adverse impacts were observed in sediment bioassays collected adjacent to Sauget Area 2 Site Q North indicating that groundwater discharging to the Mississippi River from this and other upgradient sites, e.g. Sauget Area 1 Sites G, H or I, did not have an ecological impact on surface water. Observed adverse impacts on surface water, as measured by the Ceriodaphnia bioassays, were most likely the result of downstream migration of impacted groundwater discharging from Site R and other upgradient sources.

4.4 Ecological Impact of Groundwater Mass Flux in 2020

Mass flux from Sauget Area 1 Sites G, H and I to the Mississippi River is predicted to increase from 274 kilograms per year in 2006 to 1,124 kilograms per year in 2020 as a result of cessation of highway dewatering in East St. Louis, Illinois (Appendix 4). Most of this mass flux increase (973 kilograms per year) will be captured by the Sauget Area 2 GMCS. However, 151 kilograms per year of the predicted mass flux increase in 2020 will bypass the GMCS and discharge to the Mississippi River.

In 2006, a mass flux of 92 kilograms per year from the W.G. Krummrich Facility and 121 kilograms per year from Sauget Area 2 (Sauget Area 2 Mass Flux of 18,458 kilograms per year minus the Site R mass flux of 18,377 kilograms per year) discharged to the Mississippi River upstream and downstream of the Sauget Area 2 Groundwater Migration Control System. Neither of these discharges, which totaled 213 kilograms per year, resulted in an adverse ecological impact as measured by sediment bioassays using sensitive test organisms (Hyallela and Pimephales upstream of Site R and Hyallela and Chironomous downstream of Site R). Since a total mass flux of 213 kilograms per year in 2006 did not adversely impact the Mississippi River, it is reasonable to conclude that a discharge of 151 kilograms per year will not adversely impact the Mississippi River in 2020.

5.0 Terrestrial Organism Screening

In the January 2001 Sauget Area 1 Ecological Risk Assessment, Menzie-Cura & Associates compared constituent concentrations in Dead Creek floodplain soils to terrestrial organism screening levels in order to determine if these soils posed a threat to wildlife. Constituents that exceeded both background and terrestrial organism screening levels included Dioxin TEQ (one of 29 sampling locations) and the following ten metals:

Summary of Metals in Dead Creek Floodplain Soils that Exceed Background and Terrestrial Organism Screening Levels

Metal	Frequency of Exceedance	
Arsenic Barium Nickel Vanadium	1 of 65 Sampling Locations	1.5 %
Copper Lead Molybdenum	2 of 65 Sampling Locations	3.1 %
Zinc	3 of 65 Sampling Locations	4.6 %
Thallium	4 of 65 Sampling Locations	6.2 %
Selenium	16 of 65 Sampling Locations	24.6 %

With the exception of selenium, metals exceeded both background and terrestrial organism screening levels at only a few locations scattered throughout the Dead Creek floodplain. Selenium's relatively high frequency of exceedance (24.6%) was due to detection limits higher than the screening level. Menzie-Cura concluded that "although a conservative screening analysis indicated that there may be some risks to terrestrial wildlife in the floodplain of Dead Creek, the scattered nature of the exceedances indicates infrequent exposure of wildlife to these scattered areas. Therefore, the screening analysis of floodplain soils does not indicate wide spread ecological risks in this area.".

ENSR updated the background and terrestrial organism screening levels in June 2009 and compared them to constituent concentrations in Dead Creek floodplain soils (Appendix 7). As indicated in Figure 3-1 of Appendix 7, very few concentrations exceeded both the terrestrial screening levels and the background levels. Manganese, Mercury and Vanadium exceeded background and the updated screening levels at one out of 65 sampling locations; Chromium, Copper and Lead exceeded background and screening levels at two out of 65 locations and Zinc and 4,4-DDT exceeded background and the screening level at three of 65 locations. Total High-Molecular Weight (HMW) PAHs exceeded background and screening levels at 11 of the 65 floodplain soil sampling locations. The concentrations above the screening levels and background do not represent a spatial or geographical pattern within the floodplain (e.g., upstream-downstream gradient, distance from channel, etc.). ENSR concluded that "although there are selected exceedances of the screening values and background levels, the scattered nature of the exceedances is unlikely to result in significant risk to terrestrial receptors.".

ENSR also compared residual concentrations in creek bottom soils in Creek Segments C, D and E to the updated terrestrial organism screening levels because these creek segments are dewatered to protect public health (mosquito control) and, therefore, could be considered terrestrial habitat. Terrestrial

organism screening was not performed for Creek Segment B and Creek Segment F, including the Borrow Pit Lake, because an armored, HDPE liner is being installed in Creek Segment B and Creek Segment F is an aquatic habitat that was remediated to site-specific, risk-based concentrations in 2005/2006.

Creek bottom soils at all sampling transects in Creek Segments C, D and E exceeded background levels and updated terrestrial organism screening criteria for one or more metals. The following metals were detected above screening values and background levels in at least one transect: include Antimony, Barium, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Silver and Zinc. Organic constituents exceeded screening values and background levels at Creek Segment D Transect T6 (4, 4'-DDT, Total PCBs and Dioxin TEQ) and Creek Segment E Transect T16 (Total HMW PAHs). Terrestrial organism screening results are summarized below and presented in Appendix 7:

Summary of Dead Creek Creek Bottom Soils that Exceed Background and Terrestrial Organism Screening Levels

Creek Segment	Transect	Constituents Exceeding Terrestrial Screening Levels and Background Levels
Creek Segment C	**T1**	**Cadmium, Nickel and Zinc**
	T2	**Cadmium, Chromium, Nickel and Zinc**
	T3	**Cadmium, Nickel and Zinc**
	T4	**Nickel and Zinc**
	T5	**Nickel**
	T6	**Cadmium, Chromium, Copper, Mercury, Nickel and Zinc**
	T7	**Cadmium, Nickel and Zinc**
	T8	**Cadmium, Chromium, Nickel and Zinc**
	T9	**Cadmium, Nickel and Zinc**
Creek Segment D	**T1**	**Cadmium, Chromium, Nickel and Zinc**
	T2	**Cadmium, Chromium, Molybdenum, Nickel and Zinc**
	T3	**Cadmium, Chromium, Nickel and Zinc**
	T4	**Cadmium, Chromium, Copper, Mercury, Nickel and Zinc**
	T5	**Chromium, Nickel and Zinc**
	T6	**Barium, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel and Zinc 4, 4'-DDT, Total PCBs and Dioxin TEQ**
Creek Segment E	**T1**	**Cadmium, Chromium, Copper, Nickel and Zinc**
	T2	**Cadmium, Chromium, Copper, Mercury, Nickel and Zinc**
	T3	**Cadmium, Chromium, Nickel and Zinc**
	T4	**Cadmium, Copper, Nickel and Zinc**
	T5	**Cadmium, Chromium, Nickel and Zinc**
	T6	**Cadmium, Chromium, Mercury, Nickel and Zinc**
	T7	**Cadmium, Copper, Nickel and Zinc**
	T8	**Mercury and Nickel**
	T9	**Cadmium, Mercury, Nickel and Zinc**
	T10	**Cadmium, Copper, Mercury, Nickel and Zinc**
	T11	**Mercury and Nickel**
	T12	**Cadmium, Mercury, Nickel and Zinc**
	T13	**Mercury and Nickel**
	T14	**Mercury, Nickel and Zinc**
	T15	**Mercury and Nickel**
	T16	**Antimony, Barium, Cadmium, Copper, Lead, Mercury, Nickel, Silver and Zinc Total HMW PAHs**
	T17	**Cadmium, Copper, Mercury, Nickel and Zinc**

Some of the creek bottom soils exceeding the updated terrestrial organism screening levels in Creek Segments D and E were excavated in 2005/2006 to achieve RBCs for the protection of fish. Sampling transects T1 and T2 in Creek Segment D were excavated to an average depth of 1.6 feet. While this excavation achieved the RBC for Zinc, it did not reduce Zinc concentrations below the updated terrestrial organism screening level. Creek bottom soils were also removed from Creek Segment D sampling transects T5 and T6 to an average depth of 1.3 feet in order to achieve the RBCs for Total PCBs and

Dioxin TEQ and Creek Segment E transect T16 to achieve the site-specific criteria for leaching of Dieldrin from soil to groundwater. Although the post-excavation levels of dieldrin, total PCBs and Dioxin TEQ in Creek Segment D transect T6 and dieldrin in Creek Segment E transect T16 are below the terrestrial organism screening levels and background, it is not known if these excavations reduced creek bottom soil concentrations of other constituents to below the updated terrestrial organism screening levels.

Creek bottom soil concentrations are greater than terrestrial organism screening levels and background levels at various locations within Creek Segments C, D and E. However, the extent of these areas is more limited than the data suggest because sediment excavation efforts have removed many samples with exceedances, thus reducing the potential for risk to terrestrial receptors. Nevertheless, there is some uncertainty regarding current soil concentrations since post-excavation results are only available for a sub-set of transects and constituents.

Due to the on-going discharge of surface runoff from surrounding properties into the creek and the lack of significant suitable terrestrial habitat within Creek Segments C, D, and E, further evaluation of the creek bottom soils is not recommended. This stretch of Dead Creek is an actively managed stormwater drainage ditch within a highly-developed residential and commercial area. In several locations along the creek, drainage swales discharge runoff from a variety of developed properties including residential areas, a car wash, a junkyard, a restaurant, and several roadways. These discharges occur following rain events and the resulting increase in water flow may rapidly change conditions within the de-watered portions of the creek from dry to flooded until the water either drains or is pumped out. Depending on the duration of the rain event, water may remain in portions of the creek for several days at a time. This change in water regime (e.g., generally dry conditions with periods of standing water) limits the available habitat for terrestrial organisms and the presence of ecological receptors in the creek.

Therefore, the terrestrial screening evaluation is overly conservative since it is based on the lowest of the available soil screening values and any potential terrestrial receptors will have limited exposure to the creek bottom soils. Several of the conservative terrestrial organism screening levels used in the evaluation are based on wildlife receptors that consume a diet of exclusively earthworms (i.e., the American woodcock and the short-tailed shrew). The screening comparison assumes that these receptors feed entirely within the area under evaluation (i.e., the entire diet is from earthworms exposed to creek bottom soils). Earthworms prefer aerated moist soil, but the inundated conditions present during flooding are expected to provide too much moisture for an earthworm community to be continually present. The changes in conditions within the de-watered segments of the creek are expected to limit the availability of earthworms, thus reducing the ability of the woodcock or the shrew to forage within these areas. Other wildlife receptors will also have limited access to food items (i.e., plants, small mammals) from the de-watered portions of the creek due to the changing hydrology, further limiting exposure of ecological receptors to the creek bottom soils.

The use of Creek Segments C, D and E for stormwater conveyance from a variety of upland sources and the variable water level conditions within the creek result in an area that does not provide significant suitable habitat for terrestrial organisms. Since these conditions limit the available habitat and represent substantial stressors for ecological receptors, additional evaluation of the creek bottom soils is not recommended.

The terrestrial assessment summarized above and provided in Appendix 7 focused on the floodplains and the three de-watered segments of Dead Creek (Segments C, D, and E). Sediment from former pond M was removed and it was filled with several feet of clean soil and it has been assumed that Sites L and N will be covered with clean soil. Surface soils from Sites L and N were evaluated in 2001 (Menzie-Cura, 2001), but these areas have not been assessed further since they were not considered to be significant habitats and it was assumed that they would be covered with clean soil.

6.0 Threatened and Endangered Species

A baseline habitat assessment of Dead Creek was conducted by Woodlot Alternatives in 2001 and was included in the Dead Creek Sediment Removal Action Mitigation Plan (Solutia Inc., 2002) which was approved by EPA in 2002. The description below was presented in the Habitat Assessment section of the 2002 Mitigation Plan.

Dead Creek is occupied to a significant extent by non-native, invasive plant species. White mulberry, Siberian elm, paper mulberry and tree-of-heaven are frequent throughout the study area and, in some cases, locally dominant. Common, non-native lianas, including trumpet-creeper, Japanese honeysuckle and Chinese spindle-tree, frequently grow as a dense mat over the ground or other woody species. Amur honeysuckle is the common, non-native shrub in the study area.

Animal use of Dead Creek is generally limited to species that do not require large tracts of pristine land and can tolerate some level of habitat modification and disturbance. Several species of birds were observed including American robin, northern cardinal, blue jay, northern mockingbird, Carolina wren, sparrows, Eurasian tree sparrow, European starlings, waterfowl, wading birds and great horned owl. The bald eagle is known to winter in the region. A pair of bald eagles attempted to nest on the southern end of Arsenal Island, south of Sauget Area 1, in 1993. Remains of the nest were observed in 1996 and the nest has since blown down. No other nests were built on the island. Two bald eagles were observed by USEPA and IEPA approximately one mile west of Dead Creek Segment B and 0.5 miles east of the Mississippi River in late 1999. A bald eagle was also observed in the same location in December 2000. Mammals using Dead Creek include eastern chipmunks, gray squirrels, raccoons and white-tailed deer.

Only minnows were observed upstream of the Borrow Pit Lake, e.g. blackstripe topminnows in Creek Segment E. However, fish species observed in the Borrow Pit Lake include white crappie, largemouth bass, bluegill sunfish, brown bullhead, yellow bullhead, walleye, drum, silver carp and gar. Note that these fish swim in from the Mississippi River through the Metro East Sanitary District Pumping Station when the river is high. Typically during the summer, (when the river elevations are at normal or low values), the Borrow Pit Lake will become dry and the fish in the Borrow Pit Lake will perish.

The February 2009 revision of the U.S. Fish and Wildlife Service's list of Federally Threatened, Endangered, Proposed and Candidate Species in Illinois identifies four federal endangered species in St. Clair County: 1) the Indiana bat (Myotis sodalis), 2) the pallid sturgeon (Scaphirhynchus albus), 3) the Illinois cave amphipod (Gammarus acherondytes), and 4) Least Tern (Sterna antillarum). None of these species is likely to be present in Sauget Area 1. The Indiana bat requires a habitat of small stream corridors with well-developed riparian woods and nearby upland forest that are not present in Sauget Area 1 because of residential and agricultural land use. Pallid sturgeons are found in large rivers such the Mississippi River, which is part of Sauget Area 2 but not Sauget Area 1. Since its habitat is cave streams in the Illinois sinkhole plain, the Illinois cave amphipod will not be present in Sauget Area 1. The least tern is found feeding on fish within the Mississippi, Missouri, and Rio Grande river systems and favors islands or sandbars along large rivers for nesting. Although fish are present in Borrow Pit Lake and in aquatic portions of Dead Creek, the least tern has not been observed in Sauget Area 1, and the available habitat is not expected to attract these birds.

Two federally-listed threatened plant species, the decurrent false aster (Boltonia decurrens) and the Eastern prairie fringed orchid (Platanthera leucophaea) occur in St. Clair County, Illinois but none were observed in Sauget Area 1.

On May 8, 2009, a letter was sent to the Illinois Department of Natural Resources (DNR) requesting information from the Natural Heritage Database regarding the presence of endangered or threatened species or sensitive habitats in the vicinity of Sauget Area 1. The response from the database manager (provided in Appendix 10) indicates that no endangered or threatened species, Illinois Natural Areas Inventory sites, or Illinois Nature Preserves Commission lands are present in the Sauget Area 1 project area.

Small numbers (one to ten individuals) of state-listed endangered species were observed foraging in Dead Creek or the Borrow Pit Lake including the little blue heron (Egretta caerulea), snowy egret (Egretta thula) and black-crowned night heron (Nycticorax ncyticorax). Other endangered species listed by the Illinois DNR for St. Clair County[1] include: Green Trillium (Trillium viride), Isopod (Caecidotea spatulata); Hydrobiid cave snail (Fontigens antroecetes), Short-eared Owl (Asio flammeus) and Yellow-crowned Night Heron (Nyctanassa violacea). State-listed threatened species in St. Clair County include Buffalo Clover (Trifolium reflexum), Common Moorhen (Gallinula chloropus), Least Bittern (Ixobrychus exilis) and Loggerhead Shrike (Lanius ludovicianus).

The source areas (i.e., Sites L, N, G, H, I) are not expected to provide quality habitat for threatened and endangered species. Site L is a backfilled impoundment, Site N is a closed demolition debris disposal area, and Sites G, H, and I represent closed municipal and/or industrial waste disposal areas. Site I currently consists largely of a gravel truck parking area and the presumption has been that a soil cover will be installed over Sites L, N, G and H. These sites are located within areas of commercial land use, open land, and residential land use. The two federally-listed threatened plant species that could be present in terrestrial habitats have not been observed within Sauget Area 1 and the four federal endangered species identified within St. Clair County would not be found within terrestrial habitats. Therefore, it is not expected that threatened and endangered species would be found within the source areas.

[1] Available at http://dnr.state.il.us/ORC/list_tande_bycounty.pdf. Last updated in January 2008.

7.0 Summary of Ecological Risk Assessments

As described above, Menzie-Cura & Associates performed two ERAs for Sauget Area 1 (Menzie-Cura & Associates, 2001; 2002). The 2001 ERA focused on floodplain soils, surface water, and sediments associated with Creek Segment F, including Borrow Pit Lake, and floodplain soils associated with upstream segments of Dead Creek and the disposal areas. Terrestrial receptors (plants, invertebrates, birds, and mammals) were evaluated within the floodplain soils and aquatic receptors (plants, invertebrates, fish, birds, and mammals) were evaluated within Dead Creek and Borrow Pit Lake.

Solutia excavated 46,000 cubic yards of sediments from Creek Segments B, C, D, E and F in 2001/2002. Following sediment removal efforts in 2001/2002, the 2002 ERA was conducted to evaluate potential impacts to fish and aquatic wildlife due to exposure to residual constituent concentrations in creek bottom soils. The 2002 ERA also included the development of site-specific, RBCs for protection of fish in Dead Creek. By agreement with USEPA, RBCs were developed for residual concentrations of known bioaccumulative compounds (Total DDT, Dieldrin, gamma-Chlordane, Total PCBs, Dioxin TEQ and Mercury), Bis(2-ethylhexyl)phthalate and site-specific metals (Copper, Lead and Zinc). To achieve these RBCs within the creek, additional remediation was conducted in 2005/2006 that included the removal of 12,400 cubic yards of creek bottom soils from Segments B, D, E, and F and sediments from Borrow Pit Lake.

Following the sediment removal efforts and the de-watering of portions of Dead Creek, ENSR updated the 2001 floodplain soil terrestrial evaluation and conducted a terrestrial evaluation of the de-watered creek bottom soils of Segments C, D, and E (Appendix 7). Since these creek segments were de-watered to protect public health (mosquito control) they no longer provide aquatic habitat, but could be considered terrestrial habitat for plants, soil invertebrates, and terrestrial wildlife. Terrestrial organism screening was not performed for Creek Segment B, Creek Segment F, and Borrow Pit Lake, because an armored, HDPE liner was installed in Creek Segment B (completed in December 2008) and Creek Segment F and Borrow Pit Lake are aquatic habitats that were remediated to site-specific, risk-based concentrations in 2005/2006.

The floodplain data set evaluated in the 2001 and 2009 terrestrial evaluations represents samples collected from upland areas which drain into Dead Creek Segments B, C, D, and E and could be subject to flooding during periods of high water flow. Segment A was remediated under Illinois EPA oversight in the early 1990's by removing sediments and filling this portion of the creek with clean soil. Segment A of Dead Creek was eliminated at that time and the former creek area is now used as a truck parking lot by a local industry. Therefore, floodplain soils were not collected from this area. Towards the end of Segment E, the creek flows into a culvert consisting of a 48 inch corrugated pipe which runs under the old Parks Airport College and eventually discharges just north of Route 157. As the creek flows under Route 157 and becomes Segment F, it becomes a small, shallow ditch. It is expected that, if flooding were to occur, it would occur prior to the culvert and north of Route 157. Since flooding is not expected within Segment F, floodplain soils were not collected from adjacent to this segment.

A summary of the ERA activities is provided below:

Study Area	Receptors Evaluated	Summary of Results
Creek Segment A	**No ERA activities conducted**	**Approximately 27,500 tons of sediments were excavated by Cerro Flow Products in 1990/1991. After installation of an HDPE vapor barrier, Creek Segment A was backfilled and covered with crushed gravel.**
Creek Segment B	**Warmwater fish** [2] **Aquatic wildlife** [2]	**Sediments excavated in 2001/2002.** **Creek bottom soils did not present a risk to river otter or great blue heron.** **Minimal risks identified for forage fish (zinc and PCBs).** **Creek bottom soils excavated in 2005/2006 to meet RBCs derived for forage fish.** **No further evaluation warranted since concentrations were below RBCs and armored, HDPE liner has been installed.**
Creek Segment C	**Warmwater fish** [2] **Aquatic wildlife** [2] **Terrestrial plants** [3] **Terrestrial invertebrates** [3] **Birds** [3] **Mammals** [3]	**Sediments excavated in 2001/2002.** **Creek bottom soils did not present a risk to river otter or great blue heron.** **Minimal risks identified for forage fish (aluminum – consistent with regional levels so not Site-related).** **Creek bottom soils not excavated since concentrations were not elevated relative to forage fish RBCs.** **After de-watering, data were evaluated against soil screening values.** **Concentrations of most constituents were below screening values and/or background.** **Maximum exposure point concentrations (EPCs) of six inorganic constituents were elevated above soil screening values and background.** **Additional evaluation/remedial action is not recommended since physical creek conditions limit the available habitat and represent substantial stressors for ecological receptors.**
Creek Segment D	**Warmwater fish** [2] **Aquatic wildlife** [2] **Terrestrial plants** [3] **Terrestrial invertebrates** [3] **Birds** [3] **Mammals** [3]	**Sediments excavated in 2001/2002.** **Creek bottom soils did not present a risk to river otter or great blue heron.** **Minimal risks identified for forage fish (aluminum – consistent with regional levels so not Site-related).** **Creek bottom soils excavated in 2005/2006 to meet RBCs derived for forage fish.** **After de-watering, data were evaluated against soil screening values.** **Concentrations of most constituents were below screening values and/or background.** **Maximum EPCs of 12 inorganic and organic constituents were elevated above soil screening values and background.** **Post-excavation results are only available for a sub-set of constituents so there is some uncertainty regarding current concentrations of some constituents; however, they are expected to be lower than the evaluated data suggest.** **Additional evaluation/remedial action is not recommended since physical creek conditions limit the available habitat and represent substantial stressors for ecological receptors.**

Study Area	Receptors Evaluated	Summary of Results
Creek Segment E	Warmwater fish [2] Aquatic wildlife [2] Terrestrial plants [3] Terrestrial invertebrates [3] Birds [3] Mammals [3]	Sediments excavated in 2001/2002. Creek bottom soils did not present a risk to river otter or great blue heron. Minimal risks identified for forage fish (aluminum – consistent with regional levels so not Site-related). Creek bottom soils excavated in 2005/2006 to meet RBCs derived for forage fish. After de-watering, data were evaluated against soil screening values. Concentrations of most constituents were below screening values and/or background. Maximum EPCs of nine inorganic constituents were elevated above soil screening values and background. Post-excavation results are only available for a sub-set of constituents so there is some uncertainty regarding current concentrations of some constituents; however, they are expected to be lower than the evaluated data suggest. Additional evaluation/remedial action is not recommended since physical creek conditions limit the available habitat and represent substantial stressors for ecological receptors.
Creek Segment F and Borrow Pit Lake	Warmwater fish [1,2] Aquatic wildlife [1,2] Bald Eagles [1]	No risks to river otter or great blue heron in Segment F. Potential risks to benthic invertebrates, mallards, muskrats, and tree swallows due to exposure to Segment F sediments using conservative assumptions. Potential risks to benthic invertebrates, fish, river otter, great blue heron, mallards, muskrats, and tree swallows due to exposure to Borrow Pit Lake sediments using conservative assumptions. Sediments in Creek Segment F excavated in 2001/2002. Creek bottom soils did not present a risk to river otter or great blue heron. Minimal risks identified for forage fish (zinc). Creek bottom soils in Creek Segment F and sediments in Borrow Pit Lake excavated in 2005/2006 to meet RBCs derived for forage fish. No further evaluation warranted since post-excavation sampling confirmed concentrations were below RBCs.
Floodplains	Terrestrial plants [1,3] Terrestrial invertebrates [1,3] Birds [1,3] Mammals [1,3]	Concentrations of most constituents were below screening values and/or background in 2001 and 2009 evaluations. Few concentrations exceeded both screening values and background concentrations. The scattered nature of the exceedances does not appear related to Dead Creek and is unlikely to result in significant risk to terrestrial receptors. No further evaluation is warranted.

Notes:
1) Menzie-Cura & Associates, 2001
2) Menzie-Cura & Associates, 2002
3) ENSR, 2009

Constituent concentrations above terrestrial soil screening values and background levels exist in the 2009 terrestrial evaluation of creek bottom soils in Segments C, D, and E. However, the extent of these areas is more limited than the data suggest because sediment excavation efforts have removed many samples with exceedances, thus reducing the potential for risk to terrestrial receptors. Sediments were excavated from within portions Creek Segments D and E in 2005/2006 to achieve RBCs for the protection of fish.

Although post-excavation sampling was only conducted for a limited set of constituents with RBCs, it is likely that these excavations reduced creek bottom soil concentrations of other constituents as well.

In addition, the need for further evaluation or remedial action should recognize that the creek is an actively maintained stormwater drainage ditch receiving runoff from a variety of developed properties. In several locations along the creek, drainage swales discharge runoff from properties including residential areas, a car wash, a junkyard, a restaurant, and several roadways. These discharges occur following rain events and the resulting increase in water flow may rapidly change conditions within the de-watered portions of the creek from dry to flooded until the water either drains or is pumped out. Depending on the duration of the rain event, water may remain in portions of the creek for several days at a time. This change in water regime (e.g., generally dry conditions with periods of standing water) limits the available habitat for terrestrial organisms and the presence of ecological receptors in the creek.

Although some exceedances of ecological screening values likely remain in certain areas after the completion of significant removal actions, the site-specific ecological evaluation does not indicate that additional remedial action alternatives should be considered within the creek. The use of Creek Segments C, D and E for stormwater conveyance from a variety of upland sources and the variable water level conditions within the creek result in an area that does not provide significant suitable habitat for terrestrial organisms. Since these conditions limit the available habitat and represent substantial stressors for ecological receptors, additional remedial action for the creek bottom soils is not recommended.

8.0 References

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Post-Sediment Removal Residual Concentrations

In

Creek Bottom Soils

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T0-C1	CBS-CSB-T1-C1	CBS-CSB-T1-E1	CBS-CSB-T1-W1	CBS-CSB-T2-C1	CBS-CSB-T2-E1	CBS-CSB-T2-W1
Sample date	11/1/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,1,1-Trichloroethane	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
1,1,2,2-Tetrachloroethane	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
1,1,2-Trichloroethane	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
1,1-Dichloroethane	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
1,1-Dichloroethene	0.3 U	0.0076 U	0.0069 U	0.0069 U	0.0081 U	0.0066 U	0.0042 U
1,2-Dichloroethane	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
1,2-Dichloroethene (total)	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
1,2-Dichloropropane	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
2-Butanone (MEK)	1.7 U	0.029 J	0.038 U	0.0052 J	0.042 J	0.008 J	0.0085 J
2-Hexanone	1.7 U	0.041 U	0.038 U	0.038 U	0.044 U	0.036 U	0.023 U
4-Methyl-2-pentanone (MIBK)	1.7 U	0.041 U	0.038 U	0.038 U	0.044 U	0.036 U	0.023 U
Acetone	1.3 UJ	0.29	0.075 U	0.1 U	0.24	0.072 U	0.058 U
Benzene	0.18 J	0.0072 J	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0024 J
Bromodichloromethane	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
Bromoform	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
Bromomethane	0.68 U	0.016 U	0.015 U	0.015 U	0.018 U	0.014 U	0.0091 U
Carbon disulfide	0.34 U	0.0082 U	0.0075 U	0.014	0.025	0.0072 U	0.0033 J
Carbon tetrachloride	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
Chlorobenzene	9.7	0.58	0.0035 J	0.0061 J	0.08	0.0038 J	0.054
Chloroethane	0.68 U	0.016 U	0.015 U	0.015 U	0.018 U	0.014 U	0.0091 U
Chloroform	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
Chloromethane	0.68 U	0.016 U	0.015 U	0.015 U	0.018 U	0.014 U	0.0091 U
cis-1,3-Dichloropropene	0.27 U	0.0066 U	0.006 U	0.006 U	0.007 U	0.0058 U	0.0036 U
Dibromochloromethane	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
Ethylbenzene	2	0.01	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
Methylene chloride	0.16 UJ	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
Styrene	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
Tetrachloroethene	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
Toluene	0.3 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
trans-1,3-Dichloropropene	0.27 U	0.0066 U	0.006 U	0.006 U	0.007 U	0.0058 U	0.0036 U
Trichloroethene	0.34 U	0.0082 U	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U
Vinyl chloride	0.68 U	0.016 U	0.015 U	0.015 U	0.018 U	0.014 U	0.0091 U
Xylenes (total)	7	0.08	0.0075 U	0.0075 U	0.0088 U	0.0072 U	0.0046 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T3-C1	CBS-CSB-T3-E1	CBS-CSB-T3-W1	CBS-CSB-T4-C1	CBS-CSB-T4-E1	CBS-CSB-T4-W1	CBS-CSB-T5-C1
Sample date	10/31/2001	10/31/2001	10/31/2001	11/1/2001	11/1/2001	11/1/2001	11/1/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,1,1-Trichloroethane	0.023	0.0066 U	0.0095 U	0.0098 U	0.0038 J	0.0075 U	0.0074 U
1,1,2,2-Tetrachloroethane	0.011 U	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
1,1,2-Trichloroethane	0.011 U	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
1,1-Dichloroethane	0.011 U	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
1,1-Dichloroethene	0.01 U	0.0061 U	0.0088 U	0.009 U	0.0054 U	0.0075 U	0.0068 U
1,2-Dichloroethane	0.011 U	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
1,2-Dichloroethene (total)	0.012	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
1,2-Dichloropropane	0.011 U	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
2-Butanone (MEK)	0.61	0.015 J	0.0088 J	0.072	0.0062 J	0.057	0.086
2-Hexanone	0.057 U	0.077	0.048 U	0.049 U	0.029 U	0.037 U	0.037 U
4-Methyl-2-pentanone (MIBK)	0.11	0.015 J	0.048 U	0.019 J	0.029 U	0.035 J	0.037 U
Acetone	0.47	0.066 U	0.12 U	0.34	0.086	0.2	0.36
Benzene	0.004 J	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0033 J	0.0074 U
Bromodichloromethane	0.011 U	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
Bromoform	0.011 U	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
Bromomethane	0.023 U	0.013 U	0.019 U	0.02 U	0.012 U	0.015 U	0.015 U
Carbon disulfide	0.02	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.073	0.042
Carbon tetrachloride	0.011 U	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
Chlorobenzene	4.5	0.36	0.0041 J	0.15	0.015	0.5	0.11
Chloroethane	0.023 U	0.013 U	0.019 U	0.02 U	0.012 U	0.015 U	0.015 U
Chloroform	0.011 U	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
Chloromethane	0.023 U	0.013 U	0.019 U	0.02 U	0.012 U	0.015 U	0.015 U
cis-1,3-Dichloropropene	0.0091 U	0.0053 U	0.0076 U	0.0078 U	0.0047 U	0.0075 U	0.0059 U
Dibromochloromethane	0.011 U	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
Ethylbenzene	3.2	0.15	0.0095 U	0.0047 J	0.0059 U	0.043	0.0074 U
Methylene chloride	0.011 U	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
Styrene	0.011 U	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.0075 U	0.0074 U
Tetrachloroethene	0.07	0.0099	0.0083 J	0.0098 U	0.0059 U	0.0075 U	0.0074 U
Toluene	0.29	0.014	0.0051 J	0.0098 U	0.0059 U	0.016	0.0034 J
trans-1,3-Dichloropropene	0.0091 U	0.0053 U	0.0076 U	0.0078 U	0.0047 U	0.0075 U	0.0059 U
Trichloroethene	0.0088 J	0.0066 U	0.0095 U	0.0098 U	0.0059 U	0.034	0.0074 U
Vinyl chloride	0.023 U	0.013 U	0.019 U	0.02 U	0.012 U	0.015 U	0.015 U
Xylenes (total)	29	1	0.0095 U	0.019	0.0035 J	0.14	0.0074 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T5-E1	CBS-CSB-T5-W1	CBS-CSB-T6-C1	CBS-CSB-T6-C1-D	CBS-CSB-T6-E1	CBS-CSB-T6-W1	CBS-CSB-T7-C1
Sample date	11/1/2001	11/1/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,1,1-Trichloroethane	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
1,1,2,2-Tetrachloroethane	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
1,1,2-Trichloroethane	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
1,1-Dichloroethane	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
1,1-Dichloroethene	0.0069 U	0.0063 U	0.006 U	0.006 U	0.0052 U	0.0064 U	0.0072 U
1,2-Dichloroethane	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
1,2-Dichloroethene (total)	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
1,2-Dichloropropane	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
2-Butanone (MEK)	0.0062 J	0.013 J	0.033 U	0.033 U	0.028 U	0.053	0.02 J
2-Hexanone	0.037 U	0.034 U	0.033 U	0.033 U	0.028 U	0.035 U	0.039 U
4-Methyl-2-pentanone (MIBK)	0.0093 J	0.034 U	0.033 U	0.033 U	0.028 U	0.035 U	0.039 U
Acetone	0.09	0.15	0.024 J	0.033 J	0.019 J	0.25	0.087
Benzene	0.0075 U	0.0068 U	0.016	0.0066 U	0.0057 U	0.007 U	0.0078 U
Bromodichloromethane	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
Bromoform	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
Bromomethane	0.015 U	0.014 U	0.013 U	0.013 U	0.011 U	0.014 U	0.016 U
Carbon disulfide	0.0075 U	0.0088	0.0066 U	0.0066 U	0.0057 U	0.077	0.0068 J
Carbon tetrachloride	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
Chlorobenzene	0.0046 J	1.5	0.019	0.0033 J	0.0057 U	0.17	0.14
Chloroethane	0.015 U	0.014 U	0.013 U	0.013 U	0.011 U	0.014 U	0.016 U
Chloroform	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
Chloromethane	0.015 U	0.014 U	0.013 U	0.013 U	0.011 U	0.014 U	0.016 U
cis-1,3-Dichloropropene	0.006 U	0.0055 U	0.0052 U	0.0052 U	0.0046 U	0.0056 U	0.0063 U
Dibromochloromethane	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
Ethylbenzene	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
Methylene chloride	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0022 J
Styrene	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
Tetrachloroethene	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
Toluene	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
trans-1,3-Dichloropropene	0.006 U	0.0055 U	0.0052 U	0.0052 U	0.0046 U	0.0056 U	0.0063 U
Trichloroethene	0.0075 U	0.0068 U	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U
Vinyl chloride	0.015 U	0.014 U	0.013 U	0.013 U	0.011 U	0.014 U	0.016 U
Xylenes (total)	0.0075 U	0.0031 J	0.0066 U	0.0066 U	0.0057 U	0.007 U	0.0078 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T7-E1	CBS-CSB-T7-W1	CBS-CSB-T8-C1	CBS-CSB-T8-E1	CBS-CSB-T8-W1	CBS-CSB-T9-C1	CBS-CSB-T9-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,1,1-Trichloroethane	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
1,1,2,2-Tetrachloroethane	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
1,1,2-Trichloroethane	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
1,1-Dichloroethane	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
1,1-Dichloroethene	0.0064 U	0.007 UJ	0.0069 U	0.0071 U	0.0061 U	0.0065 U	0.0072 U
1,2-Dichloroethane	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
1,2-Dichloroethene (total)	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
1,2-Dichloropropane	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
2-Butanone (MEK)	0.035 U	0.038 UJ	0.012 J	0.0077 J	0.033 U	0.023 J	0.039 U
2-Hexanone	0.035 U	0.038 UJ	0.038 U	0.039 U	0.033 U	0.035 U	0.039 U
4-Methyl-2-pentanone (MIBK)	0.035 U	0.038 UJ	0.038 U	0.039 U	0.033 U	0.035 U	0.039 U
Acetone	0.033 J	0.076 UJ	0.06 J	0.046 J	0.025 J	0.12	0.03 J
Benzene	0.0043 J	0.0076 UJ	0.0036 J	0.019	0.0066 U	0.0048 J	0.0095
Bromodichloromethane	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
Bromoform	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
Bromomethane	0.014 U	0.015 UJ	0.015 U	0.016 U	0.013 U	0.014 U	0.016 U
Carbon disulfide	0.0069 U	0.0076 UJ	0.019	0.0078 U	0.0066 U	0.01	0.0078 U
Carbon tetrachloride	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
Chlorobenzene	0.012	0.0076 UJ	0.022	0.022	0.0066 U	0.4	0.011
Chloroethane	0.014 U	0.015 UJ	0.015 U	0.016 U	0.013 U	0.014 U	0.016 U
Chloroform	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
Chloromethane	0.014 U	0.015 UJ	0.015 U	0.016 U	0.013 U	0.014 U	0.016 U
cis-1,3-Dichloropropene	0.0056 U	0.0061 UJ	0.006 U	0.0062 U	0.0053 U	0.0056 U	0.0063 U
Dibromochloromethane	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
Ethylbenzene	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
Methylene chloride	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
Styrene	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
Tetrachloroethene	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
Toluene	0.0069 U	0.0076 UJ	0.0078	0.0078 U	0.0066 U	0.0079	0.0078 U
trans-1,3-Dichloropropene	0.0056 U	0.0061 UJ	0.006 U	0.0062 U	0.0053 U	0.0056 U	0.0063 U
Trichloroethene	0.0069 U	0.0076 UJ	0.0075 U	0.0078 U	0.0066 U	0.007 U	0.0078 U
Vinyl chloride	0.014 U	0.015 UJ	0.015 U	0.016 U	0.013 U	0.014 U	0.016 U
Xylenes (total)	0.0069 U	0.0076 UJ	0.0047 J	0.0078 U	0.0066 U	0.009	0.0078 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T9-W1	CBS-CSB-T10-C1	CBS-CSB-T10-E1	CBS-CSB-T10-W1	CBS-CSB-T11-C1	CBS-CSB-T11-C1-D	CBS-CSB-T11-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,1,1-Trichloroethane	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
1,1,2,2-Tetrachloroethane	0.0074 U	0.0061 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
1,1,2-Trichloroethane	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
1,1-Dichloroethane	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
1,1-Dichloroethene	0.0068 U	0.007 U	0.0086 U	0.0071 U	0.0066 U	0.0062 U	0.0065 U
1,2-Dichloroethane	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
1,2-Dichloroethene (total)	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
1,2-Dichloropropane	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
2-Butanone (MEK)	0.037 U	0.019 J	0.047 U	0.038 U	0.017 J	0.026 J	0.035 U
2-Hexanone	0.037 U	0.038 U	0.047 U	0.038 U	0.036 U	0.034 U	0.035 U
4-Methyl-2-pentanone (MIBK)	0.037 U	0.038 U	0.047 U	0.038 U	0.036 U	0.034 U	0.035 U
Acetone	0.031 J	0.083	0.011 J	0.029 J	0.093	0.14	0.077
Benzene	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0036 J	0.004 J	0.0056 J
Bromodichloromethane	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
Bromoform	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
Bromomethane	0.015 U	0.015 U	0.019 U	0.015 U	0.014 U	0.013 U	0.014 U
Carbon disulfide	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.016	0.027	0.0071 U
Carbon tetrachloride	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
Chlorobenzene	0.0074 U	0.53	0.0094 U	0.0077 U	0.015	0.019	0.011
Chloroethane	0.015 U	0.015 U	0.019 U	0.015 U	0.014 U	0.013 U	0.014 U
Chloroform	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
Chloromethane	0.015 U	0.015 U	0.019 U	0.015 U	0.014 U	0.013 U	0.014 U
cis-1,3-Dichloropropene	0.0059 U	0.0061 U	0.0075 U	0.0061 U	0.0057 U	0.0054 U	0.0057 U
Dibromochloromethane	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
Ethylbenzene	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
Methylene chloride	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
Styrene	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
Tetrachloroethene	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
Toluene	0.0074 U	0.003 J	0.0094 U	0.0077 U	0.0071 J	0.007	0.0071 U
trans-1,3-Dichloropropene	0.0059 U	0.0061 U	0.0075 U	0.0061 U	0.0057 U	0.0054 U	0.0057 U
Trichloroethene	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0072 U	0.0067 U	0.0071 U
Vinyl chloride	0.015 U	0.015 U	0.019 U	0.015 U	0.014 U	0.013 U	0.014 U
Xylenes (total)	0.0074 U	0.0076 U	0.0094 U	0.0077 U	0.0076	0.01	0.0071 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T11-W1	CBS-CSB-T12-C1	CBS-CSB-T12-E1	CBS-CSB-T12-W1	CBS-CSB-T13-C1	CBS-CSB-T13-E1	CBS-CSB-T13-W1
Sample date	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,1,1-Trichloroethane	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
1,1,2,2-Tetrachloroethane	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
1,1,2-Trichloroethane	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
1,1-Dichloroethane	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
1,1-Dichloroethene	0.0058 U	0.0082 U	0.0064 U	0.0067 U	0.0065 U	0.0064 U	0.0071 U
1,2-Dichloroethane	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
1,2-Dichloroethene (total)	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
1,2-Dichloropropane	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
2-Butanone (MEK)	0.032 U	0.073	0.035 U	0.036 U	0.035 U	0.035 U	0.038 U
2-Hexanone	0.032 U	0.044 U	0.035 U	0.036 U	0.035 U	0.035 U	0.038 U
4-Methyl-2-pentanone (MIBK)	0.032 U	0.044 U	0.035 U	0.036 U	0.035 U	0.035 U	0.038 U
Acetone	0.057 J	0.4	0.07 U	0.072 J	0.091	0.07 U	0.23
Benzene	0.0063 U	0.0089 U	0.0035 J	0.0073 U	0.0035 J	0.0041 J	0.0077 U
Bromodichloromethane	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
Bromoform	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
Bromomethane	0.013 U	0.018 U	0.014 U	0.015 U	0.014 U	0.014 U	0.015 U
Carbon disulfide	0.0063 U	0.045	0.007 U	0.0073 U	0.0042 J	0.007 U	0.0077 U
Carbon tetrachloride	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
Chlorobenzene	0.0063 U	0.053	0.0044 J	0.0073 U	0.074	0.0089	0.0077 U
Chloroethane	0.013 U	0.018 U	0.014 U	0.015 U	0.014 U	0.014 U	0.015 U
Chloroform	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
Chloromethane	0.013 U	0.018 U	0.014 U	0.015 U	0.014 U	0.014 U	0.015 U
cis-1,3-Dichloropropene	0.0051 U	0.0071 U	0.0056 U	0.0058 U	0.0057 U	0.0056 U	0.0061 U
Dibromochloromethane	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
Ethylbenzene	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
Methylene chloride	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
Styrene	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
Tetrachloroethene	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
Toluene	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0038 J	0.007 U	0.0077 U
trans-1,3-Dichloropropene	0.0051 U	0.0071 U	0.0056 U	0.0058 U	0.0057 U	0.0056 U	0.0061 U
Trichloroethene	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U
Vinyl chloride	0.013 U	0.018 U	0.014 U	0.015 U	0.014 U	0.014 U	0.015 U
Xylenes (total)	0.0063 U	0.0089 U	0.007 U	0.0073 U	0.0071 U	0.007 U	0.0077 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T14-1	CBS-CSB-T15-1	CBS-CSB-T16-1	CBS-CSB-T17-C1	CBS-CSB-T17-E1	CBS-CSB-T17-E1D	CBS-CSB-T17-WI
Sample date	12/20/2001	12/20/2001	12/20/2001	11/9/2001	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,1,1-Trichloroethane	0.007 U	0.0048 U	0.0063 J	0.01 U	0.0077 U	0.0069 U	0.0072 U
1,1,2,2-Tetrachloroethane	0.007 U	0.0048 U	0.0072 U	0.01 U	0.0077 U	0.0069 UJ	0.0072 U
1,1,2-Trichloroethane	0.007 U	0.0048 U	0.0072 U	0.01 U	0.0077 U	0.0069 U	0.0072 U
1,1-Dichloroethane	0.007 U	0.0048 U	0.0072 U	0.01 U	0.0077 U	0.0069 U	0.0072 U
1,1-Dichloroethene	0.0064 U	0.0044 U	0.0067 U	0.0093 U	0.0071 U	0.0064 U	0.0066 U
1,2-Dichloroethane	0.007 U	0.0048 U	0.0072 U	0.01 U	0.0077 U	0.0069 U	0.0072 U
1,2-Dichloroethene (total)	0.007 U	0.0048 U	0.0072 U	0.01 U	0.0077 U	0.0069 U	0.0072 U
1,2-Dichloropropane	0.007 U	0.0048 U	0.0072 U	0.01 U	0.0077 U	0.0069 U	0.0072 U
2-Butanone (MEK)	0.009 J	0.024 U	0.0052 J	0.059	0.0088 J	0.022 J	0.014 J
2-Hexanone	0.035 U	0.024 U	0.036 U	0.05 U	0.038 U	0.035 UJ	0.036 U
4-Methyl-2-pentanone (MIBK)	0.035 U	0.024 U	0.036 U	0.05 U	0.038 U	0.035 U	0.036 U
Acetone	0.067 J	0.014 J	0.072 U	0.34 J	0.12 J	0.21 J	0.11 J
Benzene	0.007 U	0.0048 U	0.0072 U	0.01 U	0.0044 J	0.0051 J	0.0038 J
Bromodichloromethane	0.007 U	0.0048 U	0.0072 U	0.01 U	0.0077 U	0.0069 U	0.0072 U
Bromoform	0.007 U	0.0048 U	0.0072 U	0.01 U	0.0077 U	0.0069 UJ	0.0072 U
Bromomethane	0.014 U	0.0097 U	0.014 U	0.02 U	0.015 U	0.014 U	0.014 U
Carbon disulfide	0.007 U	0.0048 U	0.0061 J	0.03	0.0077 U	0.0051 J	0.0047 J
Carbon tetrachloride	0.007 U	0.0048 U	0.0072 U	0.01 U	0.0077 U	0.0069 U	0.0072 U
Chlorobenzene	0.0082	0.0048 U	0.031	0.11	0.037	0.11 J	0.013
Chloroethane	0.014 U	0.0097 U	0.014 U	0.02 U	0.015 U	0.014 U	0.014 U
Chloroform	0.007 U	0.0048 U	0.0031 J	0.01 U	0.0077 U	0.0069 U	0.0072 U
Chloromethane	0.014 U	0.0097 U	0.014 U	0.02 U	0.015 U	0.014 U	0.014 U
cis-1,3-Dichloropropene	0.0056 U	0.0039 U	0.0058 U	0.0081 U	0.0062 U	0.0056 U	0.0057 U
Dibromochloromethane	0.007 U	0.0048 U	0.0072 U	0.01 U	0.0077 U	0.0069 UJ	0.0072 U
Ethylbenzene	0.007 U	0.0048 U	0.011	0.01 U	0.0077 U	0.0069 UJ	0.0072 U
Methylene chloride	0.0023 J	0.0018 J	0.0029 J	0.01 U	0.0077 U	0.0069 U	0.0072 U
Styrene	0.007 U	0.0048 U	0.0028 J	0.01 U	0.0077 U	0.0069 UJ	0.0072 U
Tetrachloroethene	0.007 U	0.0048 U	0.0072 U	0.01 U	0.0077 U	0.0069 UJ	0.0072 U
Toluene	0.014 J	0.002 J	0.058	0.01 U	0.0032 J	0.0046 J	0.0063 J
trans-1,3-Dichloropropene	0.0056 U	0.0039 U	0.0058 U	0.0081 U	0.0062 U	0.0056 U	0.0057 U
Trichloroethene	0.007 U	0.0048 U	0.0068 J	0.01 U	0.0077 U	0.0069 U	0.0072 U
Vinyl chloride	0.014 U	0.0097 U	0.014 U	0.02 U	0.015 U	0.014 U	0.014 U
Xylenes (total)	0.007 U	0.0048 U	0.022	0.01 U	0.0077 U	0.0069 UJ	0.0072 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B
Sample	CBS-CSB-T18-C1	CBS-CSB-T18-E1	CBS-CSB-T18-W1	CBS-CSB-T18-W1D
Sample date	11/9/2001	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:				
1,1,1-Trichloroethane	0.0078 U	0.0066 U	0.008 U	0.0064 U
1,1,2,2-Tetrachloroethane	0.0078 U	0.0066 U	0.008 U	0.0064 U
1,1,2-Trichloroethane	0.0078 U	0.0066 U	0.008 U	0.0064 U
1,1-Dichloroethane	0.0078 U	0.0066 U	0.008 U	0.0064 U
1,1-Dichloroethene	0.0072 U	0.006 U	0.0073 U	0.0059 U
1,2-Dichloroethane	0.0078 U	0.0066 U	0.008 U	0.0064 U
1,2-Dichloroethene (total)	0.0078 U	0.0066 U	0.008 U	0.0064 U
1,2-Dichloropropane	0.0078 U	0.0066 U	0.008 U	0.0064 U
2-Butanone (MEK)	0.032 J	0.033 U	0.0082 J	0.021 J
2-Hexanone	0.039 U	0.033 UJ	0.04 U	0.032 U
4-Methyl-2-pentanone (MIBK)	0.039 U	0.033 UJ	0.04 U	0.032 U
Acetone	0.18 J	0.053 J	0.085 J	0.16 J
Benzene	0.018	0.0066 U	0.008 U	0.0064 U
Bromodichloromethane	0.0078 U	0.0066 U	0.008 U	0.0064 U
Bromoform	0.0078 U	0.0066 U	0.008 U	0.0064 U
Bromomethane	0.016 U	0.013 UJ	0.016 U	0.013 U
Carbon disulfide	0.0072 J	0.0066 U	0.008 U	0.0064 U
Carbon tetrachloride	0.0078 U	0.0066 U	0.008 U	0.0064 U
Chlorobenzene	2.7	0.0066 U	0.0032 J	0.0064
Chloroethane	0.016 U	0.013 U	0.016 U	0.013 U
Chloroform	0.0078 U	0.0066 U	0.008 U	0.0064 U
Chloromethane	0.016 U	0.013 U	0.016 U	0.013 U
cis-1,3-Dichloropropene	0.0063 U	0.0052 U	0.0064 U	0.0051 U
Dibromochloromethane	0.0078 U	0.0066 U	0.008 U	0.0064 U
Ethylbenzene	0.0078 U	0.0066 U	0.008 U	0.0064 U
Methylene chloride	0.0078 U	0.0066 U	0.008 U	0.0064 U
Styrene	0.0078 U	0.0066 U	0.008 U	0.0064 U
Tetrachloroethene	0.0078 U	0.0066 U	0.008 U	0.0064 U
Toluene	0.0032 J	0.0066 U	0.008 U	0.0064 U
trans-1,3-Dichloropropene	0.0063 U	0.0052 U	0.0064 U	0.0051 U
Trichloroethene	0.0078 U	0.0066 U	0.008 U	0.0064 U
Vinyl chloride	0.016 U	0.013 U	0.016 U	0.013 U
Xylenes (total)	0.011	0.0066 U	0.008 U	0.0064 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	C	C	C	C	C	C	C
Sample	CBS-CSC-T1-1	CBS-CSC-T2-1	CBS-CSC-T3-1	CBS-CSC-T4-1	CBS-CSC-T4-1-FD	CBS-CSC-T5-1	CBS-CSC-T6-1
Sample date	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,1,1-Trichloroethane	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
1,1,2,2-Tetrachloroethane	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
1,1,2-Trichloroethane	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
1,1-Dichloroethane	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
1,1-Dichloroethene	0.0063 U	0.0066 U	0.0071 U	0.0069 U	0.007 U	0.0072 U	0.0073 U
1,2-Dichloroethane	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
1,2-Dichloroethene (total)	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
1,2-Dichloropropane	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
2-Butanone (MEK)	0.0072 J	0.0057 J	0.038 U	0.037 U	0.038 U	0.039 U	0.0099 J
2-Hexanone	0.034 U	0.036 U	0.038 U	0.037 U	0.038 U	0.039 U	0.04 U
4-Methyl-2-pentanone (MIBK)	0.034 U	0.036 U	0.038 U	0.037 U	0.038 U	0.039 U	0.04 U
Acetone	0.068 U	0.041 J	0.077 U	0.014 J	0.013 J	0.0096 J	0.083
Benzene	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.003 J
Bromodichloromethane	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
Bromoform	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
Bromomethane	0.014 U	0.014 U	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U
Carbon disulfide	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
Carbon tetrachloride	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
Chlorobenzene	0.23	0.11	0.046	0.022	0.01	0.0023 J	0.7
Chloroethane	0.014 U	0.014 U	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U
Chloroform	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
Chloromethane	0.014 U	0.014 U	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U
cis-1,3-Dichloropropene	0.0055 U	0.0057 U	0.0062 U	0.006 U	0.0061 U	0.0062 U	0.0063 U
Dibromochloromethane	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
Ethylbenzene	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
Methylene chloride	0.0023 J	0.0023 J	0.0077 U	0.0026 J	0.0076 U	0.0078 U	0.0048 J
Styrene	0.0068 U	0.0027 J	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
Tetrachloroethene	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
Toluene	0.0068 U	0.0039 J	0.0077 U	0.0046 J	0.0076 U	0.0078 U	0.0075 J
trans-1,3-Dichloropropene	0.0055 U	0.0057 U	0.0062 U	0.006 U	0.0061 U	0.0062 U	0.0063 U
Trichloroethene	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0079 U
Vinyl chloride	0.014 U	0.014 U	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U
Xylenes (total)	0.0068 U	0.0071 U	0.0077 U	0.0075 U	0.0076 U	0.0078 U	0.0043 J

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	C	C	C
Sample	CBS-CSC-T7-1	CBS-CSC-T8-1	CBS-CSC-T9-1
Sample date	12/13/2001	12/13/2001	12/13/2001
Units	mg/kg	mg/kg	mg/kg
Analyte:			
1,1,1-Trichloroethane	0.0074 U	0.0075 U	0.0068 U
1,1,2,2-Tetrachloroethane	0.0074 U	0.0075 U	0.0068 U
1,1,2-Trichloroethane	0.0074 U	0.0075 U	0.0068 U
1,1-Dichloroethane	0.0074 U	0.0075 U	0.0068 U
1,1-Dichloroethene	0.0068 U	0.0069 U	0.0062 U
1,2-Dichloroethane	0.0074 U	0.0075 U	0.0068 U
1,2-Dichloroethene (total)	0.0074 U	0.0075 U	0.0068 U
1,2-Dichloropropane	0.0074 U	0.0075 U	0.0068 U
2-Butanone (MEK)	0.037 U	0.037 U	0.034 U
2-Hexanone	0.037 U	0.037 U	0.034 U
4-Methyl-2-pentanone (MIBK)	0.037 U	0.037 U	0.034 U
Acetone	0.074 U	0.075 U	0.014 J
Benzene	0.0074 U	0.0075 U	0.0068 U
Bromodichloromethane	0.0074 U	0.0075 U	0.0068 U
Bromoform	0.0074 U	0.0075 U	0.0068 U
Bromomethane	0.015 U	0.015 U	0.014 U
Carbon disulfide	0.0074 U	0.0075 U	0.0068 U
Carbon tetrachloride	0.0074 U	0.0075 U	0.0068 U
Chlorobenzene	0.042	0.022	0.0038 J
Chloroethane	0.015 U	0.015 U	0.014 U
Chloroform	0.0074 U	0.0075 U	0.0068 U
Chloromethane	0.015 U	0.015 U	0.014 U
cis-1,3-Dichloropropene	0.0059 U	0.006 U	0.0054 U
Dibromochloromethane	0.0074 U	0.0075 U	0.0068 U
Ethylbenzene	0.0074 U	0.0075 U	0.0068 U
Methylene chloride	0.0074 U	0.0075 U	0.0068 U
Styrene	0.0074 U	0.0075 U	0.0068 U
Tetrachloroethene	0.0074 U	0.0075 U	0.0068 U
Toluene	0.0033 J	0.0075 U	0.0068 U
trans-1,3-Dichloropropene	0.0059 U	0.006 U	0.0054 U
Trichloroethene	0.0074 U	0.0075 U	0.0068 U
Vinyl chloride	0.015 U	0.015 U	0.014 U
Xylenes (total)	0.0074 U	0.0075 U	0.0068 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	D	D	D	D	D	D
Sample	CBS-CSD-T1-1	CBS-CSD-T2-1	CBS-CSD-T3-1	CBS-CSD-T4-1	CBS-CSD-T5-1	CBS-CSD-T6-1
Sample date	12/12/2001	12/12/2001	12/12/2001	12/12/2001	12/12/2001	12/12/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:						
1,1,1-Trichloroethane	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
1,1,2,2-Tetrachloroethane	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
1,1,2-Trichloroethane	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
1,1-Dichloroethane	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
1,1-Dichloroethene	0.0069 U	0.007 U	0.0066 U	0.0069 U	0.0063 U	0.0067 U
1,2-Dichloroethane	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
1,2-Dichloroethene (total)	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
1,2-Dichloropropane	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
2-Butanone (MEK)	0.01 J	0.038 U	0.0079 J	0.037 U	0.034 U	0.0063 J
2-Hexanone	0.037 U	0.038 U	0.036 U	0.037 U	0.034 U	0.036 U
4-Methyl-2-pentanone (MIBK)	0.037 U	0.038 U	0.036 U	0.037 U	0.034 U	0.036 U
Acetone	0.075 U	0.076 U	0.071 U	0.075 U	0.068 U	0.072 U
Benzene	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
Bromodichloromethane	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
Bromoform	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
Bromomethane	0.015 U	0.015 U	0.014 U	0.015 U	0.014 U	0.014 U
Carbon disulfide	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
Carbon tetrachloride	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
Chlorobenzene	0.15	0.0034 J	0.021	0.0077	0.0068 U	0.002 J
Chloroethane	0.015 U	0.015 U	0.014 U	0.015 U	0.014 U	0.014 U
Chloroform	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
Chloromethane	0.015 U	0.015 U	0.014 U	0.015 U	0.014 U	0.014 U
cis-1,3-Dichloropropene	0.006 U	0.0061 U	0.0057 U	0.006 U	0.0055 U	0.0058 U
Dibromochloromethane	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
Ethylbenzene	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
Methylene chloride	0.0023 J	0.0023 J	0.0071 U	0.0029 J	0.0068 U	0.0032 J
Styrene	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
Tetrachloroethene	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
Toluene	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0029 J
trans-1,3-Dichloropropene	0.006 U	0.0061 U	0.0057 U	0.006 U	0.0055 U	0.0058 U
Trichloroethene	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U
Vinyl chloride	0.015 U	0.015 U	0.014 U	0.015 U	0.014 U	0.014 U
Xylenes (total)	0.0075 U	0.0076 U	0.0071 U	0.0075 U	0.0068 U	0.0072 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E	E	E
Sample	CBS-CSE-T1-1	CBS-CSE-T2-1	CBS-CSE-T3-1	CBS-CSE-T3-1-FD	CBS-CSE-T4-1	CBS-CSE-T5-1	CBS-CSE-T6-1
Sample date	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,1,1-Trichloroethane	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
1,1,2,2-Tetrachloroethane	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
1,1,2-Trichloroethane	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
1,1-Dichloroethane	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
1,1-Dichloroethene	0.0069 U	0.0062 U	0.0068 U	0.0065 U	0.0064 U	0.006 U	0.0066 U
1,2-Dichloroethane	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
1,2-Dichloroethene (total)	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
1,2-Dichloropropane	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
2-Butanone (MEK)	0.014 J	0.034 U	0.037 U	0.035 U	0.0089 J	0.032 U	0.036 U
2-Hexanone	0.037 U	0.034 U	0.037 U	0.035 U	0.035 U	0.032 U	0.036 U
4-Methyl-2-pentanone (MIBK)	0.037 U	0.034 U	0.037 U	0.035 U	0.035 U	0.032 U	0.036 U
Acetone	0.073 J	0.068 U	0.024 J	0.07 U	0.048 J	0.018 J	0.071 U
Benzene	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
Bromodichloromethane	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
Bromoform	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
Bromomethane	0.015 U	0.014 U	0.015 U	0.014 U	0.014 U	0.013 U	0.014 U
Carbon disulfide	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
Carbon tetrachloride	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
Chlorobenzene	0.0071 J	0.0068 U	0.0074 U	0.007 U	0.013	0.002 J	0.0071 U
Chloroethane	0.015 U	0.014 U	0.015 U	0.014 U	0.014 U	0.013 U	0.014 U
Chloroform	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
Chloromethane	0.015 U	0.014 U	0.015 U	0.014 U	0.014 U	0.013 U	0.014 U
cis-1,3-Dichloropropene	0.006 U	0.0054 U	0.0059 U	0.0056 U	0.0056 U	0.0052 U	0.0057 U
Dibromochloromethane	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
Ethylbenzene	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
Methylene chloride	0.0075 U	0.0068 U	0.0023 J	0.007 U	0.0069 U	0.0065 U	0.0071 U
Styrene	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
Tetrachloroethene	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
Toluene	0.0075 U	0.0068 U	0.0037 J	0.007 U	0.0069 U	0.0065 U	0.0071 U
trans-1,3-Dichloropropene	0.006 U	0.0054 U	0.0059 U	0.0056 U	0.0056 U	0.0052 U	0.0057 U
Trichloroethene	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U
Vinyl chloride	0.015 U	0.014 U	0.015 U	0.014 U	0.014 U	0.013 U	0.014 U
Xylenes (total)	0.0075 U	0.0068 U	0.0074 U	0.007 U	0.0069 U	0.0065 U	0.0071 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E	E	E
Sample	CBS-CSE-T7-1	CBS-CSE-T8-1	CBS-CSE-T9-1	CBS-CSE-T10-1	CBS-CSE-T11-1	CBS-CSE-T12-1	CBS-CSE-T13-2
Sample date	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	2/14/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,1,1-Trichloroethane	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U
1,1,2,2-Tetrachloroethane	0.0086 U	0.0076 U	0.006 U	0.0064 UJ	0.0058 U	0.0075 U	0.0067 U
1,1,2-Trichloroethane	0.0086 U	0.0076 U	0.006 U	0.0064 UJ	0.0058 U	0.0075 U	0.0067 U
1,1-Dichloroethane	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U
1,1-Dichloroethene	0.0079 U	0.007 U	0.0055 U	0.0059 U	0.0054 U	0.0069 U	0.0061 U
1,2-Dichloroethane	0.0086 U	0.0076 U	0.006 U	0.0064 UJ	0.0058 U	0.0075 U	0.0067 U
1,2-Dichloroethene (total)	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U
1,2-Dichloropropane	0.0086 U	0.0076 U	0.006 U	0.0064 UJ	0.0058 U	0.0075 U	0.0067 U
2-Butanone (MEK)	0.043 U	0.011 J	0.03 U	0.012 J	0.029 U	0.0073 J	0.033 U
2-Hexanone	0.043 U	0.038 U	0.03 U	0.032 U	0.029 U	0.038 U	0.033 U
4-Methyl-2-pentanone (MIBK)	0.043 U	0.038 U	0.03 U	0.032 U	0.029 U	0.038 U	0.033 U
Acetone	0.072 U	0.062 J	0.075 U	0.064 U	0.074 U	0.077 U	0.029 J
Benzene	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U
Bromodichloromethane	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U
Bromoform	0.0086 U	0.0076 U	0.006 U	0.0064 UJ	0.0058 U	0.0075 U	0.0067 U
Bromomethane	0.017 U	0.015 U	0.012 U	0.013 U	0.012 U	0.015 U	0.013 U
Carbon disulfide	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U
Carbon tetrachloride	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U
Chlorobenzene	0.0086 U	0.033	0.006 U	0.015 J	0.0022 J	0.066	0.012
Chloroethane	0.017 U	0.015 U	0.012 U	0.013 U	0.012 U	0.015 U	0.013 U
Chloroform	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U
Chloromethane	0.017 U	0.015 U	0.012 U	0.013 U	0.012 U	0.015 U	0.013 U
cis-1,3-Dichloropropene	0.0069 U	0.0061 U	0.0048 U	0.0051 U	0.0047 U	0.006 U	0.0053 U
Dibromochloromethane	0.0086 U	0.0076 U	0.006 U	0.0064 UJ	0.0058 U	0.0075 U	0.0067 U
Ethylbenzene	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U
Methylene chloride	0.0086 U	0.0076 U	0.0018 J	0.0064 UJ	0.0058 U	0.0075 U	0.0067 U
Styrene	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U
Tetrachloroethene	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U
Toluene	0.0086 U	0.0076 U	0.006 U	0.0064 UJ	0.0058 U	0.0075 U	0.0026 J
trans-1,3-Dichloropropene	0.0069 U	0.0061 U	0.0048 U	0.0051 U	0.0047 U	0.006 U	0.0053 U
Trichloroethene	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U
Vinyl chloride	0.017 U	0.015 U	0.012 U	0.013 U	0.012 U	0.015 U	0.013 U
Xylenes (total)	0.0086 U	0.0076 U	0.006 U	0.0064 U	0.0058 U	0.0075 U	0.0067 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E
Sample	CBS-CSE-T14-1	CBS-CSE-T15-1	CBS-CSE-T15-1-FD	CBS-CSE-T16-1	CBS-CSE-T17-1
Sample date	12/18/2001	12/18/2001	12/18/2001	12/21/2001	12/21/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,1,1-Trichloroethane	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
1,1,2,2-Tetrachloroethane	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
1,1,2-Trichloroethane	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
1,1-Dichloroethane	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
1,1-Dichloroethene	0.0068 U	0.0058 U	0.0059 U	0.01 UJ	0.0088 U
1,2-Dichloroethane	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
1,2-Dichloroethene (total)	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
1,2-Dichloropropane	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
2-Butanone (MEK)	0.037 U	0.032 U	0.032 U	0.055 UJ	0.048 U
2-Hexanone	0.037 U	0.032 U	0.032 U	0.055 UJ	0.048 U
4-Methyl-2-pentanone (MIBK)	0.037 U	0.032 U	0.032 U	0.055 UJ	0.048 U
Acetone	0.018 J	0.063 U	0.064 U	0.048 J	0.034 J
Benzene	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
Bromodichloromethane	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
Bromoform	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
Bromomethane	0.015 U	0.013 U	0.013 U	0.022 UJ	0.019 U
Carbon disulfide	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
Carbon tetrachloride	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
Chlorobenzene	0.0051 J	0.0059 J	0.012	0.21 J	0.0042 J
Chloroethane	0.015 U	0.013 U	0.013 U	0.022 UJ	0.019 U
Chloroform	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
Chloromethane	0.015 U	0.013 U	0.013 U	0.022 UJ	0.019 U
cis-1,3-Dichloropropene	0.0059 U	0.0051 U	0.0051 U	0.0089 UJ	0.0076 U
Dibromochloromethane	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
Ethylbenzene	0.0074 U	0.0063 U	0.0064 U	0.0049 J	0.0095 U
Methylene chloride	0.0074 U	0.0033 J	0.0064 U	0.011 UJ	0.0095 U
Styrene	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
Tetrachloroethene	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
Toluene	0.0074 U	0.0057 J	0.0064 U	0.011 UJ	0.0095 U
trans-1,3-Dichloropropene	0.0059 U	0.0051 U	0.0051 U	0.0089 UJ	0.0076 U
Trichloroethene	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U
Vinyl chloride	0.015 U	0.013 U	0.013 U	0.022 UJ	0.019 U
Xylenes (total)	0.0074 U	0.0063 U	0.0064 U	0.011 UJ	0.0095 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F	F	F
Sample	CBS-CSF-T1-1	CBS-CSF-T2-1	CBS-CSF-T3-1	CBS-CSF-T4-1	CBS-CSF-T5-1	CBS-CSF-T6-1	CBS-CSF-T6-1-FD
Sample date	12/21/2001	12/11/2001	12/11/2001	12/11/2001	1/8/2002	1/16/2002	1/16/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,1,1-Trichloroethane	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
1,1,2,2-Tetrachloroethane	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
1,1,2-Trichloroethane	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
1,1-Dichloroethane	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
1,1-Dichloroethene	0.0091 U	0.0068 U	0.0071 U	0.0063 U	0.0064 U	0.0069 U	0.0066 U
1,2-Dichloroethane	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
1,2-Dichloroethene (total)	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
1,2-Dichloropropane	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
2-Butanone (MEK)	0.0087 J	0.014 J	0.038 U	0.0075 J	0.01 J	0.008 J	0.012 J
2-Hexanone	0.05 U	0.037 U	0.038 U	0.034 U	0.035 U	0.037 U	0.036 U
4-Methyl-2-pentanone (MIBK)	0.05 U	0.037 U	0.038 U	0.034 U	0.035 U	0.037 U	0.036 U
Acetone	0.037 J	0.14 U	0.077 U	0.068 U	0.064 J	0.05 J	0.074
Benzene	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
Bromodichloromethane	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
Bromoform	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
Bromomethane	0.02 U	0.015 U	0.015 U	0.014 U	0.014 U	0.015 UJ	0.014 UJ
Carbon disulfide	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
Carbon tetrachloride	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
Chlorobenzene	0.0052 J	0.0086	0.014	0.0068 U	0.0069 U	0.0075 U	0.0071 U
Chloroethane	0.02 U	0.015 U	0.015 U	0.014 U	0.014 U	0.015 U	0.014 U
Chloroform	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
Chloromethane	0.02 U	0.015 U	0.015 U	0.014 U	0.014 U	0.015 U	0.014 U
cis-1,3-Dichloropropene	0.0079 U	0.0059 U	0.0062 U	0.0055 U	0.0056 U	0.006 U	0.0057 U
Dibromochloromethane	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
Ethylbenzene	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
Methylene chloride	0.0099 U	0.0074 U	0.003 J	0.0043 J	0.0069 U	0.0075 U	0.0071 U
Styrene	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
Tetrachloroethene	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
Toluene	0.0099 U	0.0032 J	0.0077 U	0.0062 J	0.0069 U	0.0084	0.0071 U
trans-1,3-Dichloropropene	0.0079 U	0.0059 U	0.0062 U	0.0055 U	0.0056 U	0.006 U	0.0057 U
Trichloroethene	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U
Vinyl chloride	0.02 U	0.015 U	0.015 U	0.014 U	0.014 U	0.015 U	0.014 U
Xylenes (total)	0.0099 U	0.0074 U	0.0077 U	0.0068 U	0.0069 U	0.0075 U	0.0071 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F	F	F
Sample	CBS-CSF-T7-1	CBS-CSF-T8-1	CBS-CSF-T9-1	CBS-CSF-T9-1-FD	CBS-CSF-T10-1	CBS-CSF-T11-1	CBS-CSF-T12-1
Sample date	1/16/2002	1/23/2002	1/23/2002	1/23/2002	1/25/2002	1/25/2002	1/23/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,1,1-Trichloroethane	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
1,1,2,2-Tetrachloroethane	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
1,1,2-Trichloroethane	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
1,1-Dichloroethane	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
1,1-Dichloroethene	0.0064 U	0.0056 U	0.0064 U	0.0056 U	0.0053 U	0.0063 U	0.0058 U
1,2-Dichloroethane	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
1,2-Dichloroethene (total)	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
1,2-Dichloropropane	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
2-Butanone (MEK)	0.0083 J	0.03 U	0.034 U	0.03 U	0.029 U	0.034 U	0.031 U
2-Hexanone	0.035 U	0.03 U	0.034 U	0.03 U	0.029 U	0.034 U	0.031 U
4-Methyl-2-pentanone (MIBK)	0.035 U	0.03 U	0.034 U	0.03 U	0.029 U	0.034 U	0.031 U
Acetone	0.048 J	0.036 J	0.075 U	0.061 U	0.058 U	0.068 U	0.068 U
Benzene	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Bromodichloromethane	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Bromoform	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Bromomethane	0.014 UJ	0.012 U	0.014 U	0.012 U	0.012 U	0.014 U	0.012 U
Carbon disulfide	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Carbon tetrachloride	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Chlorobenzene	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Chloroethane	0.014 U	0.012 U	0.014 U	0.012 U	0.012 U	0.014 U	0.012 U
Chloroform	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Chloromethane	0.014 U	0.012 U	0.014 U	0.012 U	0.012 U	0.014 U	0.012 U
cis-1,3-Dichloropropene	0.0056 U	0.0049 U	0.0055 U	0.0049 U	0.0046 U	0.0054 U	0.005 U
Dibromochloromethane	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Ethylbenzene	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Methylene chloride	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Styrene	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Tetrachloroethene	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Toluene	0.0047 J	0.0025 J	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0077
trans-1,3-Dichloropropene	0.0056 U	0.0049 U	0.0055 U	0.0049 U	0.0046 U	0.0054 U	0.005 U
Trichloroethene	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U
Vinyl chloride	0.014 U	0.012 U	0.014 U	0.012 U	0.012 U	0.014 U	0.012 U
Xylenes (total)	0.0069 U	0.0061 U	0.0069 U	0.0061 U	0.0058 U	0.0068 U	0.0062 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F
Sample	CBS-CSF-T13-1	CBS-CSF-T14-1	CBS-CSF-T15-1	CBS-CSF-T15-1-FD	CBS-CSF-T16-1
Sample date	1/16/2002	1/8/2002	1/8/2002	1/8/2002	2/6/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,1,1-Trichloroethane	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
1,1,2,2-Tetrachloroethane	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.01
1,1,2-Trichloroethane	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0061
1,1-Dichloroethane	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
1,1-Dichloroethene	0.0061 U	0.0068 U	0.0066 U	0.006 U	0.0049 U
1,2-Dichloroethane	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0021 J
1,2-Dichloroethene (total)	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
1,2-Dichloropropane	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
2-Butanone (MEK)	0.033 U	0.01 J	0.036 U	0.033 U	0.027 U
2-Hexanone	0.033 U	0.037 U	0.036 U	0.033 U	0.027 U
4-Methyl-2-pentanone (MIBK)	0.033 U	0.037 U	0.036 U	0.033 U	0.027 U
Acetone	0.067 U	0.058 J	0.071 U	0.066 U	0.029 J
Benzene	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
Bromodichloromethane	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0013 J
Bromoform	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.003 J
Bromomethane	0.013 UJ	0.015 U	0.014 UJ	0.013 U	0.011 U
Carbon disulfide	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
Carbon tetrachloride	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
Chlorobenzene	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
Chloroethane	0.013 U	0.015 U	0.014 U	0.013 U	0.011 U
Chloroform	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
Chloromethane	0.013 U	0.015 U	0.014 U	0.013 U	0.011 U
cis-1,3-Dichloropropene	0.0053 U	0.0059 U	0.0057 U	0.0053 U	0.0043 U
Dibromochloromethane	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.002 J
Ethylbenzene	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
Methylene chloride	0.0067 U	0.0073 U	0.0024 J	0.0066 U	0.0018 J
Styrene	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
Tetrachloroethene	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
Toluene	0.0067 U	0.0073 U	0.012	0.0066 U	0.0023 J
trans-1,3-Dichloropropene	0.0053 U	0.0059 U	0.0057 U	0.0053 U	0.0043 U
Trichloroethene	0.0067 U	0.0073 U	0.0071 U	0.0066 U	0.0053 U
Vinyl chloride	0.013 U	0.015 U	0.014 U	0.013 U	0.011 U
Xylenes (total)	0.0067 U	0.0073 U	0.0048 J	0.0066 U	0.0053 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B
Sample	CBS-CSB-T0-C1	CBS-CSB-T1-C1	CBS-CSB-T1-E1	CBS-CSB-T1-W1	CBS-CSB-T2-C1
Sample date	11/1/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
1,2-Dichlorobenzene	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
1,3-Dichlorobenzene	0.1 J	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
1,4-Dichlorobenzene	0.97	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
2,4,5-Trichlorophenol	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
2,4,6-Trichlorophenol	0.1 UJ	0.11 UJ	0.1 UJ	0.097 UJ	0.11 UJ
2,4-Dichlorophenol	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
2,4-Dinitrophenol	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ	1.3 UJ
2,4-Dinitrotoluene	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
2,6-Dinitrotoluene	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
2-Chloronaphthalene	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
2-Chlorophenol	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
2-Methylnaphthalene	4.2	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
2-Methylphenol (o-Cresol)	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
2-Nitroaniline	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ	1.3 UJ
2-Nitrophenol	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
3&4Methylphenol	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
3,3`-Dichlorobenzidine	0.48 UJ	0.5 UJ	0.48 UJ	0.46 UJ	0.52 UJ
3-Nitroaniline	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ	1.3 UJ
4,6-Dinitro-2-methylphenol	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ	1.3 UJ
4-Bromophenyl phenyl ether	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
4-Chloro-3-methylphenol	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
4-Chloroaniline	0.45 J	0.5 UJ	0.48 UJ	0.46 UJ	0.52 UJ
4-Chlorophenyl phenyl ether	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
4-Nitroaniline	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ	1.3 UJ
4-Nitrophenol	0.44 J	1.3 UJ	1.2 UJ	1.2 UJ	1.3 UJ
Acenaphthene	0.86	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Acenaphthylene	0.24 J	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Anthracene	1.4	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Benzo(a)anthracene	1.9	0.26 UJ	0.25 UJ	0.051 J	0.27 UJ
Benzo(a)pyrene	1.2	0.14 UJ	0.13 UJ	0.12 UJ	0.14 UJ
Benzo(b)fluoranthene	1.4	0.26 UJ	0.25 UJ	0.053 J	0.27 UJ
Benzo(g,h,i)perylene	0.89	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Benzo(k)fluoranthene	0.9	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Bis(2-chloroethoxy)methane	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Bis(2-chloroethyl)ether	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Bis(2-chloroisopropyl ether)	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Bis(2-ethylhexyl)phthalate	0.093 J	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Butylbenzylphthalate	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Carbazole	0.62	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Chrysene	1.9	0.26 UJ	0.25 UJ	0.053 J	0.27 UJ
di-n-Butylphthalate	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
di-n-Octylphthalate	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Dibenzo(a,h)anthracene	0.34 J	0.14 UJ	0.13 UJ	0.12 UJ	0.14 UJ
Dibenzofuran	1.6	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Diethyl phthalate	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Dimethyl phthalate	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Fluoranthene	4	0.26 UJ	0.25 UJ	0.12 J	0.27 UJ
Fluorene	3.5	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Hexachlorobenzene	0.1 UJ	0.11 UJ	0.1 UJ	0.097 UJ	0.11 UJ
Hexachlorobutadiene	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Hexachlorocyclopentadiene	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Hexachloroethane	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Indeno(1,2,3-cd)pyrene	0.83	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Isophorone	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
N-Nitroso-di-N-propylamine	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
N-Nitrosodiphenylamine	1.2	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Naphthalene	6	0.071 J	0.25 UJ	0.24 UJ	0.27 UJ
Nitrobenzene	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Pentachlorophenol	0.27	0.026 U	0.015 J	0.048	0.026 U
Phenanthrene	7	0.26 UJ	0.25 UJ	0.062 J	0.27 UJ
Phenol	0.25 UJ	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ
Pyrene	4	0.26 UJ	0.25 UJ	0.24 UJ	0.27 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B
Sample	CBS-CSB-T2-E1	CBS-CSB-T2-W1	CBS-CSB-T3-C1	CBS-CSB-T3-E1	CBS-CSB-T3-W1
Sample date	10/31/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.24 UJ	0.23 UJ	80 J	26 J	0.23 UJ
1,2-Dichlorobenzene	0.24 UJ	0.23 UJ	53 J	23 J	0.23 UJ
1,3-Dichlorobenzene	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
1,4-Dichlorobenzene	0.24 UJ	0.23 UJ	5.5	2.4	0.23 UJ
2,4,5-Trichlorophenol	0.24 UJ	0.23 UJ	0.24 J	0.22 UJ	0.23 UJ
2,4,6-Trichlorophenol	0.097 UJ	0.093 UJ	4.3	0.99	0.096 UJ
2,4-Dichlorophenol	0.24 UJ	0.23 UJ	6.6	0.58	0.23 UJ
2,4-Dinitrophenol	1.2 UJ	1.1 UJ	1.5 UJ	1.1 UJ	1.2 UJ
2,4-Dinitrotoluene	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
2,6-Dinitrotoluene	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
2-Chloronaphthalene	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
2-Chlorophenol	0.24 UJ	0.23 UJ	0.51 J	0.097 J	0.23 UJ
2-Methylnaphthalene	0.24 UJ	0.23 UJ	0.4 J	7.3	0.23 UJ
2-Methylphenol (o-Cresol)	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
2-Nitroaniline	1.2 UJ	1.1 UJ	1.5 UJ	1.1 UJ	1.2 UJ
2-Nitrophenol	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
3&4Methylphenol	0.24 UJ	0.23 UJ	1.6	0.22 UJ	0.23 UJ
3,3`-Dichlorobenzidine	0.46 UJ	0.44 UJ	0.57 UJ	0.42 UJ	0.45 UJ
3-Nitroaniline	1.2 UJ	1.1 UJ	1.5 UJ	1.1 UJ	1.2 UJ
4,6-Dinitro-2-methylphenol	1.2 UJ	1.1 UJ	1.5 UJ	1.1 UJ	1.2 UJ
4-Bromophenyl phenyl ether	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
4-Chloro-3-methylphenol	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
4-Chloroaniline	0.46 UJ	0.44 UJ	11	7.2	0.45 UJ
4-Chlorophenyl phenyl ether	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
4-Nitroaniline	1.2 UJ	1.1 UJ	0.81 J	9 J	1.2 UJ
4-Nitrophenol	1.2 UJ	1.1 UJ	1.5 UJ	1.1 UJ	1.2 UJ
Acenaphthene	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Acenaphthylene	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Anthracene	0.24 UJ	0.23 UJ	0.29 UJ	0.31 J	0.23 UJ
Benzo(a)anthracene	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Benzo(a)pyrene	0.12 UJ	0.12 UJ	0.16 UJ	0.22 J	0.12 UJ
Benzo(b)fluoranthene	0.24 UJ	0.23 UJ	0.29 UJ	0.14 J	0.23 UJ
Benzo(g,h,i)perylene	0.24 UJ	0.23 UJ	0.29 UJ	0.086 J	0.23 UJ
Benzo(k)fluoranthene	0.24 UJ	0.23 UJ	0.29 UJ	0.11 J	0.23 UJ
Bis(2-chloroethoxy)methane	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Bis(2-chloroethyl)ether	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Bis(2-chloroisopropyl ether)	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Bis(2-ethylhexyl)phthalate	0.24 UJ	0.23 UJ	0.29 UJ	81 J	0.065 J
Butylbenzylphthalate	0.24 UJ	0.23 UJ	0.082 J	3.2	0.23 UJ
Carbazole	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Chrysene	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
di-n-Butylphthalate	0.24 UJ	0.23 UJ	0.29 UJ	0.21 J	0.23 UJ
di-n-Octylphthalate	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Dibenzo(a,h)anthracene	0.12 UJ	0.12 UJ	0.16 UJ	0.11 UJ	0.12 UJ
Dibenzofuran	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Diethyl phthalate	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Dimethyl phthalate	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Fluoranthene	0.24 UJ	0.23 UJ	0.15 J	0.19 J	0.23 UJ
Fluorene	0.24 UJ	0.23 UJ	0.1 J	0.22 UJ	0.23 UJ
Hexachlorobenzene	0.097 UJ	0.093 UJ	0.12 UJ	0.089 UJ	0.096 UJ
Hexachlorobutadiene	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Hexachlorocyclopentadiene	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Hexachloroethane	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Indeno(1,2,3-cd)pyrene	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Isophorone	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
N-Nitroso-di-N-propylamine	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
N-Nitrosodiphenylamine	0.24 UJ	0.23 UJ	0.29 UJ	0.22 UJ	0.23 UJ
Naphthalene	0.24 UJ	0.23 UJ	0.16 J	1.3	0.23 UJ
Nitrobenzene	0.24 UJ	0.23 UJ	0.16 J	0.52	0.23 UJ
Pentachlorophenol	0.013 J	0.023 U	1.9	44	0.061 J
Phenanthrene	0.24 UJ	0.23 UJ	0.13 J	2.4	0.23 UJ
Phenol	0.24 UJ	0.23 UJ	3.4	0.11 J	0.23 UJ
Pyrene	0.24 UJ	0.23 UJ	0.29 UJ	0.47	0.23 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B
Sample	CBS-CSB-T4-C1	CBS-CSB-T4-E1	CBS-CSB-T4-W1	CBS-CSB-T5-C1	CBS-CSB-T5-E1
Sample date	11/1/2001	11/1/2001	11/1/2001	11/1/2001	11/1/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.066 J	0.048 J	0.25 UJ	0.25 UJ	0.3 J
1,2-Dichlorobenzene	0.11 J	0.057 J	0.37	0.25 UJ	0.31 J
1,3-Dichlorobenzene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
1,4-Dichlorobenzene	0.064 J	0.24 UJ	0.25 J	0.25 UJ	0.039 J
2,4,5-Trichlorophenol	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
2,4,6-Trichlorophenol	0.13 J	0.097 UJ	0.15 J	0.1 UJ	0.065 J
2,4-Dichlorophenol	0.12 J	0.24 UJ	0.67	0.25 UJ	0.069 J
2,4-Dinitrophenol	1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.1 UJ
2,4-Dinitrotoluene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
2,6-Dinitrotoluene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
2-Chloronaphthalene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
2-Chlorophenol	0.28 UJ	0.24 UJ	0.098 J	0.25 UJ	0.22 UJ
2-Methylnaphthalene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
2-Methylphenol (o-Cresol)	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
2-Nitroaniline	1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.1 UJ
2-Nitrophenol	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
3&4Methylphenol	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
3,3`-Dichlorobenzidine	0.54 UJ	0.46 UJ	0.49 UJ	0.48 UJ	0.43 UJ
3-Nitroaniline	1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.1 UJ
4,6-Dinitro-2-methylphenol	1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.1 UJ
4-Bromophenyl phenyl ether	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
4-Chloro-3-methylphenol	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
4-Chloroaniline	0.076 J	0.46 UJ	0.48 J	0.48 UJ	0.43 UJ
4-Chlorophenyl phenyl ether	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
4-Nitroaniline	1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.1 UJ
4-Nitrophenol	1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.1 UJ
Acenaphthene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Acenaphthylene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Anthracene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Benzo(a)anthracene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Benzo(a)pyrene	0.15 UJ	0.12 UJ	0.13 UJ	0.13 UJ	0.12 UJ
Benzo(b)fluoranthene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Benzo(g,h,i)perylene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Benzo(k)fluoranthene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Bis(2-chloroethoxy)methane	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Bis(2-chloroethyl)ether	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Bis(2-chloroisopropyl ether)	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Bis(2-ethylhexyl)phthalate	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.082 J
Butylbenzylphthalate	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Carbazole	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Chrysene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
di-n-Butylphthalate	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
di-n-Octylphthalate	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Dibenzo(a,h)anthracene	0.15 UJ	0.12 UJ	0.13 UJ	0.13 UJ	0.12 UJ
Dibenzofuran	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Diethyl phthalate	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Dimethyl phthalate	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Fluoranthene	0.28 UJ	0.24 UJ	0.079 J	0.25 UJ	0.22 UJ
Fluorene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Hexachlorobenzene	0.11 UJ	0.097 UJ	0.1 UJ	0.1 UJ	0.092 UJ
Hexachlorobutadiene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Hexachlorocyclopentadiene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Hexachloroethane	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Indeno(1,2,3-cd)pyrene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Isophorone	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
N-Nitroso-di-N-propylamine	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
N-Nitrosodiphenylamine	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Naphthalene	0.28 UJ	0.24 UJ	0.1 J	0.25 UJ	0.22 UJ
Nitrobenzene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Pentachlorophenol	0.092	0.23	0.033 J	0.025 U	1
Phenanthrene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ
Phenol	0.28 UJ	0.24 UJ	0.16 J	0.25 UJ	0.22 UJ
Pyrene	0.28 UJ	0.24 UJ	0.25 UJ	0.25 UJ	0.22 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B
Sample	CBS-CSB-T5-W1	CBS-CSB-T6-C1	CBS-CSB-T6-C1-D	CBS-CSB-T6-E1	CBS-CSB-T6-W1
Sample date	11/1/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
1,2-Dichlorobenzene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
1,3-Dichlorobenzene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
1,4-Dichlorobenzene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
2,4,5-Trichlorophenol	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
2,4,6-Trichlorophenol	0.096 UJ	0.097 UJ	0.097 UJ	0.081 UJ	0.092 UJ
2,4-Dichlorophenol	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
2,4-Dinitrophenol	1.2 UJ	1.2 UJ	1.2 UJ	0.99 UJ	1.1 UJ
2,4-Dinitrotoluene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
2,6-Dinitrotoluene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
2-Chloronaphthalene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
2-Chlorophenol	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
2-Methylnaphthalene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
2-Methylphenol (o-Cresol)	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
2-Nitroaniline	1.2 UJ	1.2 UJ	1.2 UJ	0.99 UJ	1.1 UJ
2-Nitrophenol	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
3&4Methylphenol	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
3,3`-Dichlorobenzidine	0.45 UJ	0.46 UJ	0.46 UJ	0.38 UJ	0.43 UJ
3-Nitroaniline	1.2 UJ	1.2 UJ	1.2 UJ	0.99 UJ	1.1 UJ
4,6-Dinitro-2-methylphenol	1.2 UJ	1.2 UJ	1.2 UJ	0.99 UJ	1.1 UJ
4-Bromophenyl phenyl ether	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
4-Chloro-3-methylphenol	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
4-Chloroaniline	0.45 UJ	0.46 UJ	0.46 UJ	0.38 UJ	0.43 UJ
4-Chlorophenyl phenyl ether	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
4-Nitroaniline	1.2 UJ	1.2 UJ	1.2 UJ	0.99 UJ	1.1 UJ
4-Nitrophenol	1.2 UJ	1.2 UJ	1.2 UJ	0.99 UJ	1.1 UJ
Acenaphthene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Acenaphthylene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Anthracene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Benzo(a)anthracene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Benzo(a)pyrene	0.12 UJ	0.12 UJ	0.12 UJ	0.1 UJ	0.12 UJ
Benzo(b)fluoranthene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Benzo(g,h,i)perylene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Benzo(k)fluoranthene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Bis(2-chloroethoxy)methane	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Bis(2-chloroethyl)ether	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Bis(2-chloroisopropyl ether)	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Bis(2-ethylhexyl)phthalate	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Butylbenzylphthalate	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Carbazole	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Chrysene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.032 J
di-n-Butylphthalate	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
di-n-Octylphthalate	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Dibenzo(a,h)anthracene	0.12 UJ	0.12 UJ	0.12 UJ	0.1 UJ	0.12 UJ
Dibenzofuran	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Diethyl phthalate	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Dimethyl phthalate	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Fluoranthene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.051 J
Fluorene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Hexachlorobenzene	0.096 UJ	0.097 UJ	0.097 UJ	0.081 UJ	0.092 UJ
Hexachlorobutadiene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Hexachlorocyclopentadiene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Hexachloroethane	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Indeno(1,2,3-cd)pyrene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Isophorone	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
N-Nitroso-di-N-propylamine	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
N-Nitrosodiphenylamine	0.073 J	0.24 UJ	0.24 UJ	0.2 UJ	0.048 J
Naphthalene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Nitrobenzene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Pentachlorophenol	0.023 U	0.0044 J	0.005 J	0.28	0.0033 J
Phenanthrene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Phenol	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ
Pyrene	0.23 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.22 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B
Sample	CBS-CSB-T7-C1	CBS-CSB-T7-E1	CBS-CSB-T7-W1	CBS-CSB-T8-C1	CBS-CSB-T8-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
1,2-Dichlorobenzene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
1,3-Dichlorobenzene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
1,4-Dichlorobenzene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
2,4,5-Trichlorophenol	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
2,4,6-Trichlorophenol	0.094 UJ	0.093 UJ	0.09 UJ	0.097 UJ	0.1 UJ
2,4-Dichlorophenol	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
2,4-Dinitrophenol	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ
2,4-Dinitrotoluene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
2,6-Dinitrotoluene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
2-Chloronaphthalene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
2-Chlorophenol	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
2-Methylnaphthalene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
2-Methylphenol (o-Cresol)	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
2-Nitroaniline	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ
2-Nitrophenol	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
3&4Methylphenol	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
3,3`-Dichlorobenzidine	0.44 UJ	0.44 UJ	0.42 UJ	0.46 UJ	0.47 UJ
3-Nitroaniline	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ
4,6-Dinitro-2-methylphenol	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ
4-Bromophenyl phenyl ether	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
4-Chloro-3-methylphenol	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
4-Chloroaniline	0.44 UJ	0.44 UJ	0.42 UJ	0.46 UJ	0.47 UJ
4-Chlorophenyl phenyl ether	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
4-Nitroaniline	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ
4-Nitrophenol	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ
Acenaphthene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Acenaphthylene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Anthracene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Benzo(a)anthracene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Benzo(a)pyrene	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.13 UJ
Benzo(b)fluoranthene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Benzo(g,h,i)perylene	0.23 UJ	0.23 UJ	0.22 U	0.24 UJ	0.24 UJ
Benzo(k)fluoranthene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Bis(2-chloroethoxy)methane	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Bis(2-chloroethyl)ether	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Bis(2-chloroisopropyl ether)	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Bis(2-ethylhexyl)phthalate	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Butylbenzylphthalate	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Carbazole	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Chrysene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
di-n-Butylphthalate	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
di-n-Octylphthalate	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Dibenzo(a,h)anthracene	0.12 UJ	0.12 UJ	0.12 U	0.12 UJ	0.13 UJ
Dibenzofuran	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Diethyl phthalate	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Dimethyl phthalate	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Fluoranthene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Fluorene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Hexachlorobenzene	0.094 UJ	0.093 UJ	0.09 UJ	0.097 UJ	0.1 UJ
Hexachlorobutadiene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Hexachlorocyclopentadiene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Hexachloroethane	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Indeno(1,2,3-cd)pyrene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Isophorone	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
N-Nitroso-di-N-propylamine	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
N-Nitrosodiphenylamine	0.061 J	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Naphthalene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Nitrobenzene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Pentachlorophenol	0.023 U	0.0025 J	0.017 J	0.039	0.0021 J
Phenanthrene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Phenol	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ
Pyrene	0.23 UJ	0.23 UJ	0.22 UJ	0.24 UJ	0.24 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B
Sample	CBS-CSB-T8-W1	CBS-CSB-T9-C1	CBS-CSB-T9-E1	CBS-CSB-T9-W1	CBS-CSB-T10-C1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
1,2-Dichlorobenzene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
1,3-Dichlorobenzene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
1,4-Dichlorobenzene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
2,4,5-Trichlorophenol	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
2,4,6-Trichlorophenol	0.094 UJ	0.094 UJ	0.092 UJ	0.091 UJ	0.1 UJ
2,4-Dichlorophenol	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
2,4-Dinitrophenol	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ
2,4-Dinitrotoluene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
2,6-Dinitrotoluene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
2-Chloronaphthalene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
2-Chlorophenol	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
2-Methylnaphthalene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
2-Methylphenol (o-Cresol)	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
2-Nitroaniline	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ
2-Nitrophenol	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
3&4Methylphenol	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
3,3`-Dichlorobenzidine	0.44 UJ	0.44 UJ	0.43 UJ	0.43 UJ	0.47 UJ
3-Nitroaniline	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ
4,6-Dinitro-2-methylphenol	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ
4-Bromophenyl phenyl ether	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
4-Chloro-3-methylphenol	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
4-Chloroaniline	0.44 UJ	0.44 UJ	0.43 UJ	0.43 UJ	0.47 UJ
4-Chlorophenyl phenyl ether	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
4-Nitroaniline	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ
4-Nitrophenol	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ
Acenaphthene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Acenaphthylene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Anthracene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Benzo(a)anthracene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Benzo(a)pyrene	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.13 UJ
Benzo(b)fluoranthene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Benzo(g,h,i)perylene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Benzo(k)fluoranthene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Bis(2-chloroethoxy)methane	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Bis(2-chloroethyl)ether	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Bis(2-chloroisopropyl ether)	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Bis(2-ethylhexyl)phthalate	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.12 J
Butylbenzylphthalate	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Carbazole	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Chrysene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
di-n-Butylphthalate	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
di-n-Octylphthalate	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Dibenzo(a,h)anthracene	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.13 UJ
Dibenzofuran	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Diethyl phthalate	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Dimethyl phthalate	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Fluoranthene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Fluorene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Hexachlorobenzene	0.094 UJ	0.094 UJ	0.092 UJ	0.091 UJ	0.1 UJ
Hexachlorobutadiene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Hexachlorocyclopentadiene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Hexachloroethane	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Indeno(1,2,3-cd)pyrene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Isophorone	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
N-Nitroso-di-N-propylamine	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
N-Nitrosodiphenylamine	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Naphthalene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Nitrobenzene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Pentachlorophenol	0.0049 J	0.023 U	0.0019 J	0.013 J	0.0039 J
Phenanthrene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Phenol	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ
Pyrene	0.23 UJ	0.23 UJ	0.22 UJ	0.22 UJ	0.24 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B
Sample	CBS-CSB-T10-E1	CBS-CSB-T10-W1	CBS-CSB-T11-C1	CBS-CSB-T11-C1-D	CBS-CSB-T11-E1
Sample date	11/8/2001	11/8/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
1,2-Dichlorobenzene	0.23 UJ	0.23 UJ	0.24 U	0.23 UJ	0.21 UJ
1,3-Dichlorobenzene	0.23 UJ	0.23 UJ	0.24 U	0.23 UJ	0.21 UJ
1,4-Dichlorobenzene	0.23 UJ	0.23 UJ	0.24 U	0.23 UJ	0.21 UJ
2,4,5-Trichlorophenol	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
2,4,6-Trichlorophenol	0.094 UJ	0.094 UJ	0.098 UJ	0.096 UJ	0.085 UJ
2,4-Dichlorophenol	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
2,4-Dinitrophenol	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1 UJ
2,4-Dinitrotoluene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
2,6-Dinitrotoluene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
2-Chloronaphthalene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
2-Chlorophenol	0.23 UJ	0.23 UJ	0.24 U	0.23 UJ	0.21 UJ
2-Methylnaphthalene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
2-Methylphenol (o-Cresol)	0.23 UJ	0.23 UJ	0.24 U	0.23 UJ	0.21 UJ
2-Nitroaniline	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1 UJ
2-Nitrophenol	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
3&4Methylphenol	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
3,3`-Dichlorobenzidine	0.44 UJ	0.44 UJ	0.46 UJ	0.45 UJ	0.4 UJ
3-Nitroaniline	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1 UJ
4,6-Dinitro-2-methylphenol	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1 UJ
4-Bromophenyl phenyl ether	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
4-Chloro-3-methylphenol	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
4-Chloroaniline	0.44 UJ	0.44 UJ	0.46 UJ	0.45 UJ	0.4 UJ
4-Chlorophenyl phenyl ether	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
4-Nitroaniline	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1 UJ
4-Nitrophenol	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1 UJ
Acenaphthene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Acenaphthylene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Anthracene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Benzo(a)anthracene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Benzo(a)pyrene	0.12 UJ	0.12 UJ	0.13 UJ	0.12 UJ	0.11 UJ
Benzo(b)fluoranthene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Benzo(g,h,i)perylene	0.23 UJ	0.23 UJ	0.041 J	0.23 UJ	0.21 UJ
Benzo(k)fluoranthene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Bis(2-chloroethoxy)methane	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Bis(2-chloroethyl)ether	0.23 UJ	0.23 UJ	0.24 U	0.23 UJ	0.21 UJ
Bis(2-chloroisopropyl ether)	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Bis(2-ethylhexyl)phthalate	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Butylbenzylphthalate	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Carbazole	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Chrysene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
di-n-Butylphthalate	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
di-n-Octylphthalate	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Dibenzo(a,h)anthracene	0.12 UJ	0.12 UJ	0.13 UJ	0.12 UJ	0.11 UJ
Dibenzofuran	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Diethyl phthalate	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Dimethyl phthalate	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Fluoranthene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Fluorene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Hexachlorobenzene	0.094 UJ	0.094 UJ	0.098 UJ	0.096 UJ	0.085 UJ
Hexachlorobutadiene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Hexachlorocyclopentadiene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Hexachloroethane	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Indeno(1,2,3-cd)pyrene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Isophorone	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
N-Nitroso-di-N-propylamine	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
N-Nitrosodiphenylamine	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Naphthalene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Nitrobenzene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Pentachlorophenol	0.0055 J	0.0073 J	0.015 J	0.026	0.009 J
Phenanthrene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ
Phenol	0.23 UJ	0.23 UJ	0.24 U	0.23 UJ	0.21 UJ
Pyrene	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.21 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B
Sample	CBS-CSB-T11-W1	CBS-CSB-T12-C1	CBS-CSB-T12-E1	CBS-CSB-T12-W1	CBS-CSB-T13-C1
Sample date	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.22 UJ	0.04 J	0.2 UJ	0.22 UJ	0.24 UJ
1,2-Dichlorobenzene	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
1,3-Dichlorobenzene	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
1,4-Dichlorobenzene	0.22 UJ	0.24 J	0.2 UJ	0.22 UJ	0.24 UJ
2,4,5-Trichlorophenol	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
2,4,6-Trichlorophenol	0.089 UJ	0.1 UJ	0.082 UJ	0.092 UJ	0.097 UJ
2,4-Dichlorophenol	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
2,4-Dinitrophenol	1.1 UJ	1.3 UJ	1 UJ	1.1 UJ	1.2 UJ
2,4-Dinitrotoluene	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
2,6-Dinitrotoluene	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
2-Chloronaphthalene	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
2-Chlorophenol	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
2-Methylnaphthalene	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
2-Methylphenol (o-Cresol)	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
2-Nitroaniline	1.1 UJ	1.3 UJ	1 UJ	1.1 UJ	1.2 UJ
2-Nitrophenol	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
3&4Methylphenol	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
3,3`-Dichlorobenzidine	0.42 UJ	0.49 UJ	0.39 UJ	0.43 UJ	0.46 UJ
3-Nitroaniline	1.1 UJ	1.3 UJ	1 UJ	1.1 UJ	1.2 UJ
4,6-Dinitro-2-methylphenol	1.1 UJ	1.3 UJ	1 UJ	1.1 UJ	1.2 UJ
4-Bromophenyl phenyl ether	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
4-Chloro-3-methylphenol	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
4-Chloroaniline	0.42 UJ	0.49 UJ	0.39 UJ	0.43 UJ	0.46 UJ
4-Chlorophenyl phenyl ether	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
4-Nitroaniline	1.1 UJ	1.3 UJ	1 UJ	1.1 UJ	1.2 UJ
4-Nitrophenol	1.1 UJ	1.3 UJ	1 UJ	1.1 UJ	1.2 UJ
Acenaphthene	0.22 UJ	0.062 J	0.2 UJ	0.22 UJ	0.24 UJ
Acenaphthylene	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Anthracene	0.22 UJ	0.19 J	0.2 UJ	0.22 UJ	0.24 UJ
Benzo(a)anthracene	0.22 UJ	0.8	0.2 UJ	0.22 UJ	0.24 UJ
Benzo(a)pyrene	0.11 UJ	0.84	0.1 UJ	0.12 UJ	0.077 J
Benzo(b)fluoranthene	0.22 UJ	0.7	0.2 UJ	0.22 UJ	0.24 UJ
Benzo(g,h,i)perylene	0.22 UJ	0.31 J	0.2 UJ	0.22 UJ	0.24 UJ
Benzo(k)fluoranthene	0.22 UJ	0.81	0.2 UJ	0.22 UJ	0.24 UJ
Bis(2-chloroethoxy)methane	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Bis(2-chloroethyl)ether	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Bis(2-chloroisopropyl ether)	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Bis(2-ethylhexyl)phthalate	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Butylbenzylphthalate	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Carbazole	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Chrysene	0.22 UJ	0.77	0.2 UJ	0.22 UJ	0.24 UJ
di-n-Butylphthalate	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
di-n-Octylphthalate	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Dibenzo(a,h)anthracene	0.11 UJ	0.18 J	0.1 UJ	0.12 UJ	0.12 UJ
Dibenzofuran	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Diethyl phthalate	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Dimethyl phthalate	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Fluoranthene	0.22 UJ	1.6	0.2 UJ	0.22 UJ	0.24 UJ
Fluorene	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Hexachlorobenzene	0.089 UJ	0.1 UJ	0.082 UJ	0.092 UJ	0.097 UJ
Hexachlorobutadiene	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Hexachlorocyclopentadiene	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Hexachloroethane	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Indeno(1,2,3-cd)pyrene	0.22 UJ	0.34	0.2 UJ	0.22 UJ	0.24 UJ
Isophorone	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
N-Nitroso-di-N-propylamine	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
N-Nitrosodiphenylamine	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Naphthalene	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Nitrobenzene	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Pentachlorophenol	0.031	0.0036 J	0.007 J	0.021 J	0.024 U
Phenanthrene	0.22 UJ	0.052 J	0.2 UJ	0.22 UJ	0.24 UJ
Phenol	0.22 UJ	0.25 UJ	0.2 UJ	0.22 UJ	0.24 UJ
Pyrene	0.22 UJ	1.5	0.2 UJ	0.22 UJ	0.24 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B
Sample	CBS-CSB-T13-E1	CBS-CSB-T13-W1	CBS-CSB-T14-1	CBS-CSB-T15-1	CBS-CSB-T16-1
Sample date	11/19/2001	11/19/2001	12/20/2001	12/20/2001	12/20/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
1,2-Dichlorobenzene	0.2 U	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
1,3-Dichlorobenzene	0.2 U	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
1,4-Dichlorobenzene	0.2 U	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
2,4,5-Trichlorophenol	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
2,4,6-Trichlorophenol	0.082 UJ	0.094 UJ	0.11 UJ	0.092 UJ	0.1 UJ
2,4-Dichlorophenol	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
2,4-Dinitrophenol	1 UJ	1.1 UJ	1.3 UJ	1.1 UJ	1.2 UJ
2,4-Dinitrotoluene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
2,6-Dinitrotoluene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
2-Chloronaphthalene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
2-Chlorophenol	0.2 U	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
2-Methylnaphthalene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
2-Methylphenol (o-Cresol)	0.2 U	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
2-Nitroaniline	1 UJ	1.1 UJ	1.3 UJ	1.1 UJ	1.2 UJ
2-Nitrophenol	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
3&4Methylphenol	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
3,3`-Dichlorobenzidine	0.39 UJ	0.44 UJ	0.51 UJ	0.43 UJ	0.48 UJ
3-Nitroaniline	1 UJ	1.1 UJ	1.3 UJ	1.1 UJ	1.2 UJ
4,6-Dinitro-2-methylphenol	1 UJ	1.1 UJ	1.3 UJ	1.1 UJ	1.2 UJ
4-Bromophenyl phenyl ether	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
4-Chloro-3-methylphenol	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
4-Chloroaniline	0.39 UJ	0.44 UJ	0.51 UJ	0.43 UJ	0.48 UJ
4-Chlorophenyl phenyl ether	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
4-Nitroaniline	1 UJ	1.1 UJ	1.3 UJ	1.1 UJ	1.2 UJ
4-Nitrophenol	1 UJ	1.1 UJ	1.3 UJ	1.1 UJ	1.2 UJ
Acenaphthene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Acenaphthylene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Anthracene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.042 J
Benzo(a)anthracene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.26 J
Benzo(a)pyrene	0.1 UJ	0.12 UJ	0.14 UJ	0.12 UJ	0.29 J
Benzo(b)fluoranthene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.23 J
Benzo(g,h,i)perylene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.16 J
Benzo(k)fluoranthene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 J
Bis(2-chloroethoxy)methane	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Bis(2-chloroethyl)ether	0.2 U	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Bis(2-chloroisopropyl ether)	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Bis(2-ethylhexyl)phthalate	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Butylbenzylphthalate	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Carbazole	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Chrysene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.27 J
di-n-Butylphthalate	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
di-n-Octylphthalate	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Dibenzo(a,h)anthracene	0.1 UJ	0.12 UJ	0.14 UJ	0.12 UJ	0.13 UJ
Dibenzofuran	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Diethyl phthalate	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Dimethyl phthalate	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Fluoranthene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.58
Fluorene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Hexachlorobenzene	0.082 UJ	0.094 UJ	0.11 UJ	0.092 UJ	0.1 UJ
Hexachlorobutadiene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Hexachlorocyclopentadiene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Hexachloroethane	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Indeno(1,2,3-cd)pyrene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.15 J
Isophorone	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
N-Nitroso-di-N-propylamine	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
N-Nitrosodiphenylamine	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Naphthalene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Nitrobenzene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Pentachlorophenol	0.01 J	0.0037 J	0.0025 J	0.0056 J	0.012 J
Phenanthrene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.071 J
Phenol	0.2 U	0.23 UJ	0.26 UJ	0.22 UJ	0.25 UJ
Pyrene	0.2 UJ	0.23 UJ	0.26 UJ	0.22 UJ	0.63

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B
Sample	CBS-CSB-T17-C1	CBS-CSB-T17-E1	CBS-CSB-T17-E1D	CBS-CSB-T17-WI	CBS-CSB-T18-C1
Sample date	11/9/2001	11/9/2001	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
1,2-Dichlorobenzene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
1,3-Dichlorobenzene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
1,4-Dichlorobenzene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
2,4,5-Trichlorophenol	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
2,4,6-Trichlorophenol	0.11 UJ	0.1 UJ	0.097 UJ	0.098 UJ	0.094 UJ
2,4-Dichlorophenol	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
2,4-Dinitrophenol	1.4 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.1 UJ
2,4-Dinitrotoluene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
2,6-Dinitrotoluene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
2-Chloronaphthalene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
2-Chlorophenol	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
2-Methylnaphthalene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
2-Methylphenol (o-Cresol)	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
2-Nitroaniline	1.4 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.1 UJ
2-Nitrophenol	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
3&4Methylphenol	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
3,3`-Dichlorobenzidine	0.53 UJ	0.48 UJ	0.46 UJ	0.46 UJ	0.44 UJ
3-Nitroaniline	1.4 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.1 UJ
4,6-Dinitro-2-methylphenol	1.4 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.1 UJ
4-Bromophenyl phenyl ether	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
4-Chloro-3-methylphenol	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
4-Chloroaniline	0.53 UJ	0.48 UJ	0.46 UJ	0.46 UJ	0.44 UJ
4-Chlorophenyl phenyl ether	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
4-Nitroaniline	1.4 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.1 UJ
4-Nitrophenol	1.4 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.1 UJ
Acenaphthene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Acenaphthylene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Anthracene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Benzo(a)anthracene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Benzo(a)pyrene	0.089 J	0.043 J	0.042 J	0.13 UJ	0.12 UJ
Benzo(b)fluoranthene	0.064 J	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Benzo(g,h,i)perylene	0.19 J	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Benzo(k)fluoranthene	0.058 J	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Bis(2-chloroethoxy)methane	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Bis(2-chloroethyl)ether	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Bis(2-chloroisopropyl ether)	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Bis(2-ethylhexyl)phthalate	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Butylbenzylphthalate	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Carbazole	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Chrysene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
di-n-Butylphthalate	0.1 J	0.073 J	0.044 J	0.098 J	0.074 J
di-n-Octylphthalate	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Dibenzo(a,h)anthracene	0.19 J	0.13 UJ	0.12 UJ	0.13 UJ	0.12 UJ
Dibenzofuran	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Diethyl phthalate	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Dimethyl phthalate	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Fluoranthene	0.27 UJ	0.076 J	0.052 J	0.24 UJ	0.23 UJ
Fluorene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Hexachlorobenzene	0.11 UJ	0.1 UJ	0.097 UJ	0.098 UJ	0.094 UJ
Hexachlorobutadiene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Hexachlorocyclopentadiene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Hexachloroethane	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Indeno(1,2,3-cd)pyrene	0.2 J	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Isophorone	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
N-Nitroso-di-N-propylamine	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.15 UJ
N-Nitrosodiphenylamine	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Naphthalene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Nitrobenzene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Pentachlorophenol	0.027 U	0.096	0.028	0.024 U	0.023 U
Phenanthrene	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Phenol	0.27 UJ	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ
Pyrene	0.27 UJ	0.093 J	0.24 UJ	0.24 UJ	0.23 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B
Sample	CBS-CSB-T18-E1	CBS-CSB-T18-W1	CBS-CSB-T18-W1D
Sample date	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg
Analyte:			
1,2,4-Trichlorobenzene	0.24 UJ	0.23 UJ	0.23 UJ
1,2-Dichlorobenzene	0.24 UJ	0.23 UJ	0.23 UJ
1,3-Dichlorobenzene	0.24 UJ	0.23 UJ	0.23 UJ
1,4-Dichlorobenzene	0.24 UJ	0.23 UJ	0.23 UJ
2,4,5-Trichlorophenol	0.24 UJ	0.23 UJ	0.23 UJ
2,4,6-Trichlorophenol	0.097 UJ	0.096 UJ	0.094 UJ
2,4-Dichlorophenol	0.24 UJ	0.23 UJ	0.23 UJ
2,4-Dinitrophenol	1.2 UJ	1.2 UJ	1.1 UJ
2,4-Dinitrotoluene	0.24 UJ	0.23 UJ	0.23 UJ
2,6-Dinitrotoluene	0.24 UJ	0.23 UJ	0.23 UJ
2-Chloronaphthalene	0.24 UJ	0.23 UJ	0.23 UJ
2-Chlorophenol	0.24 UJ	0.23 UJ	0.23 UJ
2-Methylnaphthalene	0.24 UJ	0.23 UJ	0.23 UJ
2-Methylphenol (o-Cresol)	0.24 UJ	0.23 UJ	0.23 UJ
2-Nitroaniline	1.2 UJ	1.2 UJ	1.1 UJ
2-Nitrophenol	0.24 UJ	0.23 UJ	0.23 UJ
3&4Methylphenol	0.24 UJ	0.23 UJ	0.23 UJ
3,3`-Dichlorobenzidine	0.46 UJ	0.45 UJ	0.44 UJ
3-Nitroaniline	1.2 UJ	1.2 UJ	1.1 UJ
4,6-Dinitro-2-methylphenol	1.2 UJ	1.2 UJ	1.1 UJ
4-Bromophenyl phenyl ether	0.24 UJ	0.23 UJ	0.23 UJ
4-Chloro-3-methylphenol	0.24 UJ	0.23 UJ	0.23 UJ
4-Chloroaniline	0.46 UJ	0.45 UJ	0.44 UJ
4-Chlorophenyl phenyl ether	0.24 UJ	0.23 UJ	0.23 UJ
4-Nitroaniline	1.2 UJ	1.2 UJ	1.1 UJ
4-Nitrophenol	1.2 UJ	1.2 UJ	1.1 UJ
Acenaphthene	0.24 UJ	0.23 UJ	0.23 UJ
Acenaphthylene	0.24 UJ	0.23 UJ	0.23 UJ
Anthracene	0.24 UJ	0.23 UJ	0.23 UJ
Benzo(a)anthracene	0.24 UJ	0.23 UJ	0.23 UJ
Benzo(a)pyrene	0.12 UJ	0.12 UJ	0.12 UJ
Benzo(b)fluoranthene	0.24 UJ	0.23 UJ	0.23 UJ
Benzo(g,h,i)perylene	0.24 UJ	0.23 UJ	0.23 UJ
Benzo(k)fluoranthene	0.24 UJ	0.23 UJ	0.23 UJ
Bis(2-chloroethoxy)methane	0.24 UJ	0.23 UJ	0.23 UJ
Bis(2-chloroethyl)ether	0.24 UJ	0.23 UJ	0.23 UJ
Bis(2-chloroisopropyl ether)	0.24 UJ	0.23 UJ	0.23 UJ
Bis(2-ethylhexyl)phthalate	0.24 UJ	0.23 UJ	0.23 UJ
Butylbenzylphthalate	0.24 UJ	0.23 UJ	0.23 UJ
Carbazole	0.24 UJ	0.23 UJ	0.23 UJ
Chrysene	0.24 UJ	0.23 UJ	0.23 UJ
di-n-Butylphthalate	0.056 J	0.078 J	0.078 J
di-n-Octylphthalate	0.24 UJ	0.23 UJ	0.23 UJ
Dibenzo(a,h)anthracene	0.12 UJ	0.12 UJ	0.12 UJ
Dibenzofuran	0.24 UJ	0.23 UJ	0.23 UJ
Diethyl phthalate	0.24 UJ	0.23 UJ	0.23 UJ
Dimethyl phthalate	0.24 UJ	0.23 UJ	0.23 UJ
Fluoranthene	0.24 UJ	0.23 UJ	0.23 UJ
Fluorene	0.24 UJ	0.23 UJ	0.23 UJ
Hexachlorobenzene	0.097 UJ	0.096 UJ	0.094 UJ
Hexachlorobutadiene	0.24 UJ	0.23 UJ	0.23 UJ
Hexachlorocyclopentadiene	0.24 UJ	0.23 UJ	0.23 UJ
Hexachloroethane	0.24 UJ	0.23 UJ	0.23 UJ
Indeno(1,2,3-cd)pyrene	0.24 UJ	0.23 UJ	0.23 UJ
Isophorone	0.24 UJ	0.23 UJ	0.23 UJ
N-Nitroso-di-N-propylamine	0.24 UJ	0.23 UJ	0.23 UJ
N-Nitrosodiphenylamine	0.24 UJ	0.23 UJ	0.23 UJ
Naphthalene	0.24 UJ	0.23 UJ	0.23 UJ
Nitrobenzene	0.24 UJ	0.23 UJ	0.23 UJ
Pentachlorophenol	0.0037 J	0.023 U	0.023 U
Phenanthrene	0.24 UJ	0.23 UJ	0.23 UJ
Phenol	0.24 UJ	0.23 UJ	0.23 UJ
Pyrene	0.24 UJ	0.23 UJ	0.23 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	C	C	C	C	C
Sample	CBS-CSC-T1-1	CBS-CSC-T2-1	CBS-CSC-T3-1	CBS-CSC-T4-1	CBS-CSC-T4-1-FD
Sample date	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
1,2-Dichlorobenzene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
1,3-Dichlorobenzene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
1,4-Dichlorobenzene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
2,4,5-Trichlorophenol	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
2,4,6-Trichlorophenol	0.096 UJ	0.1 UJ	0.11 UJ	0.1 UJ	0.11 UJ
2,4-Dichlorophenol	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
2,4-Dinitrophenol	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ	1.3 UJ
2,4-Dinitrotoluene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
2,6-Dinitrotoluene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
2-Chloronaphthalene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
2-Chlorophenol	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
2-Methylnaphthalene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
2-Methylphenol (o-Cresol)	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
2-Nitroaniline	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ	1.3 UJ
2-Nitrophenol	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
3&4Methylphenol	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
3,3`-Dichlorobenzidine	0.45 UJ	0.47 UJ	0.51 UJ	0.49 UJ	0.5 UJ
3-Nitroaniline	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ	1.3 UJ
4,6-Dinitro-2-methylphenol	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ	1.3 UJ
4-Bromophenyl phenyl ether	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
4-Chloro-3-methylphenol	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
4-Chloroaniline	0.45 UJ	0.47 UJ	0.51 UJ	0.49 UJ	0.5 UJ
4-Chlorophenyl phenyl ether	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
4-Nitroaniline	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ	1.3 UJ
4-Nitrophenol	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ	1.3 UJ
Acenaphthene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Acenaphthylene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Anthracene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Benzo(a)anthracene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Benzo(a)pyrene	0.12 UJ	0.13 UJ	0.14 UJ	0.13 UJ	0.14 UJ
Benzo(b)fluoranthene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Benzo(g,h,i)perylene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Benzo(k)fluoranthene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Bis(2-chloroethoxy)methane	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Bis(2-chloroethyl)ether	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Bis(2-chloroisopropyl ether)	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Bis(2-ethylhexyl)phthalate	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Butylbenzylphthalate	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Carbazole	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Chrysene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
di-n-Butylphthalate	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
di-n-Octylphthalate	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Dibenzo(a,h)anthracene	0.12 UJ	0.13 UJ	0.14 UJ	0.13 UJ	0.14 UJ
Dibenzofuran	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Diethyl phthalate	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Dimethyl phthalate	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Fluoranthene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Fluorene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Hexachlorobenzene	0.096 UJ	0.1 UJ	0.11 UJ	0.1 UJ	0.11 UJ
Hexachlorobutadiene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Hexachlorocyclopentadiene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Hexachloroethane	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Indeno(1,2,3-cd)pyrene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Isophorone	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
N-Nitroso-di-N-propylamine	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
N-Nitrosodiphenylamine	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Naphthalene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Nitrobenzene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Pentachlorophenol	0.023 U	0.0038 J	0.003 J	0.0038 J	0.004 J
Phenanthrene	0.23 UJ	0.025 J	0.26 UJ	0.25 UJ	0.26 UJ
Phenol	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ
Pyrene	0.23 UJ	0.24 UJ	0.26 UJ	0.25 UJ	0.26 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	C	C	C	C	C
Sample	CBS-CSC-T5-1	CBS-CSC-T6-1	CBS-CSC-T7-1	CBS-CSC-T8-1	CBS-CSC-T9-1
Sample date	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
1,2-Dichlorobenzene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
1,3-Dichlorobenzene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
1,4-Dichlorobenzene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
2,4,5-Trichlorophenol	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
2,4,6-Trichlorophenol	0.11 UJ	0.11 UJ	0.1 UJ	0.1 UJ	0.094 UJ
2,4-Dichlorophenol	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
2,4-Dinitrophenol	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.1 UJ
2,4-Dinitrotoluene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
2,6-Dinitrotoluene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
2-Chloronaphthalene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
2-Chlorophenol	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
2-Methylnaphthalene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
2-Methylphenol (o-Cresol)	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
2-Nitroaniline	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.1 UJ
2-Nitrophenol	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
3&4Methylphenol	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
3,3`-Dichlorobenzidine	0.52 UJ	0.52 UJ	0.48 UJ	0.49 UJ	0.44 UJ
3-Nitroaniline	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.1 UJ
4,6-Dinitro-2-methylphenol	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.1 UJ
4-Bromophenyl phenyl ether	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
4-Chloro-3-methylphenol	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
4-Chloroaniline	0.52 UJ	0.52 UJ	0.48 UJ	0.49 UJ	0.44 UJ
4-Chlorophenyl phenyl ether	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
4-Nitroaniline	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.1 UJ
4-Nitrophenol	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.1 UJ
Acenaphthene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Acenaphthylene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Anthracene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Benzo(a)anthracene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Benzo(a)pyrene	0.14 UJ	0.14 UJ	0.13 UJ	0.13 UJ	0.12 UJ
Benzo(b)fluoranthene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Benzo(g,h,i)perylene	0.26 UJ	0.065 J	0.25 UJ	0.25 UJ	0.23 UJ
Benzo(k)fluoranthene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Bis(2-chloroethoxy)methane	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Bis(2-chloroethyl)ether	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Bis(2-chloroisopropyl ether)	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Bis(2-ethylhexyl)phthalate	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Butylbenzylphthalate	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Carbazole	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Chrysene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
di-n-Butylphthalate	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
di-n-Octylphthalate	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Dibenzo(a,h)anthracene	0.14 UJ	0.14 UJ	0.13 UJ	0.13 UJ	0.12 UJ
Dibenzofuran	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Diethyl phthalate	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Dimethyl phthalate	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Fluoranthene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Fluorene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Hexachlorobenzene	0.11 UJ	0.11 UJ	0.1 UJ	0.1 UJ	0.094 UJ
Hexachlorobutadiene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Hexachlorocyclopentadiene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Hexachloroethane	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Indeno(1,2,3-cd)pyrene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Isophorone	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
N-Nitroso-di-N-propylamine	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
N-Nitrosodiphenylamine	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Naphthalene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Nitrobenzene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Pentachlorophenol	0.026 U	0.014 J	0.0017 J	0.002 J	0.0016 J
Phenanthrene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Phenol	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ
Pyrene	0.26 UJ	0.27 UJ	0.25 UJ	0.25 UJ	0.23 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	D	D	D	D	D	D
Sample	CBS-CSD-T1-1	CBS-CSD-T2-1	CBS-CSD-T3-1	CBS-CSD-T4-1	CBS-CSD-T5-1	CBS-CSD-T6-1
Sample date	12/12/2001	12/12/2001	12/12/2001	12/12/2001	12/12/2001	12/12/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:						
1,2,4-Trichlorobenzene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
1,2-Dichlorobenzene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
1,3-Dichlorobenzene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
1,4-Dichlorobenzene	0.13 J	0.26 UJ	0.24 UJ	0.053 J	0.23 UJ	0.25 UJ
2,4,5-Trichlorophenol	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
2,4,6-Trichlorophenol	0.1 UJ	0.11 UJ	0.1 UJ	0.1 UJ	0.096 UJ	0.1 UJ
2,4-Dichlorophenol	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
2,4-Dinitrophenol	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
2,4-Dinitrotoluene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
2,6-Dinitrotoluene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
2-Chloronaphthalene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
2-Chlorophenol	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
2-Methylnaphthalene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
2-Methylphenol (o-Cresol)	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
2-Nitroaniline	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
2-Nitrophenol	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
3&4Methylphenol	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
3,3`-Dichlorobenzidine	0.49 UJ	0.5 UJ	0.47 UJ	0.49 UJ	0.45 UJ	0.48 U
3-Nitroaniline	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
4,6-Dinitro-2-methylphenol	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
4-Bromophenyl phenyl ether	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
4-Chloro-3-methylphenol	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
4-Chloroaniline	0.49 UJ	0.5 UJ	0.47 UJ	0.49 UJ	0.45 UJ	0.48 UJ
4-Chlorophenyl phenyl ether	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
4-Nitroaniline	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
4-Nitrophenol	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
Acenaphthene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Acenaphthylene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Anthracene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Benzo(a)anthracene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Benzo(a)pyrene	0.13 UJ	0.049 J	0.13 UJ	0.13 J	0.12 UJ	0.14 J
Benzo(b)fluoranthene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.2 J
Benzo(g,h,i)perylene	0.25 UJ	0.26 UJ	0.24 UJ	0.13 J	0.23 UJ	0.22 J
Benzo(k)fluoranthene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.21 J
Bis(2-chloroethoxy)methane	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Bis(2-chloroethyl)ether	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Bis(2-chloroisopropyl ether)	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Bis(2-ethylhexyl)phthalate	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 U
Butylbenzylphthalate	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Carbazole	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 U
Chrysene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
di-n-Butylphthalate	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
di-n-Octylphthalate	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 U
Dibenzo(a,h)anthracene	0.13 UJ	0.14 UJ	0.13 UJ	0.13 UJ	0.12 UJ	0.13 U
Dibenzofuran	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Diethyl phthalate	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Dimethyl phthalate	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Fluoranthene	0.069 J	0.17 J	0.24 UJ	0.12 J	0.23 UJ	0.19 J
Fluorene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Hexachlorobenzene	0.1 UJ	0.11 UJ	0.1 UJ	0.1 UJ	0.096 UJ	0.1 UJ
Hexachlorobutadiene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Hexachlorocyclopentadiene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Hexachloroethane	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Indeno(1,2,3-cd)pyrene	0.25 UJ	0.26 UJ	0.24 UJ	0.11 J	0.23 UJ	0.18 J
Isophorone	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
N-Nitroso-di-N-propylamine	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
N-Nitrosodiphenylamine	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Naphthalene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Nitrobenzene	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Pentachlorophenol	0.0032 J	0.013 J	0.0024 J	0.0033 J	0.023 U	0.008 J
Phenanthrene	0.25 UJ	0.26 UJ	0.24 UJ	0.047 J	0.23 UJ	0.12 J
Phenol	0.25 UJ	0.26 UJ	0.24 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Pyrene	0.25 UJ	0.15 J	0.24 UJ	0.12 J	0.23 UJ	0.16 J

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E
Sample	CBS-CSE-T1-1	CBS-CSE-T2-1	CBS-CSE-T3-1	CBS-CSE-T3-1-FD	CBS-CSE-T4-1
Sample date	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
1,2-Dichlorobenzene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
1,3-Dichlorobenzene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
1,4-Dichlorobenzene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
2,4,5-Trichlorophenol	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
2,4,6-Trichlorophenol	0.1 UJ	0.094 UJ	0.1 UJ	0.098 UJ	0.097 UJ
2,4-Dichlorophenol	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
2,4-Dinitrophenol	1.3 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.2 UJ
2,4-Dinitrotoluene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
2,6-Dinitrotoluene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
2-Chloronaphthalene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
2-Chlorophenol	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
2-Methylnaphthalene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
2-Methylphenol (o-Cresol)	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
2-Nitroaniline	1.3 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.2 UJ
2-Nitrophenol	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
3&4Methylphenol	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
3,3`-Dichlorobenzidine	0.49 UJ	0.44 UJ	0.48 UJ	0.46 UJ	0.46 UJ
3-Nitroaniline	1.3 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.2 UJ
4,6-Dinitro-2-methylphenol	1.3 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.2 UJ
4-Bromophenyl phenyl ether	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
4-Chloro-3-methylphenol	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
4-Chloroaniline	0.49 UJ	0.44 UJ	0.48 UJ	0.46 UJ	0.46 UJ
4-Chlorophenyl phenyl ether	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
4-Nitroaniline	1.3 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.2 UJ
4-Nitrophenol	1.3 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.2 UJ
Acenaphthene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Acenaphthylene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Anthracene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Benzo(a)anthracene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Benzo(a)pyrene	0.13 UJ	0.12 UJ	0.13 UJ	0.13 UJ	0.12 UJ
Benzo(b)fluoranthene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Benzo(g,h,i)perylene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Benzo(k)fluoranthene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Bis(2-chloroethoxy)methane	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Bis(2-chloroethyl)ether	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Bis(2-chloroisopropyl ether)	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Bis(2-ethylhexyl)phthalate	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Butylbenzylphthalate	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Carbazole	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Chrysene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
di-n-Butylphthalate	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
di-n-Octylphthalate	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Dibenzo(a,h)anthracene	0.13 UJ	0.12 UJ	0.13 UJ	0.13 UJ	0.12 UJ
Dibenzofuran	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Diethyl phthalate	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Dimethyl phthalate	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Fluoranthene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Fluorene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Hexachlorobenzene	0.1 UJ	0.094 UJ	0.1 UJ	0.098 UJ	0.097 UJ
Hexachlorobutadiene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Hexachlorocyclopentadiene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Hexachloroethane	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Indeno(1,2,3-cd)pyrene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Isophorone	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
N-Nitroso-di-N-propylamine	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
N-Nitrosodiphenylamine	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Naphthalene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Nitrobenzene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Pentachlorophenol	0.0033 J	0.002 J	0.025 U	0.024 U	0.024 U
Phenanthrene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Phenol	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ
Pyrene	0.25 UJ	0.23 UJ	0.25 UJ	0.24 UJ	0.24 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E
Sample	CBS-CSE-T5-1	CBS-CSE-T6-1	CBS-CSE-T7-1	CBS-CSE-T8-1	CBS-CSE-T9-1
Sample date	12/18/2001	12/18/2001	12/19/2001	12/19/2001	12/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
1,2-Dichlorobenzene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
1,3-Dichlorobenzene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
1,4-Dichlorobenzene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
2,4,5-Trichlorophenol	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
2,4,6-Trichlorophenol	0.091 UJ	0.1 UJ	0.1 UJ	0.11 UJ	0.1 UJ
2,4-Dichlorophenol	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
2,4-Dinitrophenol	1.1 UJ	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ
2,4-Dinitrotoluene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
2,6-Dinitrotoluene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
2-Chloronaphthalene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
2-Chlorophenol	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
2-Methylnaphthalene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
2-Methylphenol (o-Cresol)	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
2-Nitroaniline	1.1 UJ	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ
2-Nitrophenol	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
3&4Methylphenol	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
3,3`-Dichlorobenzidine	0.43 UJ	0.47 UJ	0.48 UJ	0.52 UJ	0.49 UJ
3-Nitroaniline	1.1 UJ	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ
4,6-Dinitro-2-methylphenol	1.1 UJ	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ
4-Bromophenyl phenyl ether	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
4-Chloro-3-methylphenol	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
4-Chloroaniline	0.43 UJ	0.47 UJ	0.48 UJ	0.52 UJ	0.49 UJ
4-Chlorophenyl phenyl ether	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
4-Nitroaniline	1.1 UJ	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ
4-Nitrophenol	1.1 UJ	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ
Acenaphthene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Acenaphthylene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Anthracene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Benzo(a)anthracene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Benzo(a)pyrene	0.12 UJ	0.13 UJ	0.13 UJ	0.14 UJ	0.13 UJ
Benzo(b)fluoranthene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Benzo(g,h,i)perylene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Benzo(k)fluoranthene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Bis(2-chloroethoxy)methane	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Bis(2-chloroethyl)ether	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Bis(2-chloroisopropyl ether)	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Bis(2-ethylhexyl)phthalate	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Butylbenzylphthalate	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Carbazole	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Chrysene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
di-n-Butylphthalate	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
di-n-Octylphthalate	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Dibenzo(a,h)anthracene	0.12 UJ	0.13 UJ	0.13 UJ	0.14 UJ	0.13 UJ
Dibenzofuran	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Diethyl phthalate	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Dimethyl phthalate	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Fluoranthene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Fluorene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Hexachlorobenzene	0.091 UJ	0.1 UJ	0.1 UJ	0.11 UJ	0.1 UJ
Hexachlorobutadiene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Hexachlorocyclopentadiene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Hexachloroethane	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Indeno(1,2,3-cd)pyrene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Isophorone	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
N-Nitroso-di-N-propylamine	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
N-Nitrosodiphenylamine	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Naphthalene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Nitrobenzene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Pentachlorophenol	0.0022 J	0.0016 J	0.025 U	0.027 U	0.025 U
Phenanthrene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Phenol	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ
Pyrene	0.22 UJ	0.24 UJ	0.25 UJ	0.27 UJ	0.25 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E
Sample	CBS-CSE-T10-1	CBS-CSE-T11-1	CBS-CSE-T12-1	CBS-CSE-T13-2	CBS-CSE-T14-1
Sample date	12/19/2001	12/19/2001	12/19/2001	2/14/2002	12/18/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
1,2-Dichlorobenzene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
1,3-Dichlorobenzene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
1,4-Dichlorobenzene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
2,4,5-Trichlorophenol	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
2,4,6-Trichlorophenol	0.097 UJ	0.1 UJ	0.11 UJ	0.1 UJ	0.1 UJ
2,4-Dichlorophenol	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
2,4-Dinitrophenol	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ	1.2 UJ
2,4-Dinitrotoluene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
2,6-Dinitrotoluene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
2-Chloronaphthalene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
2-Chlorophenol	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
2-Methylnaphthalene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
2-Methylphenol (o-Cresol)	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
2-Nitroaniline	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ	1.2 UJ
2-Nitrophenol	0.24 U	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
3&4Methylphenol	0.24 U	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
3,3`-Dichlorobenzidine	0.46 UJ	0.48 UJ	0.51 UJ	0.49 UJ	0.48 UJ
3-Nitroaniline	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ	1.2 UJ
4,6-Dinitro-2-methylphenol	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ	1.2 UJ
4-Bromophenyl phenyl ether	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
4-Chloro-3-methylphenol	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
4-Chloroaniline	0.46 UJ	0.48 UJ	0.51 UJ	0.49 UJ	0.48 UJ
4-Chlorophenyl phenyl ether	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
4-Nitroaniline	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ	1.2 UJ
4-Nitrophenol	1.2 UJ	1.2 UJ	1.3 UJ	1.3 UJ	1.2 UJ
Acenaphthene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Acenaphthylene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Anthracene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Benzo(a)anthracene	0.24 UJ	0.25 UJ	0.26 UJ	0.058 J	0.25 UJ
Benzo(a)pyrene	0.12 UJ	0.13 UJ	0.14 UJ	0.072 J	0.13 UJ
Benzo(b)fluoranthene	0.24 UJ	0.037 J	0.26 UJ	0.092 J	0.25 UJ
Benzo(g,h,i)perylene	0.24 UJ	0.25 UJ	0.26 UJ	0.069 J	0.25 UJ
Benzo(k)fluoranthene	0.24 UJ	0.25 UJ	0.26 UJ	0.083 J	0.25 UJ
Bis(2-chloroethoxy)methane	0.24 U	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Bis(2-chloroethyl)ether	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Bis(2-chloroisopropyl ether)	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Bis(2-ethylhexyl)phthalate	0.24 UJ	0.077 J	0.26 UJ	0.25 UJ	0.25 UJ
Butylbenzylphthalate	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Carbazole	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Chrysene	0.24 UJ	0.037 J	0.26 UJ	0.086 J	0.25 UJ
di-n-Butylphthalate	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
di-n-Octylphthalate	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Dibenzo(a,h)anthracene	0.12 UJ	0.13 UJ	0.14 UJ	0.13 UJ	0.13 UJ
Dibenzofuran	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Diethyl phthalate	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Dimethyl phthalate	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Fluoranthene	0.24 UJ	0.059 J	0.26 UJ	0.12 J	0.25 UJ
Fluorene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Hexachlorobenzene	0.097 UJ	0.1 UJ	0.11 UJ	0.1 UJ	0.1 UJ
Hexachlorobutadiene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Hexachlorocyclopentadiene	R	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Hexachloroethane	0.24 U	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Indeno(1,2,3-cd)pyrene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Isophorone	0.24 U	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
N-Nitroso-di-N-propylamine	0.24 U	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
N-Nitrosodiphenylamine	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Naphthalene	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Nitrobenzene	0.24 U	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Pentachlorophenol	0.024 U	0.025 U	0.026 U	0.016 J	0.025 U
Phenanthrene	0.24 UJ	0.25 UJ	0.26 UJ	0.051 J	0.25 UJ
Phenol	0.24 UJ	0.25 UJ	0.26 UJ	0.25 UJ	0.25 UJ
Pyrene	0.24 UJ	0.25 UJ	0.26 UJ	0.1 J	0.25 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E
Sample	CBS-CSE-T15-1	CBS-CSE-T15-1-FD	CBS-CSE-T16-1	CBS-CSE-T17-1
Sample date	12/18/2001	12/18/2001	12/21/2001	12/21/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:				
1,2,4-Trichlorobenzene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
1,2-Dichlorobenzene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
1,3-Dichlorobenzene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
1,4-Dichlorobenzene	0.22 UJ	0.22 UJ	0.23 J	0.3 UJ
2,4,5-Trichlorophenol	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
2,4,6-Trichlorophenol	0.089 UJ	0.09 UJ	0.14 UJ	0.12 UJ
2,4-Dichlorophenol	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
2,4-Dinitrophenol	1.1 UJ	1.1 UJ	1.7 UJ	1.5 UJ
2,4-Dinitrotoluene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
2,6-Dinitrotoluene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
2-Chloronaphthalene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
2-Chlorophenol	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
2-Methylnaphthalene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
2-Methylphenol (o-Cresol)	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
2-Nitroaniline	1.1 UJ	1.1 UJ	1.7 UJ	1.5 UJ
2-Nitrophenol	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
3&4Methylphenol	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
3,3`-Dichlorobenzidine	0.42 UJ	0.42 UJ	0.67 UJ	0.58 UJ
3-Nitroaniline	1.1 UJ	1.1 UJ	1.7 UJ	1.5 UJ
4,6-Dinitro-2-methylphenol	1.1 UJ	1.1 UJ	1.7 UJ	1.5 UJ
4-Bromophenyl phenyl ether	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
4-Chloro-3-methylphenol	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
4-Chloroaniline	0.42 UJ	0.42 UJ	0.67 UJ	0.58 UJ
4-Chlorophenyl phenyl ether	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
4-Nitroaniline	1.1 UJ	1.1 UJ	1.7 UJ	1.5 UJ
4-Nitrophenol	1.1 UJ	1.1 UJ	1.7 UJ	1.5 UJ
Acenaphthene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Acenaphthylene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Anthracene	0.22 UJ	0.22 UJ	0.05 J	0.3 UJ
Benzo(a)anthracene	0.22 UJ	0.22 UJ	0.26 J	0.11 J
Benzo(a)pyrene	0.11 UJ	0.12 UJ	0.42 J	0.14 J
Benzo(b)fluoranthene	0.22 UJ	0.22 UJ	0.51 J	0.17 J
Benzo(g,h,i)perylene	0.22 UJ	0.22 UJ	0.35 J	0.17 J
Benzo(k)fluoranthene	0.22 UJ	0.22 UJ	0.37 J	0.14 J
Bis(2-chloroethoxy)methane	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Bis(2-chloroethyl)ether	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Bis(2-chloroisopropyl ether)	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Bis(2-ethylhexyl)phthalate	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Butylbenzylphthalate	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Carbazole	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Chrysene	0.22 UJ	0.22 UJ	0.37 J	0.16 J
di-n-Butylphthalate	0.074 J	0.22 UJ	0.35 UJ	0.3 UJ
di-n-Octylphthalate	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Dibenzo(a,h)anthracene	0.11 UJ	0.12 UJ	0.14 J	0.16 UJ
Dibenzofuran	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Diethyl phthalate	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Dimethyl phthalate	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Fluoranthene	0.22 UJ	0.22 UJ	0.71 J	0.3 J
Fluorene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Hexachlorobenzene	0.089 UJ	0.09 UJ	0.14 UJ	0.12 UJ
Hexachlorobutadiene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Hexachlorocyclopentadiene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Hexachloroethane	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Indeno(1,2,3-cd)pyrene	0.22 UJ	0.22 UJ	0.35 J	0.16 J
Isophorone	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
N-Nitroso-di-N-propylamine	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
N-Nitrosodiphenylamine	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Naphthalene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Nitrobenzene	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Pentachlorophenol	0.022 U	0.022 U	0.033 J	0.01 J
Phenanthrene	0.22 UJ	0.023 J	0.29 J	0.13 J
Phenol	0.22 UJ	0.22 UJ	0.35 UJ	0.3 UJ
Pyrene	0.22 UJ	0.22 UJ	0.48 J	0.22 J

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F
Sample	CBS-CSF-T1-1	CBS-CSF-T2-1	CBS-CSF-T3-1	CBS-CSF-T4-1	CBS-CSF-T5-1
Sample date	12/21/2001	12/11/2001	12/11/2001	12/11/2001	1/8/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
1,2-Dichlorobenzene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
1,3-Dichlorobenzene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
1,4-Dichlorobenzene	0.28 UJ	0.25 UJ	0.094 J	0.23 UJ	0.24 UJ
2,4,5-Trichlorophenol	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
2,4,6-Trichlorophenol	0.12 UJ	0.1 UJ	0.11 UJ	0.096 UJ	0.097 UJ
2,4-Dichlorophenol	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
2,4-Dinitrophenol	1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
2,4-Dinitrotoluene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
2,6-Dinitrotoluene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
2-Chloronaphthalene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
2-Chlorophenol	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
2-Methylnaphthalene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
2-Methylphenol (o-Cresol)	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
2-Nitroaniline	1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
2-Nitrophenol	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
3&4Methylphenol	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
3,3`-Dichlorobenzidine	0.55 UJ	0.48 UJ	0.51 UJ	0.45 UJ	0.46 UJ
3-Nitroaniline	1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
4,6-Dinitro-2-methylphenol	1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
4-Bromophenyl phenyl ether	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
4-Chloro-3-methylphenol	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
4-Chloroaniline	0.55 UJ	0.48 UJ	0.51 UJ	0.45 UJ	0.46 UJ
4-Chlorophenyl phenyl ether	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
4-Nitroaniline	1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
4-Nitrophenol	1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
Acenaphthene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Acenaphthylene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Anthracene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Benzo(a)anthracene	0.28 UJ	0.25 UJ	0.092 J	0.23 UJ	0.035 J
Benzo(a)pyrene	0.15 UJ	0.049 J	0.19 J	0.12 UJ	0.053 J
Benzo(b)fluoranthene	0.28 UJ	0.039 J	0.18 J	0.23 UJ	0.24 UJ
Benzo(g,h,i)perylene	0.28 UJ	0.25 UJ	0.13 J	0.23 UJ	0.049 J
Benzo(k)fluoranthene	0.28 UJ	0.044 J	0.13 J	0.23 UJ	0.24 UJ
Bis(2-chloroethoxy)methane	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Bis(2-chloroethyl)ether	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Bis(2-chloroisopropyl ether)	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Bis(2-ethylhexyl)phthalate	0.28 UJ	0.25 UJ	0.11 J	0.23 UJ	0.071 J
Butylbenzylphthalate	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Carbazole	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Chrysene	0.28 UJ	0.25 UJ	0.14 J	0.23 UJ	0.046 J
di-n-Butylphthalate	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
di-n-Octylphthalate	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Dibenzo(a,h)anthracene	0.15 UJ	0.13 UJ	0.14 UJ	0.12 UJ	0.12 UJ
Dibenzofuran	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Diethyl phthalate	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Dimethyl phthalate	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Fluoranthene	0.28 UJ	0.25 UJ	0.17 J	0.23 UJ	0.053 J
Fluorene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Hexachlorobenzene	0.12 UJ	0.1 UJ	0.11 UJ	0.096 UJ	0.097 UJ
Hexachlorobutadiene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Hexachlorocyclopentadiene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Hexachloroethane	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Indeno(1,2,3-cd)pyrene	0.28 UJ	0.25 UJ	0.11 J	0.23 UJ	0.24 UJ
Isophorone	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
N-Nitroso-di-N-propylamine	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
N-Nitrosodiphenylamine	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Naphthalene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Nitrobenzene	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Pentachlorophenol	0.028 U	0.025 U	0.024 J	0.023 U	0.024 U
Phenanthrene	0.28 UJ	0.25 UJ	0.098 J	0.23 UJ	0.03 J
Phenol	0.28 UJ	0.25 UJ	0.26 UJ	0.23 UJ	0.24 UJ
Pyrene	0.28 UJ	0.25 UJ	0.16 J	0.23 UJ	0.24 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F
Sample	CBS-CSF-T6-1	CBS-CSF-T6-1-FD	CBS-CSF-T7-1	CBS-CSF-T8-1	CBS-CSF-T9-1
Sample date	1/16/2002	1/16/2002	1/16/2002	1/23/2002	1/23/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
1,2-Dichlorobenzene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 U	0.25 UJ
1,3-Dichlorobenzene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 U	0.25 UJ
1,4-Dichlorobenzene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 U	0.25 UJ
2,4,5-Trichlorophenol	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
2,4,6-Trichlorophenol	0.1 UJ	0.1 UJ	0.097 UJ	0.096 UJ	0.1 UJ
2,4-Dichlorophenol	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
2,4-Dinitrophenol	1.3 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.3 UJ
2,4-Dinitrotoluene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
2,6-Dinitrotoluene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
2-Chloronaphthalene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
2-Chlorophenol	0.25 UJ	0.24 UJ	0.24 UJ	0.23 U	0.25 UJ
2-Methylnaphthalene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
2-Methylphenol (o-Cresol)	0.25 UJ	0.24 UJ	0.24 UJ	0.23 U	0.25 UJ
2-Nitroaniline	1.3 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.3 UJ
2-Nitrophenol	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
3&4Methylphenol	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
3,3`-Dichlorobenzidine	0.49 UJ	0.47 UJ	0.46 UJ	0.45 UJ	0.49 UJ
3-Nitroaniline	1.3 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.3 UJ
4,6-Dinitro-2-methylphenol	1.3 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.3 UJ
4-Bromophenyl phenyl ether	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
4-Chloro-3-methylphenol	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
4-Chloroaniline	0.49 UJ	0.47 UJ	0.46 UJ	0.45 UJ	0.49 UJ
4-Chlorophenyl phenyl ether	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
4-Nitroaniline	1.3 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.3 UJ
4-Nitrophenol	1.3 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.3 UJ
Acenaphthene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Acenaphthylene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Anthracene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Benzo(a)anthracene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Benzo(a)pyrene	0.13 UJ	0.13 U	0.12 UJ	0.12 UJ	0.13 UJ
Benzo(b)fluoranthene	0.04 J	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Benzo(g,h,i)perylene	0.058 J	0.24 U	0.24 UJ	0.23 UJ	0.25 UJ
Benzo(k)fluoranthene	0.25 UJ	0.24 U	0.24 UJ	0.23 UJ	0.25 UJ
Bis(2-chloroethoxy)methane	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Bis(2-chloroethyl)ether	0.25 UJ	0.24 UJ	0.24 UJ	0.23 U	0.25 UJ
Bis(2-chloroisopropyl ether)	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Bis(2-ethylhexyl)phthalate	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Butylbenzylphthalate	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Carbazole	0.25 UJ	0.24 U	0.24 UJ	0.23 UJ	0.25 UJ
Chrysene	0.035 J	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
di-n-Butylphthalate	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
di-n-Octylphthalate	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Dibenzo(a,h)anthracene	0.13 UJ	0.13 U	0.12 UJ	0.12 UJ	0.13 UJ
Dibenzofuran	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Diethyl phthalate	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Dimethyl phthalate	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Fluoranthene	0.062 J	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Fluorene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Hexachlorobenzene	0.1 UJ	0.1 UJ	0.097 UJ	0.096 UJ	0.1 UJ
Hexachlorobutadiene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Hexachlorocyclopentadiene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Hexachloroethane	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Indeno(1,2,3-cd)pyrene	0.25 UJ	0.24 U	0.24 UJ	0.23 UJ	0.25 UJ
Isophorone	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
N-Nitroso-di-N-propylamine	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
N-Nitrosodiphenylamine	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Naphthalene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Nitrobenzene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Pentachlorophenol	0.0024 J	0.024 U	0.0031 J	0.0023 J	0.002 J
Phenanthrene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ
Phenol	0.25 UJ	0.24 UJ	0.24 UJ	0.23 U	0.25 UJ
Pyrene	0.25 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.25 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F
Sample	CBS-CSF-T9-1-FD	CBS-CSF-T10-1	CBS-CSF-T11-1	CBS-CSF-T12-1	CBS-CSF-T13-1
Sample date	1/23/2002	1/25/2002	1/25/2002	1/23/2002	1/16/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,4-Trichlorobenzene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
1,2-Dichlorobenzene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
1,3-Dichlorobenzene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
1,4-Dichlorobenzene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
2,4,5-Trichlorophenol	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
2,4,6-Trichlorophenol	0.092 UJ	0.091 UJ	0.097 UJ	0.094 UJ	0.093 UJ
2,4-Dichlorophenol	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
2,4-Dinitrophenol	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ
2,4-Dinitrotoluene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
2,6-Dinitrotoluene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
2-Chloronaphthalene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
2-Chlorophenol	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
2-Methylnaphthalene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
2-Methylphenol (o-Cresol)	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
2-Nitroaniline	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ
2-Nitrophenol	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
3&4Methylphenol	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
3,3`-Dichlorobenzidine	0.43 UJ	0.43 UJ	0.46 UJ	0.44 UJ	0.44 UJ
3-Nitroaniline	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ
4,6-Dinitro-2-methylphenol	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ
4-Bromophenyl phenyl ether	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
4-Chloro-3-methylphenol	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
4-Chloroaniline	0.43 UJ	0.43 UJ	0.46 UJ	0.44 UJ	0.44 UJ
4-Chlorophenyl phenyl ether	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
4-Nitroaniline	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ
4-Nitrophenol	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ
Acenaphthene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Acenaphthylene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Anthracene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Benzo(a)anthracene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Benzo(a)pyrene	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Benzo(b)fluoranthene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Benzo(g,h,i)perylene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Benzo(k)fluoranthene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Bis(2-chloroethoxy)methane	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Bis(2-chloroethyl)ether	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Bis(2-chloroisopropyl ether)	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Bis(2-ethylhexyl)phthalate	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Butylbenzylphthalate	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Carbazole	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Chrysene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
di-n-Butylphthalate	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
di-n-Octylphthalate	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Dibenzo(a,h)anthracene	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Dibenzofuran	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Diethyl phthalate	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Dimethyl phthalate	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Fluoranthene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Fluorene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Hexachlorobenzene	0.092 UJ	0.091 UJ	0.097 UJ	0.094 UJ	0.093 UJ
Hexachlorobutadiene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Hexachlorocyclopentadiene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Hexachloroethane	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Indeno(1,2,3-cd)pyrene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Isophorone	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
N-Nitroso-di-N-propylamine	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
N-Nitrosodiphenylamine	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Naphthalene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Nitrobenzene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Pentachlorophenol	0.0018 J	0.022 U	0.0015 J	0.023 U	0.023 U
Phenanthrene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Phenol	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ
Pyrene	0.22 UJ	0.22 UJ	0.24 UJ	0.23 UJ	0.23 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F
Sample	CBS-CSF-T14-1	CBS-CSF-T15-1	CBS-CSF-T15-1-FD	CBS-CSF-T16-1
Sample date	1/8/2002	1/8/2002	1/8/2002	2/6/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:				
1,2,4-Trichlorobenzene	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
1,2-Dichlorobenzene	0.23 U	0.24 UJ	0.22 U	0.24 UJ
1,3-Dichlorobenzene	0.23 U	0.24 UJ	0.22 U	0.24 UJ
1,4-Dichlorobenzene	0.23 U	0.24 UJ	0.22 U	0.24 UJ
2,4,5-Trichlorophenol	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
2,4,6-Trichlorophenol	0.094 UJ	0.1 UJ	0.092 UJ	0.1 UJ
2,4-Dichlorophenol	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
2,4-Dinitrophenol	1.1 UJ	1.2 UJ	1.1 UJ	1.2 UJ
2,4-Dinitrotoluene	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
2,6-Dinitrotoluene	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
2-Chloronaphthalene	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
2-Chlorophenol	0.23 U	0.24 UJ	0.22 U	0.24 UJ
2-Methylnaphthalene	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
2-Methylphenol (o-Cresol)	0.23 U	0.24 UJ	0.22 U	0.24 UJ
2-Nitroaniline	1.1 UJ	1.2 UJ	1.1 UJ	1.2 UJ
2-Nitrophenol	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
3&4Methylphenol	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
3,3`-Dichlorobenzidine	0.44 UJ	0.47 UJ	0.43 UJ	0.47 UJ
3-Nitroaniline	1.1 UJ	1.2 UJ	1.1 UJ	1.2 UJ
4,6-Dinitro-2-methylphenol	1.1 UJ	1.2 UJ	1.1 UJ	1.2 UJ
4-Bromophenyl phenyl ether	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
4-Chloro-3-methylphenol	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
4-Chloroaniline	0.44 UJ	0.47 UJ	0.43 UJ	0.47 UJ
4-Chlorophenyl phenyl ether	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
4-Nitroaniline	1.1 UJ	1.2 UJ	1.1 UJ	1.2 UJ
4-Nitrophenol	1.1 UJ	1.2 UJ	1.1 UJ	1.2 UJ
Acenaphthene	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Acenaphthylene	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Anthracene	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Benzo(a)anthracene	0.084 J	0.044 J	0.032 J	0.24 UJ
Benzo(a)pyrene	0.08 J	0.048 J	0.057 J	0.13 UJ
Benzo(b)fluoranthene	0.18 J	0.043 J	0.041 J	0.24 UJ
Benzo(g,h,i)perylene	0.1 J	0.079 J	0.058 J	0.24 UJ
Benzo(k)fluoranthene	0.13 J	0.068 J	0.047 J	0.24 UJ
Bis(2-chloroethoxy)methane	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Bis(2-chloroethyl)ether	0.23 U	0.24 UJ	0.22 U	0.24 UJ
Bis(2-chloroisopropyl ether)	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Bis(2-ethylhexyl)phthalate	0.068 J	0.073 J	0.076 J	0.24 UJ
Butylbenzylphthalate	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Carbazole	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Chrysene	0.12 J	0.043 J	0.034 J	0.24 UJ
di-n-Butylphthalate	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
di-n-Octylphthalate	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Dibenzo(a,h)anthracene	0.12 UJ	0.13 UJ	0.12 UJ	0.13 UJ
Dibenzofuran	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Diethyl phthalate	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Dimethyl phthalate	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Fluoranthene	0.11 J	0.056 J	0.049 J	0.24 UJ
Fluorene	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Hexachlorobenzene	0.094 UJ	0.1 UJ	0.092 UJ	0.1 UJ
Hexachlorobutadiene	0.061 J	0.24 UJ	0.22 UJ	0.24 UJ
Hexachlorocyclopentadiene	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Hexachloroethane	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Indeno(1,2,3-cd)pyrene	0.092 J	0.24 UJ	0.22 UJ	0.24 UJ
Isophorone	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
N-Nitroso-di-N-propylamine	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
N-Nitrosodiphenylamine	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Naphthalene	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Nitrobenzene	0.23 UJ	0.24 UJ	0.22 UJ	0.24 UJ
Pentachlorophenol	0.004 J	0.0053 J	0.0062 J	0.024 U
Phenanthrene	0.072 J	0.037 J	0.22 UJ	0.24 UJ
Phenol	0.23 U	0.24 UJ	0.22 U	0.24 UJ
Pyrene	0.11 J	0.24 UJ	0.22 UJ	0.24 UJ

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T0-C1	CBS-CSB-T1-C1	CBS-CSB-T1-E1	CBS-CSB-T1-W1	CBS-CSB-T2-C1	CBS-CSB-T2-E1	CBS-CSB-T2-W1
Sample date	11/1/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
4,4'-DDD	0.47 J	0.005 U	0.0048 U	0.0046 U	0.1 U	0.0092 U	0.088 U
4,4'-DDE	0.12 U	0.005 U	0.0048 U	0.035 J	0.1 U	0.0092 U	0.088 U
4,4'-DDT	0.12 U	0.005 U	0.017 J	0.051 J	0.1 U	0.0092 U	0.088 U
Aldrin	0.062 U	0.0026 U	0.0025 U	0.0024 U	0.054 U	0.0047 U	0.045 U
alpha-BHC	0.018 U	0.00076 U	0.00074 U	0.00069 U	0.016 U	0.0014 U	0.013 U
alpha-Chlordane	0.062 U	0.0026 U	0.0025 U	0.0024 U	0.054 U	0.0047 U	0.045 U
beta-BHC	0.018 U	0.00076 U	0.00074 U	0.00069 U	0.016 U	0.0031 J	0.013 U
delta-BHC	0.018 U	0.00076 U	0.00074 U	0.00069 U	0.016 U	0.0014 U	0.013 U
Dieldrin	0.12 U	0.005 U	0.0074 J	0.03 J	0.1 U	0.0092 U	0.088 U
Endosulfan I	0.062 U	0.0026 U	0.0025 U	0.0024 U	0.054 U	0.0047 U	0.045 U
Endosulfan II	0.12 U	0.005 U	0.0048 U	0.0046 U	0.1 U	0.0092 U	0.088 U
Endosulfan sulfate	0.12 U	0.005 U	0.0048 U	0.0046 U	0.1 U	0.0092 U	0.088 U
Endrin	0.12 U	0.005 U	0.0048 U	0.0046 U	0.1 U	0.0092 U	0.088 U
Endrin aldehyde	0.12 U	0.005 U	0.0048 U	0.0046 U	0.1 U	0.0092 U	0.088 U
Endrin ketone	0.12 U	0.005 U	0.0048 U	0.0046 U	0.1 U	0.0092 U	0.088 U
gamma-BHC (Lindane)	0.062 U	0.00015 J	0.0025 U	0.0024 U	0.054 U	0.0047 U	0.045 U
gamma-Chlordane	0.062 U	0.0026 U	0.0025 U	0.0024 U	0.054 U	0.0047 U	0.045 U
Heptachlor	0.062 U	0.0026 U	0.0025 U	0.0024 U	0.054 U	0.0047 U	0.045 U
Heptachlor epoxide	0.41 J	0.00043 J	0.0046 J	0.021 J	0.054 U	0.0073 J	0.045 U
Methoxychlor	0.62 U	0.026 U	0.025 U	0.024 U	0.54 U	0.047 U	0.45 U
Toxaphene	6.2 U	0.26 U	0.25 U	0.24 U	5.4 U	0.47 U	4.5 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T3-C1	CBS-CSB-T3-E1	CBS-CSB-T3-W1	CBS-CSB-T4-C1	CBS-CSB-T4-E1	CBS-CSB-T4-W1	CBS-CSB-T5-C1
Sample date	10/31/2001	10/31/2001	10/31/2001	11/1/2001	11/1/2001	11/1/2001	11/1/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
4,4'-DDD	0.11 U	0.084 U	0.0045 U	0.0054 U	0.0046 U	0.0049 U	0.0048 U
4,4'-DDE	0.11 U	0.084 U	0.0045 U	0.0054 U	0.0046 U	0.0049 U	0.0048 U
4,4'-DDT	0.11 U	0.084 U	0.0045 U	0.0054 U	0.0046 U	0.0049 U	0.0048 U
Aldrin	0.059 U	0.043 U	0.0023 U	0.0028 U	0.0024 U	0.0025 U	0.0025 U
alpha-BHC	0.017 U	0.013 U	0.00082 J	0.00082 U	0.00069 U	0.00075 U	0.00074 U
alpha-Chlordane	0.059 U	0.043 U	0.0023 U	0.0028 U	0.0024 U	0.0025 U	0.0025 U
beta-BHC	0.017 U	0.013 U	0.00068 U	0.00082 U	0.00069 U	0.00075 U	0.00074 U
delta-BHC	0.017 U	0.013 U	0.00068 U	0.00082 U	0.00069 U	0.00075 U	0.00074 U
Dieldrin	0.11 U	0.084 U	0.00042 J	0.0054 U	0.0046 U	0.0049 U	0.0048 U
Endosulfan I	0.059 U	0.043 U	0.0023 U	0.0028 U	0.0024 U	0.0025 U	0.0025 U
Endosulfan II	0.11 U	0.084 U	0.0045 U	0.0054 U	0.0046 U	0.0049 U	0.0048 U
Endosulfan sulfate	0.11 U	0.084 U	0.0045 U	0.0054 U	0.0046 U	0.0049 U	0.0048 U
Endrin	0.11 U	0.084 U	0.0045 U	0.0054 U	0.0046 U	0.0049 U	0.0048 U
Endrin aldehyde	0.11 U	0.084 U	0.0045 U	0.0054 U	0.0046 U	0.0049 U	0.0048 U
Endrin ketone	0.11 U	0.084 U	0.0045 U	0.0054 U	0.0046 U	0.0049 U	0.0048 U
gamma-BHC (Lindane)	0.059 U	0.043 U	0.0023 U	0.0014 J	0.0024 U	0.0025 U	0.0025 U
gamma-Chlordane	0.059 U	0.043 U	0.0023 U	0.0028 U	0.0024 U	0.0025 U	0.0025 U
Heptachlor	0.059 U	0.043 U	0.0023 U	0.0028 U	0.0024 U	0.0025 U	0.0025 U
Heptachlor epoxide	0.059 U	0.043 U	0.0023 U	0.0028 U	0.0032 J	0.0025 U	0.00034 J
Methoxychlor	0.59 U	0.43 U	0.023 U	0.028 U	0.024 U	0.025 U	0.025 U
Toxaphene	5.9 U	4.3 U	0.23 U	0.28 U	0.24 U	0.25 U	0.25 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T5-E1	CBS-CSB-T5-W1	CBS-CSB-T6-C1	CBS-CSB-T6-C1-D	CBS-CSB-T6-E1	CBS-CSB-T6-W1	CBS-CSB-T7-C1
Sample date	11/1/2001	11/1/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
4,4'-DDD	0.0043 U	0.00083 J	0.0046 U	0.0046 U	0.0038 U	0.0043 U	0.0044 U
4,4'-DDE	0.0043 U	0.0045 U	0.0046 U	0.0046 U	0.0038 U	0.0043 U	0.0044 U
4,4'-DDT	0.051 J	0.0045 U	0.0046 U	0.0023 J	0.0038 U	0.0043 U	0.0044 U
Aldrin	0.0022 U	0.0023 U	0.0024 U	0.0024 U	0.002 U	0.0022 U	0.0023 U
alpha-BHC	0.00066 U	0.00068 U	0.00069 U	0.00069 U	0.00055 J	0.00066 U	0.00068 U
alpha-Chlordane	0.0022 U	0.0023 U	0.0024 UJ	0.0024 UJ	0.002 UJ	0.0022 UJ	0.0023 UJ
beta-BHC	0.00066 U	0.00068 U	0.00069 U	0.00069 U	0.0019 J	0.00066 U	0.00068 U
delta-BHC	0.00066 U	0.00068 U	0.00069 U	0.00069 U	0.00058 U	0.00066 U	0.00068 U
Dieldrin	0.0043 U	0.0045 U	0.0046 U	0.0046 U	0.0038 U	0.0043 U	0.0044 U
Endosulfan I	0.0022 U	0.0023 U	0.0024 U	0.0024 U	0.002 U	0.0022 U	0.0023 U
Endosulfan II	0.0043 U	0.0045 U	0.0046 U	0.0046 U	0.0038 U	0.0043 U	0.0044 U
Endosulfan sulfate	0.0043 U	0.0045 U	0.0046 U	0.0046 U	0.0038 U	0.0043 U	0.0044 U
Endrin	0.0043 U	0.0045 U	0.0046 U	0.0046 U	0.0038 U	0.0043 U	0.0044 U
Endrin aldehyde	0.0043 U	0.0045 U	0.0046 U	0.0046 U	0.0038 U	0.0043 U	0.0044 U
Endrin ketone	0.0043 U	0.0045 U	0.0046 U	0.0046 U	0.0038 U	0.0043 U	0.0044 U
gamma-BHC (Lindane)	0.0022 U	0.0023 U	0.0024 U	0.0024 U	0.002 U	0.0022 U	0.0023 U
gamma-Chlordane	0.0022 U	0.0023 U	0.0024 U	0.0024 U	0.002 U	0.0022 U	0.0023 U
Heptachlor	0.0022 U	0.0023 U	0.0024 U	0.0024 U	0.002 U	0.00032 J	0.0023 U
Heptachlor epoxide	0.095 J	0.0002 J	0.0024 U	0.0024 U	0.002 U	0.0022 U	0.0023 U
Methoxychlor	0.022 U	0.023 U	0.00041 J	0.024 U	0.0011 J	0.022 U	0.023 U
Toxaphene	0.22 U	0.23 U	0.24 U	0.24 U	0.2 U	0.22 U	0.23 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T7-E1	CBS-CSB-T7-W1	CBS-CSB-T8-C1	CBS-CSB-T8-E1	CBS-CSB-T8-W1	CBS-CSB-T9-C1	CBS-CSB-T9-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
4,4'-DDD	0.0044 U	0.0042 U	0.0046 U	0.0047 U	0.0044 U	0.0044 U	0.0043 U
4,4'-DDE	0.0044 U	0.0042 UJ	0.0046 U	0.0047 U	0.0044 U	0.0044 U	0.0043 U
4,4'-DDT	0.0092 J	0.015 J	0.046 J	0.00096 J	0.0099	0.0044 U	0.0053 J
Aldrin	0.0023 U	0.0022 U	0.0024 U	0.0024 U	0.0023 U	0.0023 U	0.0022 U
alpha-BHC	0.00067 U	0.0029 J	0.00069 U	0.00071 U	0.0017 J	0.00068 U	0.00066 U
alpha-Chlordane	0.0023 UJ	0.0022 UJ	0.0024 UJ	0.0024 UJ	0.0023 UJ	0.0023 UJ	0.0022 UJ
beta-BHC	0.00067 U	0.0077 J	0.00057 J	0.00071 U	0.0054	0.00068 U	0.00066 U
delta-BHC	0.00071 J	0.00064 U	0.00069 U	0.00071 U	0.00068 U	0.00068 U	0.00066 U
Dieldrin	0.0044 U	0.0042 U	0.0094 J	0.0047 U	0.0044 U	0.00062 J	0.0043 U
Endosulfan I	0.0023 U	R	0.0024 U	0.0024 U	0.0023 U	0.0023 U	0.0022 U
Endosulfan II	0.0044 U	0.0042 U	0.01 J	0.0047 U	0.0044 U	0.0044 U	0.0043 U
Endosulfan sulfate	0.0044 U	0.0042 UJ	0.0046 U	0.0047 U	0.0044 U	0.0044 U	0.0043 U
Endrin	0.0044 U	0.0042 UJ	0.0046 U	0.0047 U	0.0044 U	0.0044 U	0.0043 U
Endrin aldehyde	0.0044 U	0.0042 U	0.0046 U	0.0047 U	0.0044 U	0.0044 U	0.0043 U
Endrin ketone	0.0044 U	0.0042 U	0.0046 U	0.0047 U	0.0044 U	0.0044 U	0.0043 U
gamma-BHC (Lindane)	0.0023 U	0.0022 U	0.0023 J	0.0024 U	0.0023 U	0.0023 U	0.0022 U
gamma-Chlordane	0.0023 U	0.0022 UJ	0.0024 U	0.0024 U	0.0023 U	0.0023 U	0.0022 U
Heptachlor	0.0023 U	0.0022 U	0.0024 U	0.0024 U	0.0023 U	0.0023 U	0.0022 U
Heptachlor epoxide	0.0023 U	0.0022 U	0.0024 U	0.0024 U	0.0023 U	0.0023 U	0.0022 U
Methoxychlor	0.023 U	0.022 U	0.024 U	0.024 U	0.00045 J	0.023 U	0.022 U
Toxaphene	0.23 U	0.22 U	0.24 U	0.24 U	0.23 U	0.23 U	0.22 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T9-W1	CBS-CSB-T10-C1	CBS-CSB-T10-E1	CBS-CSB-T10-W1	CBS-CSB-T11-C1	CBS-CSB-T11-C1-D	CBS-CSB-T11-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
4,4'-DDD	0.0043 U	0.003 J	0.0044 U	0.0044 U	0.0046 UJ	0.0045 U	0.004 U
4,4'-DDE	0.0043 U	0.0047 U	0.0044 U	0.0044 U	0.0046 UJ	0.0045 U	0.004 U
4,4'-DDT	0.013	0.0047 U	0.031 J	0.013	0.0046 UJ	0.0045 U	0.004 U
Aldrin	0.00036 J	0.0024 U	0.0023 U	0.0023 U	0.0024 UJ	0.0023 U	0.0021 U
alpha-BHC	0.0016 J	0.00071 U	0.00068 U	0.00068 U	0.0007 UJ	0.0016 J	0.00061 U
alpha-Chlordane	0.0022 UJ	0.0024 UJ	0.0023 UJ	0.0023 UJ	0.0024 UJ	0.0023 U	0.0021 U
beta-BHC	0.0043 J	0.00071 U	0.00068 U	0.0026	0.001 J	0.00068 U	0.00061 U
delta-BHC	0.0041 J	0.00071 U	0.00068 U	0.00068 U	0.0007 UJ	0.00068 U	0.00061 U
Dieldrin	0.0043 U	0.0047 U	0.0044 U	0.0044 U	0.0046 UJ	0.0045 U	0.004 U
Endosulfan I	0.0022 U	0.0024 U	0.0023 U	0.0023 U	0.0024 UJ	0.0023 U	0.0021 U
Endosulfan II	0.0043 U	0.0047 U	0.0044 U	0.0044 U	0.0046 UJ	0.0045 U	0.004 U
Endosulfan sulfate	0.0043 U	0.0047 U	0.0044 U	0.0044 U	0.0046 UJ	0.0045 U	0.004 U
Endrin	0.0043 U	0.0047 U	0.0044 U	0.0044 U	0.0046 UJ	0.0045 U	0.004 U
Endrin aldehyde	0.0043 U	0.0047 U	0.0044 U	0.0044 U	0.0046 UJ	0.0045 U	0.004 U
Endrin ketone	0.0043 U	0.0047 U	0.0044 U	0.0044 U	0.0046 UJ	0.0015 J	0.004 U
gamma-BHC (Lindane)	0.0022 U	0.0024 U	0.0023 U	0.0023 U	0.00033 J	0.00074 J	0.0003 J
gamma-Chlordane	0.0022 U	0.0024 U	0.0023 U	0.0023 U	0.0024 UJ	0.0023 U	0.0021 U
Heptachlor	0.0022 U	0.0024 U	0.00075 J	0.0012 J	0.0024 UJ	0.0023 U	0.0021 U
Heptachlor epoxide	0.0022 U	0.0024 U	0.0023 U	0.0023 U	0.0024 UJ	0.0026 J	0.0013 J
Methoxychlor	0.022 U	0.024 U	0.023 U	0.023 U	0.024 UJ	0.0012 J	0.021 U
Toxaphene	0.22 U	0.24 U	0.23 U	0.23 U	0.24 UJ	0.23 U	0.21 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T11-W1	CBS-CSB-T12-C1	CBS-CSB-T12-E1	CBS-CSB-T12-W1	CBS-CSB-T13-C1	CBS-CSB-T13-E1	CBS-CSB-T13-W1
Sample date	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
4,4'-DDD	0.0042 U	0.0049 U	0.0039 U	0.0043 U	0.0046 U	0.0039 U	0.0044 U
4,4'-DDE	0.0042 U	0.0049 U	0.0039 U	0.0043 U	0.0046 U	0.0039 U	0.0044 U
4,4'-DDT	0.0042 U	0.0049 U	0.0039 U	0.0043 U	0.0046 U	0.0039 U	0.0044 U
Aldrin	0.0022 U	0.0025 U	0.002 U	0.0022 U	0.0024 U	0.002 U	0.0023 U
alpha-BHC	0.00068 J	0.00075 U	0.000087 J	0.0003 J	0.00069 U	0.00059 U	0.00068 U
alpha-Chlordane	0.0022 U	0.0025 U	0.002 U	0.0022 U	0.0024 U	0.002 UJ	0.0023 U
beta-BHC	0.002 J	0.00075 U	0.00059 U	0.00066 U	0.00069 U	0.00059 U	0.00092
delta-BHC	0.00063 U	0.00075 U	0.00059 U	0.00066 U	0.00069 U	0.00059 U	0.00068 U
Dieldrin	0.0042 U	0.0049 U	0.0039 U	0.0043 U	0.0046 U	0.0039 U	0.0044 U
Endosulfan I	0.0022 U	0.0025 U	0.002 U	0.0022 U	0.0024 U	0.002 U	0.0023 U
Endosulfan II	0.0042 U	0.0049 U	0.0039 U	0.0043 U	0.0046 U	0.0039 U	0.0044 U
Endosulfan sulfate	0.0042 U	0.0049 U	0.0039 U	0.0043 U	0.0046 U	0.0039 U	0.0044 U
Endrin	0.0042 U	0.0049 U	0.0039 U	0.0043 U	0.0046 U	0.0039 U	0.0044 U
Endrin aldehyde	0.0042 U	0.0049 U	0.0039 U	0.0043 U	0.0046 U	0.0039 U	0.0044 U
Endrin ketone	0.0042 U	0.0049 U	0.0039 U	0.00064 J	0.00073 J	0.0039 U	0.0044 U
gamma-BHC (Lindane)	0.00082 J	0.00041 J	0.00047 J	0.00084 J	0.0024 U	0.002 U	0.0004 J
gamma-Chlordane	0.00044 J	0.0025 U	0.00034 J	0.0022 U	0.0024 U	0.002 U	0.0023 U
Heptachlor	0.0022 U	0.0025 U	0.002 U	0.0022 U	0.0024 U	0.002 UJ	0.0023 U
Heptachlor epoxide	0.0027 J	0.0025 U	0.0016 J	0.0017 J	0.0024 U	0.002 U	0.0023 U
Methoxychlor	0.022 U	0.025 U	0.02 U	0.0066 J	0.024 U	0.00055 J	0.023 U
Toxaphene	0.22 U	0.25 U	0.2 U	0.22 U	0.24 U	0.2 U	0.23 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T14-1	CBS-CSB-T15-1	CBS-CSB-T16-1	CBS-CSB-T17-C1	CBS-CSB-T17-E1	CBS-CSB-T17-E1D	CBS-CSB-T17-WI
Sample date	12/20/2001	12/20/2001	12/20/2001	11/9/2001	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
4,4'-DDD	0.01 U	0.0087 U	0.024 U	0.0053 UJ	0.024 U	0.023 U	0.0046 UJ
4,4'-DDE	0.01 U	0.004 J	0.024 U	0.0053 UJ	0.024 U	0.023 U	0.0046 UJ
4,4'-DDT	0.01 U	0.0087 U	0.13 J	0.0053 UJ	0.16 J	0.16 J	0.0046 UJ
Aldrin	0.0052 U	0.0045 U	0.012 U	0.0027 UJ	0.012 U	0.012 U	0.0024 UJ
alpha-BHC	0.0015 U	0.0013 U	0.0036 U	0.00081 UJ	0.0036 U	0.0035 U	0.0007 UJ
alpha-Chlordane	0.0052 U	0.0045 U	0.012 U	0.0027 UJ	0.012 UJ	0.012 UJ	0.0024 UJ
beta-BHC	0.0015 U	0.0013 U	0.0036 U	0.00081 UJ	0.0036 U	0.0035 U	0.0007 UJ
delta-BHC	0.0015 U	0.0013 U	0.0036 U	0.00081 UJ	0.0036 U	0.0035 U	0.0007 UJ
Dieldrin	0.01 U	0.006 J	0.038 J	0.0053 UJ	0.048 J	0.05 J	0.0046 UJ
Endosulfan I	0.0052 U	0.0045 U	0.012 U	0.0027 UJ	0.012 U	0.012 U	0.0024 UJ
Endosulfan II	0.01 U	0.0087 U	0.024 U	0.0053 UJ	0.024 U	0.023 U	0.0046 UJ
Endosulfan sulfate	0.01 U	0.0087 U	0.012 J	0.0053 UJ	0.024 U	0.023 U	0.0046 UJ
Endrin	0.01 U	0.0087 U	0.024 U	0.0053 UJ	0.024 U	0.023 U	0.0046 UJ
Endrin aldehyde	0.01 U	0.0087 U	0.024 U	0.0053 UJ	0.024 U	0.023 U	0.0046 UJ
Endrin ketone	0.01 U	0.0087 U	0.024 U	0.0053 UJ	0.024 U	0.023 U	0.0046 UJ
gamma-BHC (Lindane)	0.0052 U	0.0045 U	0.012 U	0.0027 UJ	0.012 U	0.012 U	0.0024 UJ
gamma-Chlordane	0.0052 U	0.0045 U	0.012 U	0.0027 UJ	0.012 U	0.012 U	0.0024 UJ
Heptachlor	0.0052 U	0.0045 U	0.012 U	0.0027 UJ	0.012 U	0.012 U	0.0024 UJ
Heptachlor epoxide	0.0052 U	0.0045 U	0.012 U	0.0027 UJ	0.012 U	0.012 U	0.0024 UJ
Methoxychlor	0.052 U	0.045 U	0.12 U	0.027 UJ	0.12 U	0.12 U	0.024 UJ
Toxaphene	0.52 U	0.45 U	1.2 U	0.27 UJ	1.2 U	1.2 U	0.24 UJ

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B
Sample	CBS-CSB-T18-C1	CBS-CSB-T18-E1	CBS-CSB-T18-W1	CBS-CSB-T18-W1D
Sample date	11/9/2001	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:				
4,4'-DDD	0.0044 UJ	0.0046 UJ	0.0045 UJ	0.0044 UJ
4,4'-DDE	0.0044 UJ	0.0046 UJ	0.0045 UJ	0.0044 UJ
4,4'-DDT	0.0044 UJ	R	0.0045 UJ	0.0044 UJ
Aldrin	0.0023 UJ	0.0024 UJ	0.0023 UJ	0.0023 UJ
alpha-BHC	0.00068 UJ	0.00069 UJ	0.00068 UJ	0.00068 UJ
alpha-Chlordane	0.0023 UJ	0.0024 UJ	0.0023 UJ	0.0023 UJ
beta-BHC	0.00068 UJ	0.00069 UJ	0.00068 UJ	0.00068 UJ
delta-BHC	0.00068 UJ	0.00069 UJ	0.00068 UJ	0.00068 UJ
Dieldrin	0.0044 UJ	0.0046 UJ	0.0045 UJ	0.0044 UJ
Endosulfan I	0.0023 UJ	0.0024 UJ	0.0023 UJ	0.0023 UJ
Endosulfan II	0.0044 UJ	0.0046 UJ	0.0045 UJ	0.0044 UJ
Endosulfan sulfate	0.0044 UJ	0.0046 UJ	0.0045 UJ	0.0044 UJ
Endrin	0.0044 UJ	0.0046 UJ	0.0045 UJ	0.0044 UJ
Endrin aldehyde	0.0044 UJ	0.0046 UJ	0.0045 UJ	0.0044 UJ
Endrin ketone	0.0044 U	0.0046 UJ	0.0045 UJ	0.0044 UJ
gamma-BHC (Lindane)	0.0023 UJ	0.0024 UJ	0.0023 UJ	0.0023 UJ
gamma-Chlordane	0.0023 UJ	0.0024 UJ	0.0023 UJ	0.0023 UJ
Heptachlor	0.0023 UJ	0.0024 UJ	0.0023 UJ	0.0023 UJ
Heptachlor epoxide	0.0023 UJ	0.0024 UJ	0.0023 UJ	0.0023 UJ
Methoxychlor	0.023 UJ	0.024 UJ	0.023 UJ	0.023 UJ
Toxaphene	0.23 U	0.24 UJ	0.23 UJ	0.23 UJ

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	C	C	C	C	C	C	C
Sample	CBS-CSC-T1-1	CBS-CSC-T2-1	CBS-CSC-T3-1	CBS-CSC-T4-1	CBS-CSC-T4-1-FD	CBS-CSC-T5-1	CBS-CSC-T6-1
Sample date	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
4,4'-DDD	0.009 U	0.0094 U	0.01 U	0.0098 U	0.01 U	0.01 U	0.026 U
4,4'-DDE	0.009 U	0.0094 U	0.01 U	0.0098 U	0.01 U	0.01 U	0.026 U
4,4'-DDT	0.009 U	0.0094 U	0.01 U	0.0098 U	0.01 U	0.01 U	0.026 U
Aldrin	0.0046 U	0.0048 U	0.0052 U	0.0051 U	0.0052 U	0.0053 U	0.013 U
alpha-BHC	0.0014 U	0.0014 U	0.0015 U	0.0015 U	0.0015 U	0.0016 U	0.004 U
alpha-Chlordane	0.0046 U	0.0048 U	0.0052 U	0.0051 U	0.00092 J	0.0053 U	0.013 U
beta-BHC	0.0014 U	0.0014 U	0.0015 U	0.0015 U	0.0015 U	0.0016 U	0.004 U
delta-BHC	0.0014 U	0.00099 J	0.0015 U	0.00017 J	0.00059 J	0.0016 U	0.004 U
Dieldrin	0.0014 J	0.011 J	0.0012 J	0.0014 J	0.0049 J	0.00046 J	0.0078 J
Endosulfan I	0.0046 U	0.0048 U	0.0052 U	0.0051 U	0.0052 U	0.0053 U	0.013 U
Endosulfan II	0.009 U	0.0094 U	0.01 U	0.0098 U	0.01 U	0.01 U	0.026 U
Endosulfan sulfate	0.009 U	0.007 J	0.01 U	0.0098 U	0.01 U	0.01 U	0.002 J
Endrin	0.009 U	0.0094 U	0.01 U	0.0098 U	0.01 U	0.01 U	0.026 U
Endrin aldehyde	0.009 U	0.0094 U	0.01 U	0.0098 U	0.01 U	0.01 U	0.026 U
Endrin ketone	0.009 U	0.01 J	0.01 U	0.0098 U	0.01 U	0.01 U	0.026 U
gamma-BHC (Lindane)	0.0046 U	0.0048 U	0.0052 U	0.0051 U	0.0052 U	0.0053 U	0.013 U
gamma-Chlordane	0.0011 J	0.0048 U	0.0052 U	0.0051 U	0.0052 U	0.0053 U	0.013 U
Heptachlor	0.0046 U	0.0048 U	0.0052 U	0.0051 U	0.0052 U	0.0053 U	0.013 U
Heptachlor epoxide	0.0046 U	0.0048 U	0.0052 U	0.0051 U	0.0052 U	0.0053 U	0.013 U
Methoxychlor	0.046 U	0.0071 J	0.052 U	0.003 J	0.0027 J	0.053 U	0.13 U
Toxaphene	0.46 U	0.48 U	0.52 U	0.51 U	0.52 U	0.53 U	1.3 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	C	C	C
Sample	CBS-CSC-T7-1	CBS-CSC-T8-1	CBS-CSC-T9-1
Sample date	12/13/2001	12/13/2001	12/13/2001
Units	mg/kg	mg/kg	mg/kg
Analyte:			
4,4'-DDD	0.024 U	0.0098 U	0.022 U
4,4'-DDE	0.024 U	0.0098 U	0.022 U
4,4'-DDT	0.024 U	0.0098 U	0.022 U
Aldrin	0.012 U	0.0051 U	0.011 U
alpha-BHC	0.0037 U	0.0015 U	0.0034 U
alpha-Chlordane	0.012 U	0.0051 U	0.011 U
beta-BHC	0.0037 U	0.0015 U	0.0034 U
delta-BHC	0.0037 U	0.00037 J	0.0034 U
Dieldrin	0.0013 J	0.0055 J	0.022 U
Endosulfan I	0.012 U	0.0051 U	0.011 U
Endosulfan II	0.024 U	0.0098 U	0.022 U
Endosulfan sulfate	0.024 U	0.00072 J	0.022 U
Endrin	0.024 U	0.0098 U	0.022 U
Endrin aldehyde	0.024 U	0.0098 U	0.022 U
Endrin ketone	0.024 U	0.0098 U	0.022 U
gamma-BHC (Lindane)	0.012 U	0.0051 U	0.011 U
gamma-Chlordane	0.012 U	0.0051 U	0.011 U
Heptachlor	0.012 U	0.0051 U	0.011 U
Heptachlor epoxide	0.012 U	0.0051 U	0.011 U
Methoxychlor	0.12 U	0.0025 J	0.11 U
Toxaphene	1.2 U	0.51 U	1.1 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	D	D	D	D	D	D
Sample	CBS-CSD-T1-1	CBS-CSD-T2-1	CBS-CSD-T3-1	CBS-CSD-T4-1	CBS-CSD-T5-1	CBS-CSD-T6-1
Sample date	12/12/2001	12/12/2001	12/12/2001	12/12/2001	12/12/2001	12/12/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:						
4,4'-DDD	0.0014 J	0.025 U	0.0094 U	0.025 U	0.11 U	0.024 U
4,4'-DDE	0.025 U	0.025 U	0.0094 U	0.025 U	0.11 U	0.024 U
4,4'-DDT	0.025 U	0.025 U	0.0094 U	0.025 U	0.11 U	0.24
Aldrin	0.00075 J	0.013 U	0.0048 U	0.013 U	0.058 U	0.009 J
alpha-BHC	0.0037 U	0.0038 U	0.0014 U	0.0037 U	0.017 U	0.0036 U
alpha-Chlordane	0.013 U	0.013 U	0.0048 U	0.013 U	0.058 U	0.012 J
beta-BHC	0.0037 U	0.0038 U	0.0014 U	0.0037 U	0.017 U	0.0036 U
delta-BHC	0.00043 J	0.00053 J	0.0014 U	0.00056 J	0.017 U	0.0019 J
Dieldrin	0.0013 J	0.014 J	0.0021 J	0.0022 J	0.11 U	0.69
Endosulfan I	0.013 U	0.013 U	0.0048 U	0.013 U	0.058 U	0.012 U
Endosulfan II	0.025 U	0.025 U	0.0094 U	0.025 U	0.11 U	0.024 U
Endosulfan sulfate	0.025 U	0.025 U	0.0094 U	0.025 U	0.11 U	0.0095 J
Endrin	0.025 U	0.025 U	0.0094 U	0.025 U	0.11 U	0.024 U
Endrin aldehyde	0.025 U	0.025 U	0.0094 U	0.025 U	0.11 U	0.024 U
Endrin ketone	0.025 U	0.025 U	0.0094 U	0.025 U	0.11 U	0.024 U
gamma-BHC (Lindane)	0.013 U	0.013 U	0.0048 U	0.013 U	0.058 U	0.012 U
gamma-Chlordane	0.013 U	0.013 U	0.0048 U	0.013 U	0.004 J	0.067
Heptachlor	0.013 U	0.013 U	0.0048 U	0.013 U	0.058 U	0.012 U
Heptachlor epoxide	0.013 U	0.013 U	0.0048 U	0.013 U	0.058 U	0.012 U
Methoxychlor	0.13 U	0.13 U	0.048 U	0.004 J	0.0088 J	0.062 J
Toxaphene	1.3 U	1.3 U	0.48 U	1.3 U	5.8 U	1.2 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E	E	E
Sample	CBS-CSE-T1-1	CBS-CSE-T2-1	CBS-CSE-T3-1	CBS-CSE-T3-1-FD	CBS-CSE-T4-1	CBS-CSE-T5-1	CBS-CSE-T6-1
Sample date	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
4,4'-DDD	0.0049 U	0.0044 U	0.0048 U	0.0046 U	0.0046 U	0.0043 U	0.0047 U
4,4'-DDE	0.00063 J	0.00024 J	0.00053 J	0.00035 J	0.00024 J	0.0043 U	0.0047 U
4,4'-DDT	0.00068 J	0.00056 J	0.00077 J	0.0046 U	0.0046 U	0.0043 U	0.017 J
Aldrin	0.0025 U	0.0023 U	0.0025 U	0.0024 U	0.0024 U	0.0022 U	0.0024 U
alpha-BHC	0.00075 U	0.00068 U	0.00074 U	0.0007 U	0.00069 U	0.00065 U	0.00071 U
alpha-Chlordane	0.0025 U	0.0023 U	0.0025 U	0.0024 U	0.0024 U	0.0022 U	0.0024 U
beta-BHC	0.00075 U	0.00068 U	0.00074 U	0.0007 U	0.00069 U	0.00065 U	0.00071 U
delta-BHC	0.00075 U	0.00068 U	0.00074 U	0.0007 U	0.00069 U	0.00065 U	0.00071 U
Dieldrin	0.0013 J	0.0012 J	0.00087 J	0.00061 J	0.00046 J	0.00019 J	0.0064 J
Endosulfan I	0.0025 U	0.0023 U	0.0025 U	0.0024 U	0.0024 U	0.0022 U	0.0024 U
Endosulfan II	0.0049 U	0.00066 J	0.0048 U	0.0046 U	0.0046 U	0.0043 U	0.0047 U
Endosulfan sulfate	0.0049 U	0.0044 U	0.0048 U	0.0046 U	0.0046 U	0.0043 U	0.0047 U
Endrin	0.0049 U	0.0044 U	0.0048 U	0.0046 U	0.0046 U	0.0043 U	0.0047 U
Endrin aldehyde	0.0049 U	0.0044 U	0.0048 U	0.0046 U	0.0046 U	0.0043 U	0.0047 U
Endrin ketone	0.0049 U	0.0044 U	0.0048 U	0.0046 U	0.0046 U	0.0043 U	0.0047 U
gamma-BHC (Lindane)	0.0025 U	0.0023 U	0.0025 U	0.0024 U	0.0024 U	0.0022 U	0.0024 U
gamma-Chlordane	0.0025 U	0.0023 U	0.0025 U	0.0024 U	0.0024 U	0.0022 U	0.0024 U
Heptachlor	0.0025 U	0.0023 U	0.0025 U	0.0024 U	0.0024 U	0.0022 U	0.0024 U
Heptachlor epoxide	0.0025 U	0.0023 U	0.0025 U	0.0024 U	0.0024 U	0.0022 U	0.0024 U
Methoxychlor	0.025 U	0.023 U	0.025 U	0.024 U	0.00049 J	0.022 U	0.024 U
Toxaphene	0.25 U	0.23 U	0.25 U	0.24 U	0.24 U	0.22 U	0.24 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E	E	E
Sample	CBS-CSE-T7-1	CBS-CSE-T8-1	CBS-CSE-T9-1	CBS-CSE-T10-1	CBS-CSE-T11-1	CBS-CSE-T12-1	CBS-CSE-T13-2
Sample date	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	2/14/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
4,4'-DDD	0.00059 J	0.0052 U	0.0049 U	0.0046 U	0.0048 U	0.0051 U	0.02 UJ
4,4'-DDE	0.0048 U	0.0052 U	0.0049 U	0.0046 U	0.0048 U	0.0051 U	0.02 UJ
4,4'-DDT	0.0048 U	0.00073 J	0.0049 U	0.0046 U	0.0017 J	0.0051 U	0.02 UJ
Aldrin	0.0025 U	0.0027 U	0.0025 U	0.0024 UJ	0.0025 U	0.0026 U	0.01 UJ
alpha-BHC	0.00072 U	0.00079 U	0.00075 U	0.00069 U	0.00074 U	0.00077 U	0.003 UJ
alpha-Chlordane	0.0025 U	0.0027 U	0.0025 U	0.0024 UJ	0.0025 U	0.0026 U	0.01 UJ
beta-BHC	0.00072 U	0.00079 U	0.00075 U	0.00069 U	0.00074 U	0.00077 U	0.003 UJ
delta-BHC	0.00072 U	0.00079 U	0.00075 U	0.00069 U	0.00074 U	0.00077 U	0.003 UJ
Dieldrin	0.0048 U	0.0002 J	0.0049 U	0.0046 UJ	0.00031 J	0.0051 U	0.027 J
Endosulfan I	0.0025 U	0.00015 J	0.0025 U	0.00011 J	0.0025 U	0.00017 J	0.01 UJ
Endosulfan II	0.0048 U	0.0052 U	0.0049 U	0.0046 U	0.0048 U	0.0051 U	0.02 UJ
Endosulfan sulfate	0.0048 U	0.0052 U	0.0049 U	0.0046 U	0.0048 U	0.0051 U	0.02 UJ
Endrin	0.0048 U	0.0052 U	0.0049 U	0.0046 U	0.0048 U	0.0051 U	0.02 UJ
Endrin aldehyde	0.0048 U	0.0052 U	0.0049 U	0.0046 U	0.0048 U	0.0051 U	0.02 UJ
Endrin ketone	0.0048 U	0.0052 U	0.0049 U	0.0046 U	0.0048 U	0.0051 U	0.02 UJ
gamma-BHC (Lindane)	0.0025 U	0.0027 U	0.0025 U	0.0024 U	0.0025 U	0.0026 U	0.01 UJ
gamma-Chlordane	0.0025 U	0.0027 U	0.00024 J	0.0024 U	0.0025 U	0.0026 U	0.01 UJ
Heptachlor	0.0025 U	0.0027 U	0.0025 U	0.0024 U	0.0025 U	0.0026 U	0.01 UJ
Heptachlor epoxide	0.00018 J	0.0003 J	0.00059 J	0.00052 J	0.00058 J	0.0026 U	0.01 UJ
Methoxychlor	0.00078 J	0.027 U	0.00089 J	0.024 U	0.025 U	0.026 U	0.1 UJ
Toxaphene	0.25 U	0.27 U	0.25 U	0.24 U	0.25 U	0.26 U	1 UJ

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E
Sample	CBS-CSE-T14-1	CBS-CSE-T15-1	CBS-CSE-T15-1-FD	CBS-CSE-T16-1	CBS-CSE-T17-1
Sample date	12/18/2001	12/18/2001	12/18/2001	12/21/2001	12/21/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
4,4'-DDD	0.0048 U	0.0042 U	0.0042 U	0.034 UJ	0.047 J
4,4'-DDE	0.00085 J	0.0042 U	0.0042 U	0.034 UJ	0.0072 J
4,4'-DDT	0.0048 U	0.0042 U	0.0042 U	0.034 UJ	0.0091 J
Aldrin	0.0025 U	0.0022 U	0.0022 U	0.017 UJ	0.015 U
alpha-BHC	0.00074 U	0.00063 U	0.00064 U	0.0013 J	0.0044 U
alpha-Chlordane	0.0025 U	0.0022 U	0.0022 U	0.017 UJ	0.0087 J
beta-BHC	0.00074 U	0.00063 U	0.00064 U	0.0051 UJ	0.0044 U
delta-BHC	0.00074 U	0.00063 U	0.00064 U	0.0051 UJ	0.0044 U
Dieldrin	0.00067 J	0.0042 U	0.0006 J	0.034 J	0.0098 J
Endosulfan I	0.0025 U	0.0022 U	0.0022 U	0.017 UJ	0.015 U
Endosulfan II	0.0048 U	0.0042 U	0.0042 U	0.034 UJ	0.029 U
Endosulfan sulfate	0.0048 U	0.0042 U	0.0042 U	0.016 J	0.0015 J
Endrin	0.0048 U	0.0042 U	0.0042 U	0.034 UJ	0.029 U
Endrin aldehyde	0.0048 U	0.0042 U	0.0042 U	0.034 UJ	0.029 U
Endrin ketone	0.0048 U	0.0042 U	0.0042 U	0.034 UJ	0.029 U
gamma-BHC (Lindane)	0.0025 U	0.0022 U	0.0022 U	0.017 UJ	0.015 U
gamma-Chlordane	0.0025 U	0.0022 U	0.0022 U	0.017 UJ	0.0055 J
Heptachlor	0.0025 U	0.0022 U	0.0022 U	0.017 UJ	0.015 U
Heptachlor epoxide	0.0025 U	0.0022 U	0.0022 U	0.017 UJ	0.015 U
Methoxychlor	0.025 U	0.022 U	0.022 U	0.17 UJ	0.15 U
Toxaphene	0.25 U	0.22 U	0.22 U	1.7 UJ	1.5 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F	F	F
Sample	CBS-CSF-T1-1	CBS-CSF-T2-1	CBS-CSF-T3-1	CBS-CSF-T4-1	CBS-CSF-T5-1	CBS-CSF-T6-1	CBS-CSF-T6-1-FD
Sample date	12/21/2001	12/11/2001	12/11/2001	12/11/2001	1/8/2002	1/16/2002	1/16/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
4,4'-DDD	0.0055 U	0.0048 U	0.0051 U	0.0045 U	0.0046 U	0.025 U	0.0094 U
4,4'-DDE	0.00036 J	0.0048 U	0.0051 U	0.0045 U	0.0046 U	0.0012 J	0.0094 U
4,4'-DDT	0.0055 UJ	0.00029 J	0.0075 J	0.0045 U	0.0046 U	0.004 J	0.0094 UJ
Aldrin	0.0028 UJ	0.0025 U	0.00023 J	0.0023 U	0.0024 U	0.013 U	0.0048 U
alpha-BHC	0.00083 U	0.00074 U	0.00077 U	0.00068 U	0.00069 U	0.0037 U	0.0014 U
alpha-Chlordane	0.0028 U	0.0025 U	0.0041 J	0.0023 UJ	0.0024 U	0.013 U	0.0048 U
beta-BHC	0.00083 U	0.00074 U	0.0039 J	0.00068 UJ	0.00069 U	0.0037 U	0.0014 U
delta-BHC	0.00083 U	0.00074 U	0.00077 U	0.00068 U	0.00069 U	0.0037 U	0.0014 U
Dieldrin	0.00035 J	0.0048 U	0.0082 J	0.0045 U	0.0046 U	0.0026 J	0.001 J
Endosulfan I	0.0028 U	0.0025 U	0.0026 U	0.0023 U	0.0024 U	0.013 U	0.0048 U
Endosulfan II	0.0055 U	0.0048 U	0.0051 U	0.0045 U	0.0046 U	0.025 U	0.0094 U
Endosulfan sulfate	0.0055 U	0.0048 U	0.0043 J	0.0045 U	0.0046 U	0.025 U	0.0094 U
Endrin	0.0055 U	0.0048 U	0.0051 U	0.0045 U	0.0046 U	0.025 U	0.0094 U
Endrin aldehyde	0.0055 U	0.0048 U	0.0051 U	0.0045 U	0.0046 U	0.025 U	0.0094 U
Endrin ketone	0.0055 U	0.0048 U	0.0051 U	0.0045 U	0.0046 U	0.025 U	0.0094 U
gamma-BHC (Lindane)	0.0028 U	0.0025 U	0.0026 U	0.0023 UJ	0.0024 U	0.013 U	0.0048 U
gamma-Chlordane	0.0028 UJ	0.0025 U	0.0038 J	0.0023 U	0.0024 U	0.013 U	0.0048 U
Heptachlor	0.0028 U	0.0025 U	0.0026 U	0.0023 U	0.0024 U	0.013 U	0.0048 U
Heptachlor epoxide	0.0028 UJ	0.0025 U	0.0026 U	0.0023 U	0.0024 U	0.013 U	0.0048 U
Methoxychlor	0.028 U	0.025 U	0.026 U	0.023 UJ	0.024 U	0.13 UJ	0.048 UJ
Toxaphene	0.28 U	0.25 U	0.26 U	0.23 U	0.24 U	1.3 U	0.48 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F	F	F
Sample	CBS-CSF-T7-1	CBS-CSF-T8-1	CBS-CSF-T9-1	CBS-CSF-T9-1-FD	CBS-CSF-T10-1	CBS-CSF-T11-1	CBS-CSF-T12-1
Sample date	1/16/2002	1/23/2002	1/23/2002	1/23/2002	1/25/2002	1/25/2002	1/23/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
4,4'-DDD	0.0092 U	0.009 U	0.0098 U	0.017 UJ	0.0086 UJ	0.0092 UJ	0.018 U
4,4'-DDE	0.0016 J	0.009 U	0.0098 U	0.017 UJ	0.0086 UJ	0.0092 UJ	0.018 U
4,4'-DDT	0.0092 UJ	0.009 U	0.0098 U	0.017 UJ	0.0086 UJ	0.0092 UJ	0.018 U
Aldrin	0.0047 U	0.0046 U	0.0051 U	0.0089 UJ	0.0044 UJ	0.0047 UJ	0.0092 U
alpha-BHC	0.0014 U	0.0014 U	0.0015 U	0.0026 UJ	0.0013 UJ	0.0014 UJ	0.0027 U
alpha-Chlordane	0.0047 U	0.0046 U	0.0051 U	0.0089 UJ	0.0044 UJ	0.0047 UJ	0.0092 U
beta-BHC	0.0014 U	0.0014 U	0.0015 U	0.0026 UJ	0.0013 UJ	0.0014 UJ	0.0027 U
delta-BHC	0.0014 U	0.0014 U	0.0015 U	0.0026 UJ	0.0013 UJ	0.0014 UJ	0.0027 U
Dieldrin	0.003 J	0.009 U	0.0019 J	0.0021 J	0.0008 J	0.00072 J	0.0008 J
Endosulfan I	0.0047 U	0.0046 U	0.0051 U	0.0089 UJ	0.0044 UJ	0.0047 UJ	0.0092 U
Endosulfan II	0.0092 U	0.009 U	0.0098 U	0.017 UJ	0.0086 UJ	0.0092 UJ	0.018 U
Endosulfan sulfate	0.0092 U	0.009 U	0.0098 U	0.017 UJ	0.0086 UJ	0.0092 UJ	0.018 U
Endrin	0.0092 U	0.009 U	0.0098 U	0.017 UJ	0.0086 UJ	0.0092 UJ	0.018 U
Endrin aldehyde	0.0092 U	0.009 U	0.0098 U	0.017 UJ	0.0086 UJ	0.0092 UJ	0.018 U
Endrin ketone	0.0092 U	0.009 U	0.0098 U	0.017 UJ	0.0086 UJ	0.0092 UJ	0.018 U
gamma-BHC (Lindane)	0.0047 U	0.0046 U	0.0051 U	0.0089 UJ	0.0044 UJ	0.0047 UJ	0.0092 U
gamma-Chlordane	0.0047 U	0.00054 J	0.0051 U	0.00092 J	0.0044 UJ	0.00046 J	0.00082 J
Heptachlor	0.0047 U	0.0046 U	0.0051 U	0.0089 UJ	0.0044 UJ	0.0047 UJ	0.0092 U
Heptachlor epoxide	0.0047 U	0.0046 U	0.0051 U	0.0089 UJ	0.0044 UJ	0.0047 UJ	0.0092 U
Methoxychlor	0.047 UJ	0.046 U	0.051 U	0.089 UJ	0.044 UJ	0.047 UJ	0.092 U
Toxaphene	0.47 U	0.46 U	0.51 U	0.89 UJ	0.44 UJ	0.47 UJ	0.92 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F
Sample	CBS-CSF-T13-1	CBS-CSF-T14-1	CBS-CSF-T15-1	CBS-CSF-T15-1-FD	CBS-CSF-T16-1
Sample date	1/16/2002	1/8/2002	1/8/2002	1/8/2002	2/6/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
4,4'-DDD	0.0044 U	0.0044 U	0.0047 U	0.0043 U	0.0047 U
4,4'-DDE	0.0044 U	0.0044 U	R	0.0043 U	0.00086 J
4,4'-DDT	0.0044 UJ	0.0044 U	R	0.0043 U	0.0047 U
Aldrin	0.0023 U	0.0023 U	0.0024 U	0.0022 U	0.0024 U
alpha-BHC	0.00067 U	0.00068 U	0.00071 U	0.00066 U	0.00071 U
alpha-Chlordane	0.0023 U	0.0023 U	0.0024 U	0.0022 U	0.0028 J
beta-BHC	0.00067 U	0.00068 U	0.00071 U	0.00066 U	0.00071 U
delta-BHC	0.00067 U	0.00068 U	0.00071 U	0.00066 U	0.00071 U
Dieldrin	0.0044 U	0.0044 U	0.0047 UJ	0.0043 U	0.001 J
Endosulfan I	0.0023 U	0.0023 U	0.0024 UJ	0.0022 U	0.0024 U
Endosulfan II	0.0044 U	0.0044 U	0.0047 UJ	0.0043 U	0.0047 U
Endosulfan sulfate	0.0044 U	0.0044 U	0.0047 U	0.0043 U	0.0047 U
Endrin	0.0044 U	0.0044 U	0.0047 UJ	0.0043 U	0.0047 U
Endrin aldehyde	0.0044 U	0.0044 U	0.0047 U	0.0043 U	0.0047 U
Endrin ketone	0.0044 U	0.0044 U	0.0047 U	0.0043 U	0.0047 U
gamma-BHC (Lindane)	0.0023 U	0.0023 U	0.0024 U	0.0022 U	0.0024 U
gamma-Chlordane	0.0023 U	0.0023 U	0.0024 U	0.0022 U	0.0016 J
Heptachlor	0.0023 U	0.0023 U	R	0.0022 U	0.0024 U
Heptachlor epoxide	0.0023 U	0.0023 U	0.0024 U	0.0022 U	0.0024 U
Methoxychlor	0.023 UJ	0.023 U	0.024 UJ	0.022 U	0.024 U
Toxaphene	0.23 U	0.23 U	0.24 U	0.22 U	0.24 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek Bottom Soil Validated Data - Herbicides
Sauget Area 1

Creek segment	B	B	B	B	B	B	B
Sample	**CBS-CSB-T0-C1**	**CBS-CSB-T1-C1**	**CBS-CSB-T1-E1**	**CBS-CSB-T1-W1**	**CBS-CSB-T2-C1**	**CBS-CSB-T2-E1**	**CBS-CSB-T2-W1**
Sample date	**11/1/2001**	**10/31/2001**	**10/31/2001**	**10/31/2001**	**10/31/2001**	**10/31/2001**	**10/31/2001**
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Analyte:							
2,4,5-T	0.012 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U	0.011 U
2,4,5-TP (Silvex)	0.012 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U	0.011 U
2,4-D	0.012 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U	0.011 U
2,4-DB	0.012 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U	0.011 U
Dalapon	0.096 U	0.098 U	0.096 U	0.09 U	0.1 U	0.09 U	0.087 U
Dicamba	0.029 U	0.0019 J	0.029 U	0.028 U	0.032 U	0.028 U	0.0017 J
Dichlorprop	0.15 U	0.15 U	0.15 U	0.14 U	0.16 U	0.14 U	0.13 U
Dinoseb	0.15 U	0.15 U	0.15 U	0.14 U	0.16 U	0.14 U	0.13 U
MCPA	2.9 U	3 U	2.9 U	2.8 U	3.2 U	2.8 U	2.7 U
MCPP	2.9 U	3 U	2.9 U	2.8 U	3.2 U	2.8 U	2.7 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T3-C1	CBS-CSB-T3-E1	CBS-CSB-T3-W1	CBS-CSB-T4-C1	CBS-CSB-T4-E1	CBS-CSB-T4-W1	CBS-CSB-T5-C1
Sample date	10/31/2001	10/31/2001	10/31/2001	11/1/2001	11/1/2001	11/1/2001	11/1/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
2,4,5-T	0.29 U	4.2 U	0.027 J	0.027	0.012 U	0.61	0.012 U
2,4,5-TP (Silvex)	0.29 U	4.2 U	0.011 UJ	0.014 U	0.012 U	0.025 U	0.012 U
2,4-D	0.29 U	4.2 U	0.011 UJ	0.014 U	0.012 U	0.14 J	0.012 U
2,4-DB	0.29 U	4.2 U	0.011 UJ	0.014 U	0.012 U	0.025 U	0.012 U
Dalapon	2.2 U	33 U	0.089 UJ	0.11 U	0.09 U	0.19 U	0.096 U
Dicamba	0.69 U	10 U	0.027 UJ	0.0022 J	0.028 U	0.06 U	0.003 J
Dichlorprop	3.4 U	51 U	0.0066 J	0.16 U	0.14 U	0.3 U	0.15 U
Dinoseb	3.4 U	51 U	0.14 UJ	0.16 U	0.14 U	0.3 U	0.15 U
MCPA	69 U	1000 U	2.7 UJ	3.3 U	2.8 U	6 U	2.9 U
MCPP	69 U	1000 U	2.7 UJ	3.3 U	2.8 U	6 U	2.9 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T5-E1	CBS-CSB-T5-W1	CBS-CSB-T6-C1	CBS-CSB-T6-C1-D	CBS-CSB-T6-E1	CBS-CSB-T6-W1	CBS-CSB-T7-C1
Sample date	11/1/2001	11/1/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
2,4,5-T	0.0049 J	0.011 U	0.012 U	0.012 U	0.0034 J	0.011 U	0.0032 J
2,4,5-TP (Silvex)	0.011 U	0.011 U	0.012 U	0.012 U	0.0096 U	0.011 U	0.011 U
2,4-D	0.017 J	0.011 U	0.012 U	0.012 U	0.0096 U	0.011 U	0.011 U
2,4-DB	0.011 U	0.011 U	0.012 U	0.012 U	0.0096 U	0.011 U	0.011 U
Dalapon	0.086 U	0.089 U	0.09 U	0.09 U	0.076 U	0.086 U	0.088 U
Dicamba	0.026 U	0.027 U	0.028 U	0.028 U	0.023 U	0.026 U	0.027 U
Dichlorprop	0.13 U	0.14 U	0.14 U	0.14 U	0.12 U	0.13 U	0.14 U
Dinoseb	0.13 U	0.14 U	0.14 U	0.14 U	0.12 U	0.13 U	0.14 U
MCPA	2.6 U	2.7 U	2.8 U	2.8 U	2.3 U	2.6 U	2.7 U
MCPP	2.6 U	2.7 U	2.8 U	2.8 U	6.1 J	2.6 U	2.7 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T7-E1	CBS-CSB-T7-W1	CBS-CSB-T8-C1	CBS-CSB-T8-E1	CBS-CSB-T8-W1	CBS-CSB-T9-C1	CBS-CSB-T9-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
2,4,5-T	0.011 U	0.011 U	0.012 U	0.012 U	0.011 U	0.0032 J	0.011 U
2,4,5-TP (Silvex)	0.011 U	0.011 U	0.012 U	0.012 U	0.011 U	0.011 U	0.011 U
2,4-D	0.011 U	0.011 U	0.012 U	0.012 U	0.011 U	0.011 U	0.011 U
2,4-DB	0.011 U	0.011 U	0.012 U	0.012 U	0.011 U	0.011 U	0.011 U
Dalapon	0.087 U	0.083 U	0.09 U	0.093 U	0.088 U	0.088 U	0.086 U
Dicamba	0.027 U	0.0047 J	0.028 U	0.028 U	0.027 U	0.027 U	0.0017 J
Dichlorprop	0.13 U	0.13 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U
Dinoseb	0.13 U	0.13 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U
MCPA	2.7 U	2.6 U	2.8 U	2.8 U	2.7 U	2.7 U	2.6 U
MCPP	2.7 U	4.6 J	2.8 U	2.8 U	2.7 U	2.7 U	2.6 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T9-W1	CBS-CSB-T10-C1	CBS-CSB-T10-E1	CBS-CSB-T10-W1	CBS-CSB-T11-C1	CBS-CSB-T11-C1-D	CBS-CSB-T11-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
2,4,5-T	0.011 U	0.012 U	0.011 U	0.011 U	0.003 J	0.01 J	0.01 U
2,4,5-TP (Silvex)	0.011 U	0.012 U	0.011 U	0.011 U	0.012 U	0.011 U	0.002 J
2,4-D	0.011 U	0.012 U	0.011 U	0.011 U	0.012 U	0.011 U	0.01 U
2,4-DB	0.011 U	0.012 U	0.011 U	0.011 U	0.064	0.05 J	0.01 U
Dalapon	0.084 U	0.093 U	0.088 U	0.088 U	0.092 U	0.089 U	0.079 U
Dicamba	0.0053 J	0.028 U	0.027 U	0.0021 J	0.0031 J	0.027 U	0.0016 J
Dichlorprop	0.13 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.12 U
Dinoseb	0.13 U	0.14 U	0.14 U	0.14 U	0.7 U	0.68 U	0.12 U
MCPA	2.6 U	2.8 U	2.7 U	2.7 U	2.8 U	2.7 U	2.4 U
MCPP	2.4 J	2.8 U	2.7 U	2.7 U	2.8 U	2.7 U	2.4 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T11-W1	CBS-CSB-T12-C1	CBS-CSB-T12-E1	CBS-CSB-T12-W1	CBS-CSB-T13-C1	CBS-CSB-T13-E1	CBS-CSB-T13-W1
Sample date	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
2,4,5-T	0.01 U	0.012 J	0.0098 U	0.011 U	0.0039 J	0.0098 U	0.011 U
2,4,5-TP (Silvex)	0.01 U	0.012 U	0.0014 J	0.011 U	0.012 U	0.0098 U	0.011 U
2,4-D	0.01 U	0.012 U	0.0098 U	0.011 U	0.012 U	0.0098 U	0.011 U
2,4-DB	0.01 U	0.036 J	0.0098 U	0.011 U	0.012 U	0.0098 U	0.011 U
Dalapon	0.082 U	0.097 U	0.076 U	0.086 U	0.09 U	0.041 J	0.088 U
Dicamba	0.0028 J	0.03 U	0.024 U	0.026 U	0.028 U	0.024 U	0.027 U
Dichlorprop	0.13 U	0.15 U	0.12 U	0.13 U	0.14 U	0.12 U	0.14 U
Dinoseb	0.13 U	0.75 U	0.12 U	0.13 U	0.69 U	0.12 U	0.14 U
MCPA	2.5 U	3 U	2.4 U	2.6 U	2.8 U	2.4 U	2.7 U
MCPP	2.5 U	3 U	2.4 U	2.6 U	2.8 U	2.4 U	2.7 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T14-1	CBS-CSB-T15-1	CBS-CSB-T16-1	CBS-CSB-T17-C1	CBS-CSB-T17-E1	CBS-CSB-T17-E1D	CBS-CSB-T17-WI
Sample date	12/20/2001	12/20/2001	12/20/2001	11/9/2001	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
2,4,5-T	0.013 U	0.011 U	0.012 U	0.013 U	0.012 U	0.0076 J	0.002 J
2,4,5-TP (Silvex)	0.013 U	0.011 U	0.012 U	0.013 U	0.0019 J	0.012 U	0.012 U
2,4-D	0.013 U	0.011 U	0.017 J	0.013 U	0.012 U	0.012 U	0.012 U
2,4-DB	0.013 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.012 U
Dalapon	0.1 U	0.086 U	0.094 U	0.1 U	0.094 U	0.09 U	0.092 U
Dicamba	0.031 U	0.026 U	0.029 U	0.032 U	0.029 U	0.028 U	0.028 U
Dichlorprop	0.15 U	0.13 U	0.14 U	0.16 U	0.14 U	0.14 U	0.14 U
Dinoseb	0.15 U	0.13 U	0.14 U	0.16 UJ	0.14 UJ	0.14 UJ	0.14 UJ
MCPA	3.1 U	2.6 U	2.9 U	3.2 U	2.9 U	2.8 U	2.8 U
MCPP	3.1 U	2.6 U	2.9 U	3.2 U	2.9 U	2.8 U	2.8 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B
Sample	CBS-CSB-T18-C1	CBS-CSB-T18-E1	CBS-CSB-T18-W1	CBS-CSB-T18-W1D
Sample date	11/9/2001	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:				
2,4,5-T	0.011 U	0.012 U	0.011 U	0.011 U
2,4,5-TP (Silvex)	0.011 U	0.012 U	0.011 U	0.011 U
2,4-D	0.011 U	0.012 U	0.011 U	0.011 U
2,4-DB	0.011 U	0.012 U	0.011 U	0.011 U
Dalapon	0.088 U	0.09 U	0.089 U	0.088 U
Dicamba	0.004 J	0.028 U	0.027 U	0.027 U
Dichlorprop	0.14 U	0.14 U	0.14 U	0.14 U
Dinoseb	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ
MCPA	2.7 U	2.8 U	2.7 U	2.7 U
MCPP	2.7 U	2.8 U	2.7 U	2.7 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	C	C	C	C	C	C	C
Sample	CBS-CSC-T1-1	CBS-CSC-T2-1	CBS-CSC-T3-1	CBS-CSC-T4-1	CBS-CSC-T4-1-FD	CBS-CSC-T5-1	CBS-CSC-T6-1
Sample date	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
2,4,5-T	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.013 U
2,4,5-TP (Silvex)	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.013 U
2,4-D	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.013 U
2,4-DB	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.013 U
Dalapon	0.089 U	0.093 U	0.1 U	0.097 U	0.098 U	0.1 U	0.1 U
Dicamba	0.027 U	0.028 U	0.031 U	0.03 U	0.03 U	0.031 U	0.032 U
Dichlorprop	0.0062 J	0.14 U	0.15 U	0.15 U	0.15 U	0.16 U	0.16 U
Dinoseb	0.14 U	0.14 U	0.15 U	0.15 U	0.15 U	0.16 U	0.16 U
MCPA	2.7 U	2.8 U	3.1 U	3 U	3 U	3.1 U	3.2 U
MCPP	2.7 U	2.8 U	3.1 U	3 U	3 U	3.1 U	3.2 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	**C**	**C**	**C**
Sample	**CBS-CSC-T7-1**	**CBS-CSC-T8-1**	**CBS-CSC-T9-1**
Sample date	**12/13/2001**	**12/13/2001**	**12/13/2001**
Units	**mg/kg**	**mg/kg**	**mg/kg**
Analyte:			
2,4,5-T	0.012 U	0.012 U	0.011 U
2,4,5-TP (Silvex)	0.012 U	0.012 U	0.011 U
2,4-D	0.012 U	0.012 U	0.011 U
2,4-DB	0.012 U	0.012 U	0.011 U
Dalapon	0.096 U	0.097 U	0.088 U
Dicamba	0.029 U	0.0066 J	0.027 U
Dichlorprop	0.15 U	0.15 U	0.14 U
Dinoseb	0.15 U	0.15 U	0.14 U
MCPA	2.9 U	3 U	2.7 U
MCPP	2.9 U	3 U	2.7 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	**D**	**D**	**D**	**D**	**D**	**D**
Sample	**CBS-CSD-T1-1**	**CBS-CSD-T2-1**	**CBS-CSD-T3-1**	**CBS-CSD-T4-1**	**CBS-CSD-T5-1**	**CBS-CSD-T6-1**
Sample date	**12/12/2001**	**12/12/2001**	**12/12/2001**	**12/12/2001**	**12/12/2001**	**12/12/2001**
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Analyte:						
2,4,5-T	0.0054 J	0.012 U	0.012 U	0.012 U	0.011 U	0.012 UJ
2,4,5-TP (Silvex)	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 UJ
2,4-D	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 UJ
2,4-DB	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 UJ
Dalapon	0.097 U	0.05 J	0.093 U	0.097 U	0.089 U	0.094 UJ
Dicamba	0.03 U	0.03 U	0.0018 J	0.03 U	0.027 U	0.029 UJ
Dichlorprop	0.15 U	0.021 J	0.14 U	0.15 U	0.14 U	0.14 UJ
Dinoseb	0.15 U	0.15 U	0.14 U	0.15 U	0.14 U	0.14 UJ
MCPA	3 U	3 U	2.8 U	3 U	2.7 U	2.9 UJ
MCPP	3 U	3 U	2.8 U	3 U	2.7 U	2.9 UJ

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E	E	E
Sample	CBS-CSE-T1-1	CBS-CSE-T2-1	CBS-CSE-T3-1	CBS-CSE-T3-1-FD	CBS-CSE-T4-1	CBS-CSE-T5-1	CBS-CSE-T6-1
Sample date	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
2,4,5-T	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U
2,4,5-TP (Silvex)	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U
2,4-D	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U	0.035	0.012 U
2,4-DB	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U
Dalapon	0.097 U	0.088 U	0.096 U	0.092 U	0.09 U	0.084 U	0.093 U
Dicamba	0.03 U	0.027 U	0.029 U	0.028 U	0.028 U	0.026 U	0.028 U
Dichlorprop	0.15 U	0.14 U	0.15 U	0.14 U	0.14 U	0.13 U	0.14 U
Dinoseb	0.15 U	0.14 U	0.15 U	0.14 U	0.14 U	0.13 U	0.14 U
MCPA	3 U	2.7 U	2.9 U	2.8 U	2.8 U	2.6 U	2.8 U
MCPP	3 U	2.7 U	2.9 U	2.8 U	2.8 U	2.6 U	2.8 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E	E	E
Sample	CBS-CSE-T7-1	CBS-CSE-T8-1	CBS-CSE-T9-1	CBS-CSE-T10-1	CBS-CSE-T11-1	CBS-CSE-T12-1	CBS-CSE-T13-2
Sample date	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	2/14/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
2,4,5-T	0.012 U	0.013 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
2,4,5-TP (Silvex)	0.012 U	0.013 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
2,4-D	0.012 U	0.013 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
2,4-DB	0.012 U	0.013 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dalapon	0.094 U	0.1 U	0.097 U	0.09 UJ	0.096 U	0.1 U	0.097 U
Dicamba	0.029 U	0.032 U	0.03 U	0.0025 J	0.029 U	0.031 U	0.03 U
Dichlorprop	0.14 U	0.16 U	0.15 U	0.14 U	0.15 U	0.15 U	0.15 U
Dinoseb	0.14 U	0.16 U	0.15 U	0.14 U	0.15 U	0.15 U	0.15 U
MCPA	2.9 U	3.2 U	3 U	2.8 U	2.9 U	3.1 U	3 UJ
MCPP	2.9 U	3.2 U	3 U	2.8 U	2.9 U	3.1 U	3 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E
Sample	CBS-CSE-T14-1	CBS-CSE-T15-1	CBS-CSE-T15-1-FD	CBS-CSE-T16-1	CBS-CSE-T17-1
Sample date	12/18/2001	12/18/2001	12/18/2001	12/21/2001	12/21/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
2,4,5-T	0.012 U	0.01 U	0.011 U	0.017 UJ	0.014 U
2,4,5-TP (Silvex)	0.012 U	0.01 U	0.011 U	0.017 UJ	0.014 U
2,4-D	0.012 U	0.01 U	0.011 U	0.016 J	0.014 U
2,4-DB	0.012 U	0.01 U	0.011 U	0.017 UJ	0.014 U
Dalapon	0.096 U	0.082 U	0.083 U	0.13 UJ	0.11 U
Dicamba	0.029 U	0.025 U	0.026 U	0.041 UJ	0.035 U
Dichlorprop	0.15 U	0.13 U	0.13 U	0.2 UJ	0.18 U
Dinoseb	0.15 U	0.13 U	0.13 U	0.2 UJ	0.18 U
MCPA	2.9 U	2.5 U	2.6 U	4.1 UJ	3.5 U
MCPP	2.9 U	2.5 U	2.6 U	4.1 UJ	3.5 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F	F	F
Sample	**CBS-CSF-T1-1**	**CBS-CSF-T2-1**	**CBS-CSF-T3-1**	**CBS-CSF-T4-1**	**CBS-CSF-T5-1**	**CBS-CSF-T6-1**	**CBS-CSF-T6-1-FD**
Sample date	**12/21/2001**	**12/11/2001**	**12/11/2001**	**12/11/2001**	**1/8/2002**	**1/16/2002**	**1/16/2002**
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Analyte:							
2,4,5-T	0.014 U	0.012 U	0.013 U	0.011 U	0.012 U	0.012 UJ	0.012 U
2,4,5-TP (Silvex)	0.014 U	0.012 U	0.013 U	0.011 U	0.012 U	0.012 UJ	0.012 U
2,4-D	0.014 U	0.012 U	0.013 U	0.011 U	0.012 U	0.012 UJ	0.012 U
2,4-DB	0.014 U	0.012 U	0.013 U	0.011 U	0.012 U	0.012 UJ	0.012 U
Dalapon	0.11 U	0.096 U	0.1 U	0.089 U	0.09 U	0.097 UJ	0.093 U
Dicamba	0.033 U	0.029 U	0.031 U	0.027 U	0.0059 J	0.03 UJ	0.028 U
Dichlorprop	0.17 U	0.15 U	0.15 U	0.14 U	0.14 U	0.15 UJ	0.14 U
Dinoseb	0.17 U	0.15 U	0.15 U	0.14 U	0.14 U	0.15 UJ	0.14 U
MCPA	3.3 U	2.9 U	3.1 U	2.7 U	2.8 U	3 UJ	2.8 U
MCPP	3.3 U	2.9 U	3.1 U	2.7 U	2.8 U	3 UJ	2.8 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F	F	F
Sample	CBS-CSF-T7-1	CBS-CSF-T8-1	CBS-CSF-T9-1	CBS-CSF-T9-1-FD	CBS-CSF-T10-1	CBS-CSF-T11-1	CBS-CSF-T12-1
Sample date	1/16/2002	1/23/2002	1/23/2002	1/23/2002	1/25/2002	1/25/2002	1/23/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
2,4,5-T	0.012 U	0.011 U	0.012 U	0.011 U	0.011 U	0.012 U	0.011 U
2,4,5-TP (Silvex)	0.012 U	0.011 U	0.012 U	0.011 U	0.011 U	0.012 U	0.011 U
2,4-D	0.012 U	0.011 U	0.0084 J	0.011 U	0.011 U	0.0023 J	0.011 U
2,4-DB	0.012 U	0.011 U	0.012 U	0.011 U	0.011 U	0.012 UJ	0.011 U
Dalapon	0.09 U	0.089 U	0.097 U	0.086 U	0.084 U	0.09 U	0.088 U
Dicamba	0.028 U	0.027 U	0.03 U	0.026 U	0.026 U	0.0021 J	0.027 U
Dichlorprop	0.14 U	0.14 U	0.15 U	0.13 U	0.13 U	0.14 U	0.14 U
Dinoseb	0.14 U	0.14 U	0.15 U	0.13 U	0.13 U	0.14 U	0.14 U
MCPA	2.8 U	2.7 U	3 U	2.6 U	2.6 U	2.8 U	2.7 U
MCPP	2.8 U	2.7 U	3 U	2.6 U	2.6 U	2.3 J	2.7 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F
Sample	CBS-CSF-T13-1	CBS-CSF-T14-1	CBS-CSF-T15-1	CBS-CSF-T15-1-FD	CBS-CSF-T16-1
Sample date	1/16/2002	1/8/2002	1/8/2002	1/8/2002	2/6/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
2,4,5-T	0.011 U	0.011 U	0.012 UJ	0.011 U	0.012 U
2,4,5-TP (Silvex)	0.011 U	0.011 U	0.012 UJ	0.011 U	0.012 U
2,4-D	0.011 U	0.011 U	0.047 J	0.011 U	0.012 U
2,4-DB	0.011 U	0.011 U	0.012 UJ	0.011 U	0.012 U
Dalapon	0.087 U	0.088 U	0.093 UJ	0.086 U	0.093 U
Dicamba	0.027 U	0.0021 J	0.01 J	0.0025 J	0.028 U
Dichlorprop	0.13 U	0.14 U	0.14 UJ	0.13 U	0.14 U
Dinoseb	0.13 U	0.14 U	0.14 UJ	0.13 U	0.14 U
MCPA	2.7 U	2.7 U	2.8 UJ	2.6 U	2.8 U
MCPP	2.7 U	2.7 U	2.8 UJ	2.6 U	2.8 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T0-C1	CBS-CSB-T1-C1	CBS-CSB-T1-E1	CBS-CSB-T1-W1	CBS-CSB-T2-C1	CBS-CSB-T2-E1	CBS-CSB-T2-W1
Sample date	11/1/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Decachlorobiphenyl	1.3	0.025 U	0.015 J	0.023 J	0.026 UJ	0.017 J	0.023 UJ
Dichlorobiphenyl	0.3	0.0035 J	0.0032 J	0.0088	0.0052 UJ	0.0046 UJ	0.0044 UJ
Heptachlorobiphenyl	4	0.015 U	0.16	0.13	0.016 UJ	0.019 J	0.013 UJ
Hexachlorobiphenyl	4.8	0.0071 J	0.26	0.18	0.011 UJ	0.04 J	0.0089 UJ
Monochlorobiphenyl	0.024 U	0.005 U	0.0048 U	0.0046 U	0.0052 UJ	0.0046 UJ	0.0044 UJ
Nonachlorobiphenyl	0.074 U	0.025 U	0.024 U	0.024 U	0.026 UJ	0.024 UJ	0.023 UJ
Octachlorobiphenyl	1.1	0.015 U	0.042	0.036	0.016 UJ	0.0047 J	0.013 UJ
Pentachlorobiphenyl	12	0.024	0.6	0.34	0.011 UJ	0.15 J	0.0089 UJ
Tetrachlorobiphenyl	5.5	0.0088 J	0.5 J	0.42	0.011 UJ	0.018 J	0.0089 UJ
Trichlorobiphenyl	0.73	0.0018 J	0.073 J	0.082	0.0021 J	0.0046 UJ	0.0044 UJ

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T3-C1	CBS-CSB-T3-E1	CBS-CSB-T3-W1	CBS-CSB-T4-C1	CBS-CSB-T4-E1	CBS-CSB-T4-W1	CBS-CSB-T5-C1
Sample date	10/31/2001	10/31/2001	10/31/2001	11/1/2001	11/1/2001	11/1/2001	11/1/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Decachlorobiphenyl	1.4 U	1 U	0.023 UJ	R	0.01 J	0.025 UJ	0.0053 J
Dichlorobiphenyl	0.27	0.2 U	0.025 J	0.0022 J	0.0046 UJ	0.0049 UJ	0.0048 U
Heptachlorobiphenyl	0.86 U	0.63 U	0.014 UJ	R	0.016 J	0.015 UJ	0.015 U
Hexachlorobiphenyl	0.14	0.83	0.0034 J	R	0.054 J	0.01 UJ	0.011
Monochlorobiphenyl	0.28 U	0.2 U	0.0045 UJ	R	0.0046 UJ	0.0049 UJ	0.0048 U
Nonachlorobiphenyl	1.4 U	1 U	0.023 UJ	R	0.023 UJ	0.025 UJ	0.024 U
Octachlorobiphenyl	0.86 U	0.63 U	0.014 UJ	R	0.031 J	0.015 UJ	0.015 U
Pentachlorobiphenyl	0.77	18	0.031 J	0.015 J	0.15 J	0.0013 J	0.042
Tetrachlorobiphenyl	3.2	51	0.053 J	0.025 J	0.056 J	0.0016 J	0.027
Trichlorobiphenyl	2	15	0.12 J	0.0045 J	0.002 J	0.0032 J	0.024

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T5-E1	CBS-CSB-T5-W1	CBS-CSB-T6-C1	CBS-CSB-T6-C1-D	CBS-CSB-T6-E1	CBS-CSB-T6-W1	CBS-CSB-T7-C1
Sample date	11/1/2001	11/1/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Decachlorobiphenyl	0.025 J	0.023 U	0.0043 J	0.023 UJ	0.018 J	0.022 UJ	0.022 UJ
Dichlorobiphenyl	0.029 J	0.0045 U	0.0046 U	0.0046 UJ	0.0028 J	0.0043 UJ	0.0044 UJ
Heptachlorobiphenyl	0.04 J	0.014 U	0.014 U	0.014 UJ	0.014 J	0.013 UJ	0.014 UJ
Hexachlorobiphenyl	0.15 J	0.0092 U	0.0093 U	0.0014 J	0.038 J	0.0088 UJ	0.0021 J
Monochlorobiphenyl	0.0087 UJ	0.0045 U	0.0046 U	0.0046 UJ	0.0038 UJ	0.0043 UJ	0.0044 UJ
Nonachlorobiphenyl	0.044 UJ	0.023 U	0.023 U	0.023 UJ	0.019 UJ	0.022 UJ	0.022 UJ
Octachlorobiphenyl	0.013 J	0.014 U	0.014 U	0.014 UJ	0.0045 J	0.013 UJ	0.014 UJ
Pentachlorobiphenyl	0.84 J	0.0092 U	0.0064 J	0.0071 J	0.24 J	0.0088 UJ	0.02 J
Tetrachlorobiphenyl	1 J	0.0092 U	0.013	0.0096 J	0.37 J	0.0088 UJ	0.028 J
Trichlorobiphenyl	0.48 J	0.0045 U	0.0053	0.0028 J	0.074 J	0.0018 J	0.0054 J

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T7-E1	CBS-CSB-T7-W1	CBS-CSB-T8-C1	CBS-CSB-T8-E1	CBS-CSB-T8-W1	CBS-CSB-T9-C1	CBS-CSB-T9-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Decachlorobiphenyl	0.022 UJ	0.021 UJ	0.009 J	0.024 UJ	0.022 UJ	0.022 UJ	0.0028 J
Dichlorobiphenyl	0.0044 UJ	0.0042 UJ	0.0036 J	0.0047 UJ	0.0044 UJ	0.0044 UJ	0.0043 UJ
Heptachlorobiphenyl	0.013 UJ	0.0029 J	0.0048 J	0.014 UJ	0.014 UJ	0.014 UJ	0.013 UJ
Hexachlorobiphenyl	0.0015 J	0.0092 J	0.019 J	0.0096 UJ	0.0023 J	0.009 UJ	0.0021 J
Monochlorobiphenyl	0.0044 UJ	0.0042 UJ	0.0046 UJ	0.0047 UJ	0.0044 UJ	0.0044 UJ	0.0043 UJ
Nonachlorobiphenyl	0.022 UJ	0.021 UJ	0.023 UJ	0.024 UJ	0.022 UJ	0.022 UJ	0.022 UJ
Octachlorobiphenyl	0.013 UJ	0.013 UJ	0.014 UJ	0.014 UJ	0.014 UJ	0.014 UJ	0.013 UJ
Pentachlorobiphenyl	0.0051 J	0.074 J	0.11 J	0.0096 UJ	0.017 J	0.009 UJ	0.0088 J
Tetrachlorobiphenyl	0.0089 UJ	0.061 J	0.15 J	0.0096 UJ	0.029 J	0.009 UJ	0.0088 UJ
Trichlorobiphenyl	0.0044 UJ	0.0081 J	0.022 J	0.0047 UJ	0.0045 J	0.0044 UJ	0.0043 UJ

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T9-W1	CBS-CSB-T10-C1	CBS-CSB-T10-E1	CBS-CSB-T10-W1	CBS-CSB-T11-C1	CBS-CSB-T11-C1-D	CBS-CSB-T11-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Decachlorobiphenyl	0.0027 J	0.024 U	0.0041 J	0.022 U	0.041 J	0.055 J	0.008 J
Dichlorobiphenyl	0.0043 U	0.0047 U	0.0044 UJ	0.0044 U	0.0038 J	0.0055 J	0.004 UJ
Heptachlorobiphenyl	0.0022 J	0.014 U	0.014 UJ	0.014 U	0.02 J	0.046 J	0.012 UJ
Hexachlorobiphenyl	0.0084 J	0.0024 J	0.0085 J	0.0063 J	0.041 J	0.051 J	0.0097 J
Monochlorobiphenyl	0.0043 U	0.0047 U	0.0044 UJ	0.0044 U	0.0046 UJ	0.0045 UJ	0.004 UJ
Nonachlorobiphenyl	0.022 U	0.024 U	0.022 UJ	0.022 U	0.015 J	0.02 J	0.0051 J
Octachlorobiphenyl	0.013 U	0.014 U	0.014 UJ	0.014 U	0.0068 J	0.015 J	0.012 UJ
Pentachlorobiphenyl	0.043	0.014	0.041 J	0.025	0.19 J	0.23 J	0.034 J
Tetrachlorobiphenyl	0.064	0.0096 U	0.018 J	0.026	0.17 J	0.49 J	0.02 J
Trichlorobiphenyl	0.0069	0.0047 U	0.0014 J	0.0035 J	0.032 J	0.14 J	0.0043 J

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T11-W1	CBS-CSB-T12-C1	CBS-CSB-T12-E1	CBS-CSB-T12-W1	CBS-CSB-T13-C1	CBS-CSB-T13-E1	CBS-CSB-T13-W1
Sample date	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Decachlorobiphenyl	0.0088 J	0.025 UJ	0.01 J	0.0056 J	0.023 UJ	0.02 UJ	0.022 UJ
Dichlorobiphenyl	0.0042 UJ	0.0075 J	0.0039 UJ	0.0043 UJ	0.0046 UJ	0.0039 UJ	0.0044 UJ
Heptachlorobiphenyl	0.015 J	0.015 UJ	0.012 UJ	0.013 UJ	0.014 UJ	0.012 UJ	0.014 UJ
Hexachlorobiphenyl	0.012 J	0.01 UJ	0.015 J	0.015 J	0.0093 UJ	0.0046 J	0.004 J
Monochlorobiphenyl	0.0042 UJ	0.0049 UJ	0.0039 UJ	0.0043 UJ	0.0046 UJ	0.0039 UJ	0.0044 UJ
Nonachlorobiphenyl	0.021 UJ	0.025 UJ	0.0063 J	0.022 UJ	0.023 UJ	0.02 UJ	0.022 UJ
Octachlorobiphenyl	0.0034 J	0.015 UJ	0.0011 J	0.013 UJ	0.014 UJ	0.012 UJ	0.014 UJ
Pentachlorobiphenyl	0.11 J	0.0014 J	0.044 J	0.035 J	0.0093 UJ	0.014 J	0.013 J
Tetrachlorobiphenyl	0.13 J	0.01 UJ	0.046 J	0.087 J	0.0093 UJ	0.0093 J	0.019 J
Trichlorobiphenyl	0.02 J	0.023 J	0.007 J	0.017 J	0.0046 UJ	0.0016 J	0.0028 J

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T14-1	CBS-CSB-T15-1	CBS-CSB-T16-1	CBS-CSB-T17-C1	CBS-CSB-T17-E1	CBS-CSB-T17-E1D	CBS-CSB-T17-WI
Sample date	12/20/2001	12/20/2001	12/20/2001	11/9/2001	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Decachlorobiphenyl	0.026 U	0.0083 J	0.0074 J	0.027 U	0.016 J	0.051 J	0.024 U
Dichlorobiphenyl	0.0051 U	0.0043 U	0.0048 U	0.0053 U	0.0048 UJ	0.014 J	0.0046 U
Heptachlorobiphenyl	0.015 U	0.0026 J	0.0038 J	0.016 U	0.019 J	0.081 J	0.014 U
Hexachlorobiphenyl	0.01 U	0.0044 J	0.012	0.011 U	0.045 J	0.11 J	0.0094 U
Monochlorobiphenyl	0.0051 U	0.0043 U	0.0048 U	0.0053 U	0.0048 UJ	0.0022 J	0.0046 U
Nonachlorobiphenyl	0.026 U	0.0028 J	0.024 U	0.027 U	0.024 UJ	0.023 U	0.024 U
Octachlorobiphenyl	0.015 U	0.013 U	0.014 U	0.016 U	0.0051 J	0.023 J	0.014 U
Pentachlorobiphenyl	0.01 U	0.042	0.078	0.011 U	0.17 J	0.68 J	0.0094 U
Tetrachlorobiphenyl	0.01 U	0.036	0.016	0.011 U	0.085 J	0.21 J	0.0094 U
Trichlorobiphenyl	0.0051 U	0.0043 U	0.0028 J	0.0053 U	0.018 J	0.049 J	0.0046 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	**B**	**B**	**B**	**B**
Sample	**CBS-CSB-T18-C1**	**CBS-CSB-T18-E1**	**CBS-CSB-T18-W1**	**CBS-CSB-T18-W1D**
Sample date	**11/9/2001**	**11/9/2001**	**11/9/2001**	**11/9/2001**
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Analyte:				
Decachlorobiphenyl	0.022 UJ	0.023 U	0.023 U	0.022 UJ
Dichlorobiphenyl	0.0044 UJ	0.0046 U	0.0045 U	0.0044 UJ
Heptachlorobiphenyl	0.014 UJ	0.014 UJ	0.014 U	0.014 UJ
Hexachlorobiphenyl	0.009 UJ	0.0093 UJ	0.0092 U	0.009 UJ
Monochlorobiphenyl	0.0044 UJ	0.0046 U	0.0045 U	0.0044 UJ
Nonachlorobiphenyl	0.022 UJ	0.023 U	0.023 U	0.022 UJ
Octachlorobiphenyl	0.014 UJ	0.014 UJ	0.014 U	0.014 UJ
Pentachlorobiphenyl	0.009 UJ	0.0093 U	0.0092 U	0.009 UJ
Tetrachlorobiphenyl	0.009 UJ	0.0093 U	0.0092 U	0.009 UJ
Trichlorobiphenyl	0.0044 UJ	0.0046 U	0.0045 U	0.0044 UJ

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	C	C	C	C	C	C	C
Sample	CBS-CSC-T1-1	CBS-CSC-T2-1	CBS-CSC-T3-1	CBS-CSC-T4-1	CBS-CSC-T4-1-FD	CBS-CSC-T5-1	CBS-CSC-T6-1
Sample date	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Decachlorobiphenyl	0.023 U	0.029	0.026 U	0.025 U	0.0089 J	0.026 U	0.021 J
Dichlorobiphenyl	0.0045 U	0.0079	0.0051 U	0.0049 U	0.005 U	0.0052 U	0.0052 U
Heptachlorobiphenyl	0.014 U	0.018	0.015 U	0.015 U	0.015 U	0.016 U	0.0036 J
Hexachlorobiphenyl	0.0092 U	0.038	0.01 U	0.0034 J	0.015	0.01 U	0.01 J
Monochlorobiphenyl	0.0045 U	0.0014 J	0.0051 U	0.0049 U	0.005 U	0.0052 U	0.0052 U
Nonachlorobiphenyl	0.023 U	0.011 J	0.026 U	0.025 U	0.025 U	0.026 U	0.0052 J
Octachlorobiphenyl	0.014 U	0.011 J	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U
Pentachlorobiphenyl	0.0011 J	0.027	0.0029 J	0.0059 J	0.032	0.01 U	0.024
Tetrachlorobiphenyl	0.0092 U	0.03	0.01 U	0.01 U	0.0068 J	0.01 U	0.0068 J
Trichlorobiphenyl	0.0045 U	0.0049	0.0051 U	0.0049 U	0.005 U	0.0052 U	0.0052 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	**C**	**C**	**C**
Sample	**CBS-CSC-T7-1**	**CBS-CSC-T8-1**	**CBS-CSC-T9-1**
Sample date	**12/13/2001**	**12/13/2001**	**12/13/2001**
Units	**mg/kg**	**mg/kg**	**mg/kg**
Analyte:			
Decachlorobiphenyl	0.024 U	0.025 U	0.022 U
Dichlorobiphenyl	0.0048 U	0.0049 U	0.0044 U
Heptachlorobiphenyl	0.015 U	0.015 U	0.014 U
Hexachlorobiphenyl	0.0098 U	0.0073 J	0.009 U
Monochlorobiphenyl	0.0048 U	0.0049 U	0.0044 U
Nonachlorobiphenyl	0.024 U	0.025 U	0.022 U
Octachlorobiphenyl	0.015 U	0.015 U	0.014 U
Pentachlorobiphenyl	0.0098 U	0.017	0.009 U
Tetrachlorobiphenyl	0.0098 U	0.0023 J	0.009 U
Trichlorobiphenyl	0.0048 U	0.0049 U	0.0044 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	**D**	**D**	**D**	**D**	**D**	**D**
Sample	**CBS-CSD-T1-1**	**CBS-CSD-T2-1**	**CBS-CSD-T3-1**	**CBS-CSD-T4-1**	**CBS-CSD-T5-1**	**CBS-CSD-T6-1**
Sample date	**12/12/2001**	**12/12/2001**	**12/12/2001**	**12/12/2001**	**12/12/2001**	**12/12/2001**
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Analyte:						
Decachlorobiphenyl	0.025 U	0.059	0.004 J	0.025 U	0.023 U	0.19
Dichlorobiphenyl	0.0049 U	0.005 U	0.0047 U	0.0049 U	0.0045 U	0.0048 U
Heptachlorobiphenyl	0.015 U	0.026	0.014 U	0.015 U	0.014 U	0.19
Hexachlorobiphenyl	0.01 U	0.063	0.0015 J	0.0033 J	0.0027 J	0.62
Monochlorobiphenyl	0.0049 U	0.0039 J	0.0047 U	0.0049 U	0.0045 U	0.0048 U
Nonachlorobiphenyl	0.025 U	0.016 J	0.024 U	0.025 U	0.023 U	0.039
Octachlorobiphenyl	0.015 U	0.0099 J	0.014 U	0.015 U	0.014 U	0.05
Pentachlorobiphenyl	0.01 U	0.06	0.0044 J	0.0057 J	0.0047 J	1
Tetrachlorobiphenyl	0.01 U	0.033	0.0096 U	0.01 U	0.0092 U	0.34
Trichlorobiphenyl	0.0049 U	0.021	0.0047 U	0.0049 U	0.0045 U	0.0082

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E	E	E
Sample	**CBS-CSE-T1-1**	**CBS-CSE-T2-1**	**CBS-CSE-T3-1**	**CBS-CSE-T3-1-FD**	**CBS-CSE-T4-1**	**CBS-CSE-T5-1**	**CBS-CSE-T6-1**
Sample date	**12/18/2001**	**12/18/2001**	**12/18/2001**	**12/18/2001**	**12/18/2001**	**12/18/2001**	**12/18/2001**
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Analyte:							
Decachlorobiphenyl	0.0074 J	0.022 U	0.024 U	0.024 U	0.023 U	0.022 U	0.0084 J
Dichlorobiphenyl	0.0049 U	0.0044 U	0.0048 U	0.0046 U	0.0046 U	0.0043 U	0.0047 U
Heptachlorobiphenyl	0.015 U	0.014 U	0.015 U	0.014 U	0.014 U	0.013 U	0.014 U
Hexachlorobiphenyl	0.0067 J	0.0095	0.0098 U	0.0094 U	0.0093 U	0.0013 J	0.018
Monochlorobiphenyl	0.0049 U	0.0044 U	0.0048 U	0.0046 U	0.0046 U	0.0043 U	0.0047 U
Nonachlorobiphenyl	0.025 U	0.022 U	0.024 U	0.024 U	0.023 U	0.022 U	0.024 U
Octachlorobiphenyl	0.015 U	0.014 U	0.015 U	0.014 U	0.014 U	0.013 U	0.014 U
Pentachlorobiphenyl	0.0091 J	0.018	0.0044 J	0.0025 J	0.0093 U	0.0011 J	0.046
Tetrachlorobiphenyl	0.01 U	0.0024 J	0.0098 U	0.0094 U	0.0093 U	0.0087 U	0.012
Trichlorobiphenyl	0.0049 U	0.0044 U	0.0048 U	0.0046 U	0.0046 U	0.0043 U	0.0011 J

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E	E	E
Sample	CBS-CSE-T7-1	CBS-CSE-T8-1	CBS-CSE-T9-1	CBS-CSE-T10-1	CBS-CSE-T11-1	CBS-CSE-T12-1	CBS-CSE-T13-2
Sample date	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	2/14/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Decachlorobiphenyl	0.024 U	0.0062 J	0.025 U	0.023 UJ	0.0079 J	0.026 U	0.064
Dichlorobiphenyl	0.0048 U	0.0052 U	0.0049 U	0.0046 UJ	0.0048 U	0.0051 U	0.0049 U
Heptachlorobiphenyl	0.014 U	0.016 U	0.015 U	0.014 UJ	0.015 U	0.015 U	0.041
Hexachlorobiphenyl	0.0097 U	0.0077 J	0.01 U	0.0093 UJ	0.01	0.01 U	0.24
Monochlorobiphenyl	0.0048 U	0.0052 U	0.0049 U	0.0046 UJ	0.0048 U	0.0051 U	0.0049 U
Nonachlorobiphenyl	0.024 U	0.026 U	0.025 U	0.023 UJ	0.024 U	0.026 U	0.035
Octachlorobiphenyl	0.014 U	0.016 U	0.015 U	0.014 UJ	0.015 U	0.015 U	0.016
Pentachlorobiphenyl	0.0097 U	0.015	0.01 U	0.0093 UJ	0.018	0.01 U	0.38 J
Tetrachlorobiphenyl	0.0097 U	0.011 U	0.01 U	0.0093 UJ	0.0098 U	0.01 U	0.14
Trichlorobiphenyl	0.0048 U	0.0052 U	0.0049 U	0.0046 UJ	0.0048 U	0.0051 U	0.0011 J

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E
Sample	CBS-CSE-T14-1	CBS-CSE-T15-1	CBS-CSE-T15-1-FD	CBS-CSE-T16-1	CBS-CSE-T17-1
Sample date	12/18/2001	12/18/2001	12/18/2001	12/21/2001	12/21/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
Decachlorobiphenyl	0.024 U	0.021 U	0.021 U	0.18	0.017 J
Dichlorobiphenyl	0.0048 U	0.0042 U	0.0042 U	0.0057 J	0.0058 U
Heptachlorobiphenyl	0.015 U	0.013 U	0.013 U	0.064 J	0.0059 J
Hexachlorobiphenyl	0.0098 U	0.0085 U	0.0086 U	0.082 J	0.012
Monochlorobiphenyl	0.0048 U	0.0042 U	0.0042 U	0.0067 UJ	0.0058 U
Nonachlorobiphenyl	0.024 U	0.021 U	0.021 U	0.094	0.0039 J
Octachlorobiphenyl	0.015 U	0.013 U	0.013 U	0.032	0.018 U
Pentachlorobiphenyl	0.0098 U	0.0085 U	0.0086 U	0.57 J	0.061
Tetrachlorobiphenyl	0.0098 U	0.0085 U	0.0086 U	0.16 J	0.0036 J
Trichlorobiphenyl	0.0048 U	0.0042 U	0.0042 U	0.064 J	0.0058 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F	F	F
Sample	CBS-CSF-T1-1	CBS-CSF-T2-1	CBS-CSF-T3-1	CBS-CSF-T4-1	CBS-CSF-T5-1	CBS-CSF-T6-1	CBS-CSF-T6-1-FD
Sample date	12/21/2001	12/11/2001	12/11/2001	12/11/2001	1/8/2002	1/16/2002	1/16/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Decachlorobiphenyl	0.028 U	0.024 U	0.032	0.023 U	0.023 U	0.025 U	0.024 U
Dichlorobiphenyl	0.0055 U	0.0048 U	0.0051 U	0.0045 U	0.0046 U	0.0049 U	0.0047 U
Heptachlorobiphenyl	0.017 U	0.015 U	0.016	0.014 U	0.014 U	0.015 U	0.014 U
Hexachlorobiphenyl	0.011 U	0.0098 U	0.07	0.0092 U	0.0093 U	0.0047 J	0.0079 J
Monochlorobiphenyl	0.0055 U	0.0048 U	0.0056	0.0045 U	0.0046 U	0.0049 U	0.0047 U
Nonachlorobiphenyl	0.028 U	0.024 U	0.013 J	0.023 U	0.023 U	0.025 U	0.024 U
Octachlorobiphenyl	0.017 U	0.015 U	0.0062 J	0.014 U	0.014 U	0.015 U	0.014 U
Pentachlorobiphenyl	0.011 U	0.0098 U	0.13	0.0092 U	0.0093 U	0.0087 J	0.017
Tetrachlorobiphenyl	0.011 U	0.0098 U	0.077	0.0092 U	0.0093 U	0.002 J	0.0079 J
Trichlorobiphenyl	0.0055 U	0.0048 U	0.0071	0.0045 U	0.001 J	0.0049 U	0.0047 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F	F	F
Sample	CBS-CSF-T7-1	CBS-CSF-T8-1	CBS-CSF-T9-1	CBS-CSF-T9-1-FD	CBS-CSF-T10-1	CBS-CSF-T11-1	CBS-CSF-T12-1
Sample date	1/16/2002	1/23/2002	1/23/2002	1/23/2002	1/25/2002	1/25/2002	1/23/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Decachlorobiphenyl	0.023 U	0.023 U	0.0031 J	0.0033 J	0.022 U	0.023 U	0.022 U
Dichlorobiphenyl	0.0046 U	0.0045 U	0.0049 U	0.0043 U	0.0043 U	0.0046 U	0.0044 U
Heptachlorobiphenyl	0.014 U	0.014 U	0.015 U	0.013 U	0.013 U	0.014 U	0.014 U
Hexachlorobiphenyl	0.0049 J	0.0092 U	0.0034 J	0.0033 J	0.0087 U	0.0093 U	0.009 U
Monochlorobiphenyl	0.0046 U	0.0045 U	0.0049 U	0.0043 U	0.0043 U	0.0046 U	0.0044 U
Nonachlorobiphenyl	0.023 U	0.023 U	0.025 U	0.022 U	0.022 U	0.023 U	0.022 U
Octachlorobiphenyl	0.014 U	0.014 U	0.015 U	0.013 U	0.013 U	0.014 U	0.014 U
Pentachlorobiphenyl	0.0091 J	0.0092 U	0.0032 J	0.0014 J	0.0087 U	0.0093 U	0.009 U
Tetrachlorobiphenyl	0.0093 U	0.0092 U	0.01 U	0.0088 U	0.0087 U	0.0093 U	0.009 U
Trichlorobiphenyl	0.0046 U	0.0045 U	0.0049 U	0.0043 U	0.0043 U	0.0046 U	0.0044 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	**F**	**F**	**F**	**F**	**F**
Sample	**CBS-CSF-T13-1**	**CBS-CSF-T14-1**	**CBS-CSF-T15-1**	**CBS-CSF-T15-1-FD**	**CBS-CSF-T16-1**
Sample date	**1/16/2002**	**1/8/2002**	**1/8/2002**	**1/8/2002**	**2/6/2002**
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Analyte:					
Decachlorobiphenyl	0.022 U	0.0061 J	0.0062 J	0.01 J	0.024 U
Dichlorobiphenyl	0.0044 U	0.0044 U	0.0047 U	0.0043 U	0.0047 U
Heptachlorobiphenyl	0.013 U	0.014 U	0.014 U	0.013 U	0.014 U
Hexachlorobiphenyl	0.0089 U	0.0079 J	0.0065 J	0.0067 J	0.0096 U
Monochlorobiphenyl	0.0044 U	0.0044 U	0.0047 U	0.0043 U	0.0047 U
Nonachlorobiphenyl	0.022 U	0.022 U	0.024 U	0.0033 J	0.024 U
Octachlorobiphenyl	0.013 U	0.014 U	0.014 U	0.013 U	0.014 U
Pentachlorobiphenyl	0.0089 U	0.011	0.0058 J	0.0039 J	0.0096 U
Tetrachlorobiphenyl	0.0089 U	0.009 U	0.0096 U	0.0088 U	0.0096 U
Trichlorobiphenyl	0.0044 U	0.0044 U	0.0047 U	0.0043 U	0.0047 U

Notes:
J - Detected, estimated.
U - Nondetected.

UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T0-C1	CBS-CSB-T1-C1	CBS-CSB-T1-E1	CBS-CSB-T1-W1	CBS-CSB-T2-C1	CBS-CSB-T2-E1	CBS-CSB-T2-W1
Sample date	11/1/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,2,3,4,6,7,8,9-OCDD	2.49	0.0021 J	0.025	0.0879	0.0015 J	0.0208	0.00032 J
1,2,3,4,6,7,8,9-OCDF	0.517	0.0007 J	0.0053 J	0.0226	0.00017 J	0.0042 J	0.00006 J
1,2,3,4,6,7,8-HpCDD	0.21	0.00021 J	0.0021 J	0.0071	0.00005 U	0.002 J	0.00005 U
1,2,3,4,6,7,8-HpCDF	0.0686	0.00008 J	0.00067 J	0.0025 J	0.00003 U	0.00079 J	0.00003 U
1,2,3,4,7,8,9-HpCDF	0.0056	0.00003 U	0.00006 J	0.00015 J	0.00004 U	0.00003 U	0.00003 U
1,2,3,4,7,8-HxCDD	0.0015 J	0.00003 U	0.00003 U	0.00004 U	0.00003 U	0.00002 U	0.00003 U
1,2,3,4,7,8-HxCDF	0.0063	0.00002 U	0.00003 J	0.00002 U	0.00002 U	0.00002 U	0.00002 U
1,2,3,6,7,8-HxCDD	0.0065	0.00004 U	0.00007 J	0.00017 J	0.00004 U	0.00007 J	0.00004 U
1,2,3,6,7,8-HxCDF	0.0029 J	0.00002 U	0.00002 U	0.00002 U	0.00003 U	0.00002 U	0.00002 U
1,2,3,7,8,9-HxCDD	0.0025 J	0.00003 U	0.00003 J	0.00008 J	0.00003 U	0.00002 U	0.00003 U
1,2,3,7,8,9-HxCDF	0.0008 U	0.00002 U	0.00002 U	0.00003 U	0.00003 U	0.00002 U	0.00003 U
1,2,3,7,8-PeCDD	0.0015 J	0.00004 U	0.00004 U	0.00004 U	0.00005 U	0.00004 U	0.00005 U
1,2,3,7,8-PeCDF	0.0001 U	0.00003 U	0.00002 U	0.00003 U	0.00003 U	0.00002 U	0.00003 U
2,3,4,6,7,8-HxCDF	0.0007 U	0.00003 U	0.00002 U	0.00003 U	0.00003 U	0.00002 U	0.00003 U
2,3,4,7,8-PeCDF	0.0001 U	0.00003 U	0.00002 U	0.00003 U	0.00003 U	0.00002 U	0.00003 U
2,3,7,8-TCDD	0.0001 U	0.00003 U	0.00003 U	0.00003 U	0.00004 U	0.00002 U	0.00003 U
2,3,7,8-TCDF	0.00009 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T3-C1	CBS-CSB-T3-E1	CBS-CSB-T3-W1	CBS-CSB-T4-C1	CBS-CSB-T4-E1	CBS-CSB-T4-W1	CBS-CSB-T5-C1
Sample date	10/31/2001	10/31/2001	10/31/2001	11/1/2001	11/1/2001	11/1/2001	11/1/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,2,3,4,6,7,8,9-OCDD	0.0316	0.483	0.0034 J	0.003 J	0.0073	0.00018 J	0.00072 J
1,2,3,4,6,7,8,9-OCDF	0.0032 J	0.039	0.00062 J	0.00068 J	0.0012 J	0.00006 J	0.00019 J
1,2,3,4,6,7,8-HpCDD	0.0021 J	0.0584	0.00027 J	0.00023 J	0.00055 J	0.00003 U	0.00004 U
1,2,3,4,6,7,8-HpCDF	0.0011 J	0.0097	0.00007 U	0.00011 J	0.00026 J	0.00002 U	0.00003 U
1,2,3,4,7,8,9-HpCDF	0.00013 J	0.00009 U	0.00008 U	0.00004 U	0.00002 U	0.00002 U	0.00003 U
1,2,3,4,7,8-HxCDD	0.00006 U	0.00048 J	0.00007 U	0.00004 U	0.00002 U	0.00002 U	0.00003 U
1,2,3,4,7,8-HxCDF	0.00074 J	0.00033 J	0.00005 U	0.00003 U	0.00001 U	0.00001 U	0.00002 U
1,2,3,6,7,8-HxCDD	0.00013 J	0.0015 J	0.00009 U	0.00004 U	0.00002 U	0.00002 U	0.00003 U
1,2,3,6,7,8-HxCDF	0.0003 J	0.00006 U	0.00006 U	0.00002 U	0.00001 U	0.00001 U	0.00002 U
1,2,3,7,8,9-HxCDD	0.00014 J	0.0016 J	0.00008 U	0.00004 U	0.00002 U	0.00002 U	0.00003 U
1,2,3,7,8,9-HxCDF	0.00004 U	0.00007 U	0.00006 U	0.00003 U	0.00002 U	0.00002 U	0.00003 U
1,2,3,7,8-PeCDD	0.00021 J	0.00028 J	0.00007 U	0.00005 U	0.00003 U	0.00003 U	0.00004 U
1,2,3,7,8-PeCDF	0.00009 J	0.00011 J	0.00005 U	0.00003 U	0.00002 U	0.00002 U	0.00002 U
2,3,4,6,7,8-HxCDF	0.00004 U	0.00007 U	0.00006 U	0.00003 U	0.00002 U	0.00002 U	0.00002 U
2,3,4,7,8-PeCDF	0.00004 U	0.00031 J	0.00005 U	0.00003 U	0.00002 U	0.00002 U	0.00003 U
2,3,7,8-TCDD	0.00005 U	0.00006 U	0.00005 U	0.00003 U	0.00002 U	0.00002 U	0.00002 U
2,3,7,8-TCDF	0.00003 U	0.00063 J	0.00004 U	0.00002 U	0.00001 U	0.00001 U	0.00002 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T5-E1	CBS-CSB-T5-W1	CBS-CSB-T6-C1	CBS-CSB-T6-C1-D	CBS-CSB-T6-E1	CBS-CSB-T6-W1	CBS-CSB-T7-C1
Sample date	11/1/2001	11/1/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,2,3,4,6,7,8,9-OCDD	0.0611	0.00023 J	0.014	0.011	0.0075	0.0011 J	0.00069 J
1,2,3,4,6,7,8,9-OCDF	0.0228	0.00007 U	0.0042 J	0.0046 J	0.00079 J	0.00039 J	0.00014 J
1,2,3,4,6,7,8-HpCDD	0.0054	0.00004 U	0.0012 J	0.00091 J	0.00067 J	0.00013 J	0.00007 U
1,2,3,4,6,7,8-HpCDF	0.0032 J	0.00002 U	0.00068 J	0.0006 J	0.00023 J	0.00006 J	0.00003 J
1,2,3,4,7,8,9-HpCDF	0.00012 J	0.00003 U	0.00006 U	0.00007 U	0.00003 U	0.00005 U	0.00003 U
1,2,3,4,7,8-HxCDD	0.00002 U	0.00002 U	0.00007 U	0.00008 U	0.00003 U	0.00005 U	0.00004 U
1,2,3,4,7,8-HxCDF	0.00008 J	0.00002 U	0.00005 U	0.00006 U	0.00003 U	0.00004 U	0.00003 U
1,2,3,6,7,8-HxCDD	0.0002 J	0.00003 U	0.00008 U	0.0001 U	0.00003 J	0.00006 U	0.00005 U
1,2,3,6,7,8-HxCDF	0.00002 U	0.00002 U	0.00005 U	0.00006 U	0.00003 U	0.00004 U	0.00003 U
1,2,3,7,8,9-HxCDD	0.00006 J	0.00002 U	0.00007 U	0.00008 U	0.00003 J	0.00005 U	0.00004 U
1,2,3,7,8,9-HxCDF	0.00002 U	0.00002 U	0.00005 U	0.00007 U	0.00003 U	0.00005 U	0.00003 U
1,2,3,7,8-PeCDD	0.00003 U	0.00003 U	0.0001 U	0.0001 U	0.00008 U	0.00008 U	0.00008 U
1,2,3,7,8-PeCDF	0.00002 U	0.00002 U	0.00009 U	0.0001 U	0.00005 U	0.00005 U	0.00005 U
2,3,4,6,7,8-HxCDF	0.00002 U	0.00002 U	0.00006 U	0.00007 U	0.00003 U	0.00005 U	0.00003 U
2,3,4,7,8-PeCDF	0.00002 U	0.00002 U	0.0001 U	0.0001 U	0.00005 U	0.00005 U	0.00005 U
2,3,7,8-TCDD	0.00002 U	0.00002 U	0.00009 U	0.00009 U	0.00005 U	0.00005 U	0.00006 U
2,3,7,8-TCDF	0.00004 J	0.00002 U	0.00007 U	0.00009 U	0.00004 U	0.00004 U	0.00004 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T7-E1	CBS-CSB-T7-W1	CBS-CSB-T8-C1	CBS-CSB-T8-E1	CBS-CSB-T8-W1	CBS-CSB-T9-C1	CBS-CSB-T9-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,2,3,4,6,7,8,9-OCDD	0.003 J	0.0166 J	0.00054 J	0.0029 J	0.0071	0.00017 J	0.0054 J
1,2,3,4,6,7,8,9-OCDF	0.00024 J	0.0013 J	0.0002 J	0.00046 J	0.00063 J	0.00004 J	0.0014 J
1,2,3,4,6,7,8-HpCDD	0.00011 J	0.0012 J	0.00008 U	0.00018 J	0.00065 J	0.00002 U	0.00052 J
1,2,3,4,6,7,8-HpCDF	0.00006 J	0.00038 J	0.00004 J	0.00011 J	0.00023 J	0.000009 U	0.00036 J
1,2,3,4,7,8,9-HpCDF	0.00004 U	0.00004 U	0.00004 U	0.00001 U	0.00001 U	0.00001 U	0.00001 U
1,2,3,4,7,8-HxCDD	0.00004 U	0.00004 U	0.00005 U	0.00001 U	0.00001 U	0.00001 U	0.00001 U
1,2,3,4,7,8-HxCDF	0.00003 U	0.00003 U	0.00003 U	0.000007 U	0.000008 U	0.000007 U	0.000008 U
1,2,3,6,7,8-HxCDD	0.00005 U	0.00004 J	0.00006 U	0.00001 U	0.00003 J	0.00001 U	0.00001 U
1,2,3,6,7,8-HxCDF	0.00003 U	0.00003 U	0.00003 U	0.000007 U	0.000007 U	0.000006 U	0.000008 U
1,2,3,7,8,9-HxCDD	0.00004 U	0.00004 U	0.00005 U	0.00001 U	0.00001 U	0.00001 U	0.00001 U
1,2,3,7,8,9-HxCDF	0.00003 U	0.00003 U	0.00003 U	0.000008 U	0.000009 U	0.000007 U	0.000009 U
1,2,3,7,8-PeCDD	0.00009 U	0.00007 U	0.00009 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U
1,2,3,7,8-PeCDF	0.00006 U	0.00004 U	0.00006 U	0.00001 U	0.00001 U	0.00001 U	0.00001 U
2,3,4,6,7,8-HxCDF	0.00004 U	0.00004 U	0.00004 U	0.000008 U	0.000009 U	0.000008 U	0.00001 U
2,3,4,7,8-PeCDF	0.00006 U	0.00004 U	0.00006 U	0.00002 U	0.00002 U	0.00001 U	0.00002 U
2,3,7,8-TCDD	0.00006 U	0.00004 U	0.00006 U	0.00001 U	0.00001 U	0.00001 U	0.00001 U
2,3,7,8-TCDF	0.00004 U	0.00003 U	0.00004 U	0.00001 U	0.00001 U	0.00001 U	0.00001 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T9-W1	CBS-CSB-T10-C1	CBS-CSB-T10-E1	CBS-CSB-T10-W1	CBS-CSB-T11-C1	CBS-CSB-T11-C1-D	CBS-CSB-T11-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,2,3,4,6,7,8,9-OCDD	0.0092	0.0011 J	0.0237	0.0138	0.0298	0.117	0.0072
1,2,3,4,6,7,8,9-OCDF	0.0011 J	0.00054 J	0.0103	0.0042 J	0.0094	0.0587	0.002 J
1,2,3,4,6,7,8-HpCDD	0.00093 J	0.0001 J	0.0025 J	0.0015 J	0.0027 J	0.0145	0.00064 J
1,2,3,4,6,7,8-HpCDF	0.00034 J	0.00009 J	0.0017 J	0.00097 J	0.0013 J	0.0079	0.0005 J
1,2,3,4,7,8,9-HpCDF	0.00001 U	0.00001 U	0.00007 J	0.00002 U	0.00003 U	0.00042 J	0.00003 U
1,2,3,4,7,8-HxCDD	0.00001 U	0.00001 U	0.00002 U	0.00002 U	0.00003 U	0.00002 U	0.00003 U
1,2,3,4,7,8-HxCDF	0.000007 U	0.000007 U	0.00004 J	0.00002 J	0.00002 U	0.00015 J	0.00002 U
1,2,3,6,7,8-HxCDD	0.00003 J	0.00001 U	0.00009 J	0.00006 J	0.00009 J	0.00034 J	0.00004 U
1,2,3,6,7,8-HxCDF	0.000007 U	0.000007 U	0.000009 U	0.00001 U	0.00002 U	0.00002 U	0.00002 U
1,2,3,7,8,9-HxCDD	0.00002 J	0.00001 U	0.00002 U	0.00004 J	0.00003 U	0.00005 J	0.00003 U
1,2,3,7,8,9-HxCDF	0.000008 U	0.000008 U	0.00001 U	0.00001 U	0.00002 U	0.00001 U	0.00002 U
1,2,3,7,8-PeCDD	0.00002 U	0.00002 U	0.00003 U	0.00003 U	0.00004 U	0.00003 U	0.00004 U
1,2,3,7,8-PeCDF	0.00001 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00003 U
2,3,4,6,7,8-HxCDF	0.000008 U	0.000008 U	0.00001 U	0.00001 U	0.00002 U	0.00001 U	0.00002 U
2,3,4,7,8-PeCDF	0.00002 U	0.00002 U	0.00002 U	0.00003 U	0.00003 U	0.00002 U	0.00003 U
2,3,7,8-TCDD	0.00001 U	0.00001 U	0.00002 U	0.00002 U	0.00002 U	0.00001 U	0.00002 U
2,3,7,8-TCDF	0.00001 U	0.00001 U	0.00001 U	0.00002 U	0.00002 U	0.00006 J	0.00002 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T11-W1	CBS-CSB-T12-C1	CBS-CSB-T12-E1	CBS-CSB-T12-W1	CBS-CSB-T13-C1	CBS-CSB-T13-E1	CBS-CSB-T13-W1
Sample date	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,2,3,4,6,7,8,9-OCDD	0.0159	0.00084 J	0.0101	0.012	0.0011 J	0.0023 J	0.0034 J
1,2,3,4,6,7,8,9-OCDF	0.0017 J	0.00048 J	0.0029 J	0.0018 J	0.0003 J	0.00036 J	0.00063 J
1,2,3,4,6,7,8-HpCDD	0.0016 J	0.0003 J	0.00086 J	0.001 J	0.00008 J	0.00013 J	0.0003 J
1,2,3,4,6,7,8-HpCDF	0.00044 J	0.00017 J	0.00064 J	0.00036 J	0.00004 J	0.00009 J	0.00016 J
1,2,3,4,7,8,9-HpCDF	0.00003 U	0.00037 J	0.00003 U	0.00001 U	0.00001 U	0.00001 U	0.00002 U
1,2,3,4,7,8-HxCDD	0.00003 U	0.00004 U	0.00004 J	0.00003 J	0.00001 U	0.00001 U	0.00001 U
1,2,3,4,7,8-HxCDF	0.00002 U	0.00017 J	0.00002 U	0.000006 U	0.000007 U	0.000008 U	0.00001 U
1,2,3,6,7,8-HxCDD	0.00006 J	0.00005 U	0.00003 U	0.00002 J	0.00001 U	0.00001 U	0.00002 U
1,2,3,6,7,8-HxCDF	0.00002 U	0.00004 U	0.00002 U	0.000006 U	0.000007 U	0.000007 U	0.000009 U
1,2,3,7,8,9-HxCDD	0.00003 U	0.00015 J	0.00002 U	0.00003 J	0.00001 U	0.00001 U	0.00001 U
1,2,3,7,8,9-HxCDF	0.00002 U	0.00003 U	0.00002 U	0.000007 U	0.000008 U	0.000009 U	0.00001 U
1,2,3,7,8-PeCDD	0.00004 U	0.00009 J	0.00003 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U
1,2,3,7,8-PeCDF	0.00003 U	0.00008 J	0.00002 U	0.00001 U	0.00001 U	0.00001 U	0.00002 U
2,3,4,6,7,8-HxCDF	0.00002 U	0.00003 U	0.00002 U	0.000007 U	0.000008 U	0.000008 U	0.00001 U
2,3,4,7,8-PeCDF	0.00003 U	0.00014 J	0.00003 U	0.00001 U	0.00001 U	0.00001 U	0.00002 U
2,3,7,8-TCDD	0.00002 U	0.00002 U	0.00002 U	0.00001 U	0.00001 U	0.00001 U	0.00001 U
2,3,7,8-TCDF	0.00002 U	0.00018 J	0.00002 J	0.000008 U	0.000008 U	0.000009 U	0.00001 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T14-1	CBS-CSB-T15-1	CBS-CSB-T16-1	CBS-CSB-T17-C1	CBS-CSB-T17-E1	CBS-CSB-T17-E1D	CBS-CSB-T17-WI
Sample date	12/20/2001	12/20/2001	12/20/2001	11/9/2001	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,2,3,4,6,7,8,9-OCDD	0.0023 J	0.0107	0.298 J	0.00074 J	0.41	0.0832	0.00051 J
1,2,3,4,6,7,8,9-OCDF	0.00036 U	0.0024 J	0.115	0.0001 J	0.238	0.0311	0.00001 U
1,2,3,4,6,7,8-HpCDD	0.00023 J	0.0011 J	0.0282	0.00003 U	0.0392	0.0072	0.000008 U
1,2,3,4,6,7,8-HpCDF	0.00009 J	0.00037 J	0.0155	0.00002 U	0.0215	0.0037	0.000005 U
1,2,3,4,7,8,9-HpCDF	0.00002 U	0.00003 U	0.00095 J	0.00002 U	0.0005 U	0.0002 U	0.000006 U
1,2,3,4,7,8-HxCDD	0.00003 U	0.00003 U	0.00002 U	0.00002 U	0.0003 U	0.0001 U	0.000005 U
1,2,3,4,7,8-HxCDF	0.00001 U	0.00002 U	0.00041 J	0.00001 U	0.0002 U	0.00009 U	0.000004 U
1,2,3,6,7,8-HxCDD	0.00003 U	0.00003 U	0.00099 J	0.00002 U	0.0116 J	0.0002 U	0.000006 U
1,2,3,6,7,8-HxCDF	0.00002 U	0.00002 U	0.00013 J	0.00001 U	0.0003 U	0.0001 U	0.000004 U
1,2,3,7,8,9-HxCDD	0.00003 U	0.00003 U	0.00017 J	0.00002 U	0.0004 U	0.0002 U	0.000005 U
1,2,3,7,8,9-HxCDF	0.00002 U	0.00002 U	0.00002 U	0.00001 U	0.0003 U	0.0001 U	0.000004 U
1,2,3,7,8-PeCDD	0.00003 U	0.00004 U	0.00058 J	0.00002 U	0.0002 U	0.0001 U	0.000009 U
1,2,3,7,8-PeCDF	0.00002 U	0.00003 U	0.0014 J	0.00001 U	0.0001 U	0.00008 U	0.000006 U
2,3,4,6,7,8-HxCDF	0.00002 U	0.00002 U	0.00018 J	0.00001 U	0.0003 U	0.0001 U	0.000004 U
2,3,4,7,8-PeCDF	0.00003 U	0.00003 U	0.00019 J	0.00002 U	0.0001 U	0.00008 U	0.000008 U
2,3,7,8-TCDD	0.00002 U	0.00002 U	0.00002 U	0.00001 U	0.0001 U	0.00008 U	0.000006 U
2,3,7,8-TCDF	0.00002 U	0.00002 U	0.00018 J	0.00001 U	0.00007 U	0.00005 U	0.000005 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B
Sample	CBS-CSB-T18-C1	CBS-CSB-T18-E1	CBS-CSB-T18-W1	CBS-CSB-T18-W1D
Sample date	11/9/2001	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:				
1,2,3,4,6,7,8,9-OCDD	0.00046 J	0.0018 J	0.0019 J	0.0011 J
1,2,3,4,6,7,8,9-OCDF	0.00008 J	0.00034 J	0.0003 U	0.0003 U
1,2,3,4,6,7,8-HpCDD	0.00003 J	0.0001 UJ	0.0002 U	0.0001 U
1,2,3,4,6,7,8-HpCDF	0.00002 J	0.00009 U	0.0001 U	0.0001 U
1,2,3,4,7,8,9-HpCDF	0.000006 U	0.0001 U	0.0001 U	0.0001 U
1,2,3,4,7,8-HxCDD	0.000005 U	0.00007 U	0.00009 U	0.00007 U
1,2,3,4,7,8-HxCDF	0.000004 U	0.00005 U	0.00006 U	0.00006 U
1,2,3,6,7,8-HxCDD	0.000006 U	0.0001 U	0.0001 U	0.0001 U
1,2,3,6,7,8-HxCDF	0.000004 U	0.00006 U	0.00006 U	0.00006 U
1,2,3,7,8,9-HxCDD	0.000005 U	0.00009 U	0.0001 U	0.0001 U
1,2,3,7,8,9-HxCDF	0.000004 U	0.00006 U	0.00007 U	0.00007 U
1,2,3,7,8-PeCDD	0.000008 U	0.00006 U	0.00008 U	0.00007 U
1,2,3,7,8-PeCDF	0.000006 U	0.00004 U	0.00005 U	0.00004 U
2,3,4,6,7,8-HxCDF	0.000004 U	0.00006 U	0.00007 U	0.00006 U
2,3,4,7,8-PeCDF	0.000008 U	0.00004 UJ	0.00005 U	0.00004 U
2,3,7,8-TCDD	0.000005 U	0.00003 U	0.00004 U	0.00004 U
2,3,7,8-TCDF	0.000005 U	0.00002 U	0.00003 U	0.00003 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	C	C	C	C	C	C	C
Sample	CBS-CSC-T1-1	CBS-CSC-T2-1	CBS-CSC-T3-1	CBS-CSC-T4-1	CBS-CSC-T4-1-FD	CBS-CSC-T5-1	CBS-CSC-T6-1
Sample date	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,2,3,4,6,7,8,9-OCDD	0.00074 J	0.0081	0.0006 J	0.0235	0.0011 J	0.0012 J	0.0105
1,2,3,4,6,7,8,9-OCDF	0.00014 J	0.0027 J	0.00006 J	0.0112	0.00041 J	0.0003 J	0.0025 J
1,2,3,4,6,7,8-HpCDD	0.00005 J	0.00055 J	0.00004 J	0.0023 J	0.0001 J	0.00009 J	0.00064 J
1,2,3,4,6,7,8-HpCDF	0.00003 J	0.00036 J	0.00002 J	0.0023 J	0.00005 J	0.00006 J	0.00034 J
1,2,3,4,7,8,9-HpCDF	0.00001 U	0.00001 U	0.00001 U	0.00005 J	0.00002 U	0.00001 U	0.00001 U
1,2,3,4,7,8-HxCDD	0.00001 U	0.00001 U	0.000009 U	0.00001 U	0.00002 U	0.00002 U	0.00001 U
1,2,3,4,7,8-HxCDF	0.000006 U	0.00001 J	0.000006 U	0.00003 J	0.00001 U	0.00001 U	0.00002 J
1,2,3,6,7,8-HxCDD	0.00001 U	0.00002 J	0.00001 U	0.00006 J	0.00002 U	0.00002 U	0.00003 J
1,2,3,6,7,8-HxCDF	0.000006 U	0.000006 U	0.000005 U	0.00001 J	0.00001 U	0.000008 U	0.000007 U
1,2,3,7,8,9-HxCDD	0.00001 U	0.00001 U	0.00001 U	0.00003 J	0.00002 U	0.00002 U	0.00002 U
1,2,3,7,8,9-HxCDF	0.000007 U	0.000007 U	0.000006 U	0.000007 U	0.00001 U	0.00001 U	0.000009 U
1,2,3,7,8-PeCDD	0.00001 U	0.00002 U	0.00001 U	0.00002 U	0.00003 U	0.00002 U	0.00002 U
1,2,3,7,8-PeCDF	0.00001 U	0.00001 U	0.00001 U	0.00001 U	0.00002 U	0.00002 U	0.00002 U
2,3,4,6,7,8-HxCDF	0.000007 U	0.000007 U	0.000006 U	0.00002 J	0.00001 U	0.00001 U	0.000008 U
2,3,4,7,8-PeCDF	0.00001 U	0.00001 U	0.00001 U	0.00001 U	0.00002 U	0.00002 U	0.00002 U
2,3,7,8-TCDD	0.000008 U	0.00001 U	0.000008 U	0.00001 U	0.00002 U	0.00001 U	0.00001 U
2,3,7,8-TCDF	0.000009 U	0.00001 U	0.000008 U	0.00002 J	0.00002 U	0.00001 U	0.00002 J

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	C	C	C
Sample	CBS-CSC-T7-1	CBS-CSC-T8-1	CBS-CSC-T9-1
Sample date	12/13/2001	12/13/2001	12/13/2001
Units	mg/kg	mg/kg	mg/kg
Analyte:			
1,2,3,4,6,7,8,9-OCDD	0.00069 J	0.0025 J	0.0031 J
1,2,3,4,6,7,8,9-OCDF	0.00008 J	0.001 J	0.00054 J
1,2,3,4,6,7,8-HpCDD	0.00002 U	0.00022 J	0.00018 J
1,2,3,4,6,7,8-HpCDF	0.00002 J	0.00013 J	0.00008 J
1,2,3,4,7,8,9-HpCDF	0.00002 U	0.00002 U	0.00001 U
1,2,3,4,7,8-HxCDD	0.00002 U	0.00002 U	0.00001 U
1,2,3,4,7,8-HxCDF	0.00001 U	0.00001 U	0.000007 U
1,2,3,6,7,8-HxCDD	0.00002 U	0.00002 U	0.00001 U
1,2,3,6,7,8-HxCDF	0.00001 U	0.000009 U	0.000006 U
1,2,3,7,8,9-HxCDD	0.00002 U	0.00002 U	0.00001 U
1,2,3,7,8,9-HxCDF	0.00001 U	0.00001 U	0.000008 U
1,2,3,7,8-PeCDD	0.00002 U	0.00002 U	0.00002 U
1,2,3,7,8-PeCDF	0.00002 U	0.00002 U	0.00001 U
2,3,4,6,7,8-HxCDF	0.00001 U	0.00001 U	0.000008 U
2,3,4,7,8-PeCDF	0.00002 U	0.00002 U	0.00001 U
2,3,7,8-TCDD	0.00001 U	0.00001 U	0.00001 U
2,3,7,8-TCDF	0.00001 U	0.00001 U	0.00001 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	D	D	D	D	D	D
Sample	CBS-CSD-T1-1	CBS-CSD-T2-1	CBS-CSD-T3-1	CBS-CSD-T4-1	CBS-CSD-T5-1	CBS-CSD-T6-1
Sample date	12/12/2001	12/12/2001	12/12/2001	12/12/2001	12/12/2001	12/12/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:						
1,2,3,4,6,7,8,9-OCDD	0.0033 J	0.0136	0.0014 J	0.0011 J	0.0037 J	0.312 J
1,2,3,4,6,7,8,9-OCDF	0.00047 J	0.0089	0.00031 J	0.00044 J	0.0016 J	0.174 J
1,2,3,4,6,7,8-HpCDD	0.00017 J	0.0012 J	0.00009 J	0.0001 J	0.00029 J	0.0277
1,2,3,4,6,7,8-HpCDF	0.0001 J	0.0013 J	0.00002 U	0.00009 J	0.00026 J	0.0226
1,2,3,4,7,8,9-HpCDF	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.0011 J
1,2,3,4,7,8-HxCDD	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.0001 J
1,2,3,4,7,8-HxCDF	0.00001 UJ	0.00001 UJ	0.00002 UJ	0.00001 UJ	0.00001 UJ	0.00048 J
1,2,3,6,7,8-HxCDD	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00099 J
1,2,3,6,7,8-HxCDF	0.00002 UJ	0.00001 UJ	0.00002 UJ	0.00002 UJ	0.00001 UJ	0.00012 J
1,2,3,7,8,9-HxCDD	0.00002 U	0.00006 J	0.00002 U	0.00002 U	0.00002 U	0.00029 J
1,2,3,7,8,9-HxCDF	0.00001 UJ	0.00002 UJ	0.00002 UJ	0.00002 UJ	0.00001 UJ	0.0001 J
1,2,3,7,8-PeCDD	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U
1,2,3,7,8-PeCDF	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00038 J
2,3,4,6,7,8-HxCDF	0.00001 UJ	0.00002 UJ	0.00002 UJ	0.00002 UJ	0.00001 UJ	0.00031 J
2,3,4,7,8-PeCDF	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00009 J
2,3,7,8-TCDD	0.00001 U	0.00001 U	0.00001 U	0.00001 U	0.00001 U	0.00001 U
2,3,7,8-TCDF	0.00001 U	0.00001 U	0.00001 U	0.00001 U	0.00001 U	0.0002 J

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E	E	E
Sample	CBS-CSE-T1-1	CBS-CSE-T2-1	CBS-CSE-T3-1	CBS-CSE-T3-1-FD	CBS-CSE-T4-1	CBS-CSE-T5-1	CBS-CSE-T6-1
Sample date	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,2,3,4,6,7,8,9-OCDD	0.00074 J	0.0035 J	0.0014 J	0.0018 J	0.001 J	0.00051 J	0.0028 J
1,2,3,4,6,7,8,9-OCDF	0.00017 J	0.00098 J	0.00065 J	0.00064 J	0.00011 J	0.00013 J	0.0014 J
1,2,3,4,6,7,8-HpCDD	0.00007 J	0.00031 J	0.00016 J	0.00014 J	0.00006 J	0.00005 U	0.00026 J
1,2,3,4,6,7,8-HpCDF	0.00002 U	0.0002 J	0.00009 J	0.00014 J	0.00003 U	0.00005 U	0.00019 J
1,2,3,4,7,8,9-HpCDF	0.00002 U	0.00002 U	0.00002 U	0.00003 U	0.00003 U	0.00005 U	0.000006 U
1,2,3,4,7,8-HxCDD	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00003 U	0.00004 U	0.000007 U
1,2,3,4,7,8-HxCDF	0.00002 U	0.00001 U	0.00001 U	0.00002 U	0.00002 U	0.00003 U	0.000004 U
1,2,3,6,7,8-HxCDD	0.00002 U	0.00002 U	0.00002 U	0.00003 U	0.00004 U	0.00004 U	0.00001 J
1,2,3,6,7,8-HxCDF	0.00002 U	0.00002 U	0.00001 U	0.00002 U	0.00003 U	0.00004 U	0.000004 U
1,2,3,7,8,9-HxCDD	0.00002 U	0.00002 U	0.00002 U	0.00003 U	0.00003 U	0.00004 U	0.000007 U
1,2,3,7,8,9-HxCDF	0.00002 U	0.00002 U	0.00001 U	0.00002 U	0.00003 U	0.00004 U	0.000005 U
1,2,3,7,8-PeCDD	0.00003 U	0.00003 U	0.00002 U	0.00003 U	0.00004 U	0.00005 U	0.00001 U
1,2,3,7,8-PeCDF	0.00002 U	0.00002 U	0.00002 U	0.00003 U	0.00003 U	0.00004 U	0.000007 U
2,3,4,6,7,8-HxCDF	0.00002 U	0.00002 U	0.00001 U	0.00002 U	0.00003 U	0.00003 U	0.000005 U
2,3,4,7,8-PeCDF	0.00002 U	0.00002 U	0.00002 U	0.00003 U	0.00003 U	0.00004 U	0.000007 U
2,3,7,8-TCDD	0.00002 U	0.00002 U	0.00001 U	0.00002 U	0.00002 U	0.00003 U	0.000007 U
2,3,7,8-TCDF	0.00001 U	0.00001 U	0.00001 U	0.00002 U	0.00002 U	0.00003 U	0.000006 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E	E	E
Sample	CBS-CSE-T7-1	CBS-CSE-T8-1	CBS-CSE-T9-1	CBS-CSE-T10-1	CBS-CSE-T11-1	CBS-CSE-T12-1	CBS-CSE-T13-2
Sample date	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	2/14/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,2,3,4,6,7,8,9-OCDD	0.0052 J	0.0031 J	0.00032 U	0.00019 U	0.0023 J	0.00026 U	0.0038 J
1,2,3,4,6,7,8,9-OCDF	0.0013 J	0.0013 J	0.00005 U	0.00008 U	0.00099 J	0.00006 U	0.0015 J
1,2,3,4,6,7,8-HpCDD	0.00043 J	0.00023 J	0.00003 U	0.00006 U	0.00023 J	0.00004 U	0.0003 J
1,2,3,4,6,7,8-HpCDF	0.00019 J	0.00016 J	0.00002 U	0.00004 U	0.00015 J	0.00003 U	0.00022 J
1,2,3,4,7,8,9-HpCDF	0.00003 U	0.00002 U	0.00003 U	0.00004 U	0.00003 U	0.00003 U	0.000007 U
1,2,3,4,7,8-HxCDD	0.00002 U	0.00002 U	0.00002 U	0.00004 U	0.00003 U	0.00003 U	0.000007 U
1,2,3,4,7,8-HxCDF	0.00002 U	0.00001 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.000005 U
1,2,3,6,7,8-HxCDD	0.00003 U	0.00002 U	0.00003 U	0.00004 U	0.00003 U	0.00003 U	0.00001 J
1,2,3,6,7,8-HxCDF	0.00002 U	0.00002 U	0.00002 U	0.00003 U	0.00002 U	0.00002 U	0.000004 U
1,2,3,7,8,9-HxCDD	0.00003 U	0.00002 U	0.00003 U	0.00005 U	0.00003 U	0.00003 U	0.000007 U
1,2,3,7,8,9-HxCDF	0.00002 U	0.00002 U	0.00002 U	0.00003 U	0.00002 U	0.00002 U	0.000005 U
1,2,3,7,8-PeCDD	0.00003 U	0.00003 U	0.00003 U	0.00005 U	0.00004 U	0.00003 U	0.00001 U
1,2,3,7,8-PeCDF	0.00002 U	0.00002 U	0.00002 U	0.00004 U	0.00003 U	0.00003 U	0.000008 U
2,3,4,6,7,8-HxCDF	0.00002 U	0.00002 U	0.00002 U	0.00003 U	0.00002 U	0.00002 U	0.000005 U
2,3,4,7,8-PeCDF	0.00003 U	0.00003 U	0.00003 U	0.00004 U	0.00003 U	0.00003 U	0.000008 U
2,3,7,8-TCDD	0.00002 U	0.00002 U	0.00002 U	0.00003 U	0.00002 U	0.00002 U	0.000008 U
2,3,7,8-TCDF	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.000007 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E
Sample	CBS-CSE-T14-1	CBS-CSE-T15-1	CBS-CSE-T15-1-FD	CBS-CSE-T16-1	CBS-CSE-T17-1
Sample date	12/18/2001	12/18/2001	12/18/2001	12/21/2001	12/21/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,3,4,6,7,8,9-OCDD	0.0026 J	0.00062 J	0.0006 J	0.037	0.0474
1,2,3,4,6,7,8,9-OCDF	0.0011 J	0.00009 J	0.00012 J	0.0166	0.0149
1,2,3,4,6,7,8-HpCDD	0.00024 J	0.00005 J	0.00004 J	0.0029 J	0.0045
1,2,3,4,6,7,8-HpCDF	0.00019 J	0.00002 J	0.00003 J	0.0017 J	0.0021 J
1,2,3,4,7,8,9-HpCDF	0.000007 U	0.000006 U	0.000005 U	0.0001 J	0.0001 J
1,2,3,4,7,8-HxCDD	0.000007 U	0.000007 U	0.000006 U	0.00002 U	0.00001 U
1,2,3,4,7,8-HxCDF	0.000005 U	0.000004 U	0.000004 U	0.00005 J	0.00005 J
1,2,3,6,7,8-HxCDD	0.00001 J	0.000006 U	0.000006 U	0.00009 J	0.00012 J
1,2,3,6,7,8-HxCDF	0.000005 U	0.000004 U	0.000003 U	0.00003 J	0.00004 J
1,2,3,7,8,9-HxCDD	0.000008 U	0.000007 U	0.000006 U	0.00002 U	0.00011 J
1,2,3,7,8,9-HxCDF	0.000005 U	0.000004 U	0.000004 U	0.00001 U	0.00001 U
1,2,3,7,8-PeCDD	0.00001 U	0.00001 U	0.000008 U	0.00002 U	0.00004 J
1,2,3,7,8-PeCDF	0.000008 U	0.000008 U	0.000007 U	0.00002 U	0.00001 U
2,3,4,6,7,8-HxCDF	0.000005 U	0.000004 U	0.000004 U	0.00001 U	0.00001 U
2,3,4,7,8-PeCDF	0.000008 U	0.000008 U	0.000007 U	0.00002 U	0.00001 U
2,3,7,8-TCDD	0.000007 U	0.000007 U	0.000006 U	0.00002 U	0.00001 U
2,3,7,8-TCDF	0.000007 U	0.000007 U	0.000006 U	0.00004 J	0.00005 J

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F	F	F
Sample	CBS-CSF-T1-1	CBS-CSF-T2-1	CBS-CSF-T3-1	CBS-CSF-T4-1	CBS-CSF-T5-1	CBS-CSF-T6-1	CBS-CSF-T6-1-FD
Sample date	12/21/2001	12/11/2001	12/11/2001	12/11/2001	1/8/2002	1/16/2002	1/16/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,2,3,4,6,7,8,9-OCDD	0.0011 J	0.00058 J	0.0074	0.00084 J	0.0059 J	0.0017 J	0.0011 J
1,2,3,4,6,7,8,9-OCDF	0.00038 U	0.00013 J	0.0025 J	0.00003 U	0.0031 J	0.00018 J	0.00023 J
1,2,3,4,6,7,8-HpCDD	0.0001 J	0.00001 U	0.00061 J	0.00002 U	0.0015 J	0.00009 J	0.00006 J
1,2,3,4,6,7,8-HpCDF	0.00005 J	0.00001 U	0.00037 J	0.00002 U	0.00084 J	0.00003 U	0.00003 U
1,2,3,4,7,8,9-HpCDF	0.00001 U	0.00001 U	0.00001 U	0.00002 U	0.00027 J	0.00003 U	0.00003 U
1,2,3,4,7,8-HxCDD	0.00001 U	0.00001 U	0.00001 U	0.00002 U	0.00018 J	0.00003 U	0.00003 U
1,2,3,4,7,8-HxCDF	0.000009 U	0.00001 UJ	0.00001 UJ	0.00002 UJ	0.00064 J	0.00002 U	0.00002 U
1,2,3,6,7,8-HxCDD	0.00001 U	0.00001 U	0.00001 U	0.00002 U	0.00041 J	0.00003 U	0.00003 U
1,2,3,6,7,8-HxCDF	0.000008 U	0.00001 UJ	0.00001 UJ	0.00002 UJ	0.00026 U	0.00002 U	0.00002 U
1,2,3,7,8,9-HxCDD	0.00001 U	0.00001 U	0.00001 U	0.00002 U	0.00055 J	0.00003 U	0.00003 U
1,2,3,7,8,9-HxCDF	0.00001 U	0.00001 UJ	0.00001 UJ	0.00002 UJ	0.00038 J	0.00002 U	0.00002 U
1,2,3,7,8-PeCDD	0.00002 U	0.00001 U	0.00001 U	0.00002 U	0.00025 J	0.00004 U	0.00003 U
1,2,3,7,8-PeCDF	0.00002 U	0.00001 U	0.00001 U	0.00002 U	0.0003 J	0.00003 U	0.00003 U
2,3,4,6,7,8-HxCDF	0.00001 U	0.00001 UJ	0.00001 UJ	0.00002 UJ	0.00026 J	0.00002 U	0.00002 U
2,3,4,7,8-PeCDF	0.00002 U	0.00001 U	0.00001 U	0.00002 U	0.00035 J	0.00003 U	0.00003 U
2,3,7,8-TCDD	0.00001 U	0.000009 U	0.000008 U	0.00001 U	0.00006 U	0.00002 U	0.00002 U
2,3,7,8-TCDF	0.00001 U	0.000007 U	0.000007 U	0.00001 U	0.00075 J	0.00002 U	0.00002 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F	F	F
Sample	CBS-CSF-T7-1	CBS-CSF-T8-1	CBS-CSF-T9-1	CBS-CSF-T9-1-FD	CBS-CSF-T10-1	CBS-CSF-T11-1	CBS-CSF-T12-1
Sample date	1/16/2002	1/23/2002	1/23/2002	1/23/2002	1/25/2002	1/25/2002	1/23/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
1,2,3,4,6,7,8,9-OCDD	0.00066 J	0.00031 J	0.00069 J	0.00083 J	0.00037 J	0.0011 J	0.00087 J
1,2,3,4,6,7,8,9-OCDF	0.00014 J	0.00009 UJ	0.00028 J	0.00031 U	0.0001 J	0.00015 J	0.00019 U
1,2,3,4,6,7,8-HpCDD	0.00008 J	0.00005 U	0.00007 J	0.00008 J	0.00006 J	0.00008 J	0.00011 J
1,2,3,4,6,7,8-HpCDF	0.00002 U	0.00004 U	0.00004 J	0.00005 J	0.00002 U	0.00003 U	0.00006 J
1,2,3,4,7,8,9-HpCDF	0.00002 U	0.00004 U	0.000008 U	0.000009 U	0.00002 U	0.00003 U	0.00004 U
1,2,3,4,7,8-HxCDD	0.00002 U	0.00004 U	0.00001 U	0.00001 U	0.00002 U	0.00003 U	0.00004 U
1,2,3,4,7,8-HxCDF	0.00002 U	0.00003 U	0.000006 U	0.000006 U	0.00001 U	0.00002 U	0.00002 U
1,2,3,6,7,8-HxCDD	0.00003 U	0.00005 U	0.00001 U	0.00001 U	0.00002 U	0.00003 U	0.00004 U
1,2,3,6,7,8-HxCDF	0.00002 U	0.00003 U	0.000006 U	0.000006 U	0.00001 U	0.00002 U	0.00002 U
1,2,3,7,8,9-HxCDD	0.00003 U	0.00005 U	0.00001 U	0.00001 U	0.00002 U	0.00003 U	0.00004 U
1,2,3,7,8,9-HxCDF	0.00002 U	0.00003 U	0.000006 U	0.000006 U	0.00002 U	0.00002 U	0.00003 U
1,2,3,7,8-PeCDD	0.00003 U	0.00005 U	0.00001 U	0.00001 U	0.00003 U	0.00004 U	0.00005 U
1,2,3,7,8-PeCDF	0.00003 U	0.00004 U	0.00001 U	0.00001 U	0.00002 U	0.00003 U	0.00004 U
2,3,4,6,7,8-HxCDF	0.00002 U	0.00003 U	0.000006 U	0.000006 U	0.00002 U	0.00002 U	0.00003 U
2,3,4,7,8-PeCDF	0.00003 U	0.00004 U	0.00001 U	0.00001 U	0.00002 U	0.00003 U	0.00004 U
2,3,7,8-TCDD	0.00002 U	0.00003 U	0.00001 U	0.00001 U	0.00002 U	0.00002 U	0.00003 U
2,3,7,8-TCDF	0.00002 U	0.00003 U	0.00001 U	0.000009 U	0.00001 U	0.00002 U	0.00003 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F
Sample	CBS-CSF-T13-1	CBS-CSF-T14-1	CBS-CSF-T15-1	CBS-CSF-T15-1-FD	CBS-CSF-T16-1
Sample date	1/16/2002	1/8/2002	1/8/2002	1/8/2002	2/6/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
1,2,3,4,6,7,8,9-OCDD	0.00014 J	0.0092	0.008	0.0067	0.0022 J
1,2,3,4,6,7,8,9-OCDF	0.00004 U	0.0076	0.0046 J	0.0043 J	0.00007 U
1,2,3,4,6,7,8-HpCDD	0.00003 U	0.0011 J	0.00063 J	0.00065 J	0.00005 U
1,2,3,4,6,7,8-HpCDF	0.00002 U	0.00093 J	0.00061 J	0.00068 J	0.00004 U
1,2,3,4,7,8,9-HpCDF	0.00002 U	0.0001 J	0.00002 UJ	0.00003 UJ	0.00004 U
1,2,3,4,7,8-HxCDD	0.00002 U	0.00005 J	0.00002 U	0.00002 U	0.00004 U
1,2,3,4,7,8-HxCDF	0.00002 U	0.00017 UJ	0.00005 U	0.00008 U	0.00002 U
1,2,3,6,7,8-HxCDD	0.00002 U	0.00014 J	0.00005 J	0.00004 J	0.00004 U
1,2,3,6,7,8-HxCDF	0.00002 U	0.00008 UJ	0.00002 U	0.00002 U	0.00002 U
1,2,3,7,8,9-HxCDD	0.00002 U	0.00014 J	0.00006 J	0.00006 J	0.00004 U
1,2,3,7,8,9-HxCDF	0.00002 U	0.00002 UJ	0.00002 UJ	0.00002 UJ	0.00003 U
1,2,3,7,8-PeCDD	0.00003 U	0.00008 J	0.00002 U	0.00002 U	0.00004 U
1,2,3,7,8-PeCDF	0.00002 U	0.00008 J	0.00002 U	0.00002 U	0.00003 U
2,3,4,6,7,8-HxCDF	0.00002 U	0.00002 UJ	0.00002 UJ	0.00002 UJ	0.00003 U
2,3,4,7,8-PeCDF	0.00002 U	0.0001 J	0.00002 U	0.00002 U	0.00003 U
2,3,7,8-TCDD	0.00002 U	0.00001 U	0.00001 U	0.00001 U	0.00002 U
2,3,7,8-TCDF	0.00002 U	0.00017 J	0.00005 J	0.00004 J	0.00002 U

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek Bottom Soil Validated Data - Inorganics
Sauget Area 1

Creek segment	B	B	B	B	B	B	B
Sample	**CBS-CSB-T0-C1**	**CBS-CSB-T1-C1**	**CBS-CSB-T1-E1**	**CBS-CSB-T1-W1**	**CBS-CSB-T2-C1**	**CBS-CSB-T2-E1**	**CBS-CSB-T2-W1**
Sample date	**11/1/2001**	**10/31/2001**	**10/31/2001**	**10/31/2001**	**10/31/2001**	**10/31/2001**	**10/31/2001**
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Analyte:							
Aluminum	5800	12000	18000	10000	11000	4400	11000
Antimony	3.9 J	2.8 UJ	2.7 UJ	2.5 UJ	2.9 UJ	2.5 UJ	2.7 UJ
Arsenic	14	5.5	3.6	4.8	23	12	2.7
Barium	1500	280	210	310	390	300	250
Beryllium	0.5	0.82	1.2	0.74	0.36 U	0.17 U	0.78
Cadmium	11	0.43	7.4	19	37	4.1	0.34
Calcium	21000	11000 J	9000 J	13000 J	5500 J	2700 J	12000 J
Chromium	28 J	18	25	31	170	180	36
Cobalt	23	7.4	16	14	2.7	3.6	8
Copper	10000 J	23	130	310	150	2000	17
Cyanide	0.81	0.76 U	0.74 U	0.69 U	0.79 U	0.69 U	0.67 U
Iron	28000 J	18000	21000	14000	12000	10000	12000
Lead	700	48 J	36 J	44 J	130 J	260 J	12 J
Magnesium	5100 J	6700 J	5100 J	6900 J	1600 J	820 J	6300 J
Manganese	250 J	190	300	160	71	50	140
Mercury	0.82 J	0.045 J	0.16 J	0.23 J	0.19 J	0.24 J	0.015 U
Molybdenum	1.4	0.66 U	1.5	1.5	1.3 U	0.85 U	0.7 U
Nickel	600	21	500	420	190	260	54
Potassium	1200 J	2200 J	2600 J	2000 J	1900 J	1200 J	1700 J
Selenium	1.3 UJ	1.4 UJ	1.3 UJ	1.3 UJ	1.4 UJ	1.3 UJ	1.3 UJ
Silver	9	1.4 U	0.27	0.41	1.4 U	1.3 U	1.3 U
Sodium	670	340	410	370	460	89	200
Thallium	1.3	1.4 U	0.98	0.76	1.4 U	1.3 U	1.3 U
Tin	54	6.9 U	6.7 U	6.3 U	7.2 U	470	6.7 U
Vanadium	21	30	42	31	24	12	29
Zinc	6800	220	2600	2700	2300	1200	490

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T3-C1	CBS-CSB-T3-E1	CBS-CSB-T3-W1	CBS-CSB-T4-C1	CBS-CSB-T4-E1	CBS-CSB-T4-W1	CBS-CSB-T5-C1
Sample date	10/31/2001	10/31/2001	10/31/2001	11/1/2001	11/1/2001	11/1/2001	11/1/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Aluminum	1500	2100	7900	20000	9100	1200	13000
Antimony	2.6 J	2.4 J	2.3 UJ	3 UJ	2.3 UJ	2.7 UJ	2.5 UJ
Arsenic	44	6	5	7.4	5	14	10
Barium	310	320	260	300	270	380	250
Beryllium	0.63 U	0.1 U	0.86	1.3	0.42	0.11 U	1.2
Cadmium	0.78 U	0.58 U	10	2	4.8	0.75	1.4
Calcium	2100 J	1500 J	6200 J	5200	3900	520	4800
Chromium	5.7	29	24	60 J	77 J	4.6 J	29 J
Cobalt	1.9	0.64	5.9	14	12	8.4	10
Copper	390	38	180	47 J	440 J	30 J	26 J
Cyanide	0.86 U	0.63 U	0.68 U	1	0.69 U	0.75 U	0.74 U
Iron	440	1800	11000	22000 J	13000 J	1200 J	19000 J
Lead	75 J	400 J	13 J	28	66	77	20
Magnesium	100 J	360 J	4700 J	4200 J	2100 J	94 J	4200 J
Manganese	4	7.1	73	130 J	160 J	6.4 J	110 J
Mercury	0.11 J	0.27 J	0.038 J	0.068 J	0.099 J	0.014 J	0.054 J
Molybdenum	2.8	2.6	0.53 U	0.89 U	0.75 U	0.79 U	0.83 U
Nickel	23	1.9	130	190	280	130	180
Potassium	1100 J	780 J	1800 J	3200 J	1800 J	790 J	3000 J
Selenium	1.6 UJ	1.2 UJ	1.1 UJ	1.5 UJ	1.2 UJ	1.4 UJ	1.2 UJ
Silver	1.6 U	0.71	1.1 U	1.5 U	1.2 U	1.4 U	1.2 U
Sodium	220	87	160	290	130	200	190
Thallium	1.6 U	1.2 U	1.1 U	1.5 U	1.2 U	1.4 U	1.2 U
Tin	7.8 U	11	5.7 U	7.5 U	5.8 U	6.8 U	6.1 U
Vanadium	4.4	5.2	23	47	25	3.8	32
Zinc	20	21	2000	7000	2100	58	3300

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T5-E1	CBS-CSB-T5-W1	CBS-CSB-T6-C1	CBS-CSB-T6-C1-D	CBS-CSB-T6-E1	CBS-CSB-T6-W1	CBS-CSB-T7-C1
Sample date	11/1/2001	11/1/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Aluminum	12000	7300	15000	16000	9400	10000	5800
Antimony	2.4 UJ	2.5 UJ	2.8 UJ	2.8 UJ	2.1 UJ	4.8 UJ	2.3 UJ
Arsenic	6.4	4.5	10	12	8.7	3.9	4.4
Barium	270	350	280	310	260	390	180
Beryllium	0.59	0.58	0.93	0.66	0.42	0.68	0.39
Cadmium	6.1	0.23	11	14	4.4	5.1	0.31
Calcium	3900	12000	5300	5500	3800	5100	11000
Chromium	39 J	13 J	66 J	140 J	82 J	38 J	10 J
Cobalt	8.5	11	6.1	5.1	15	6	7.4
Copper	250 J	14 J	100	120	570	38	14
Cyanide	0.66 U	0.55 U	0.68 U	0.69 U	0.58 U	0.66 U	0.66 U
Iron	15000 J	13000 J	17000	17000	12000	22000	16000
Lead	52	9.6	54 J	95 J	67 J	64 J	7.4 J
Magnesium	2900 J	6400 J	3300 J	3200 J	2400 J	3400 J	5500 J
Manganese	130 J	160 J	120	95	200	94	190
Mercury	0.049 J	0.024 J	0.2 J	0.21 J	0.15 J	0.055 J	0.022 J
Molybdenum	0.71 U	0.8 U	0.83	0.54	0.79	0.43	0.87
Nickel	250	32	180	190	220	22	16
Potassium	1800 J	2400 J	2100	2100	1600	1900	1900
Selenium	1.2 UJ	1.2 UJ	1.4 UJ	1.1 UJ	0.86 UJ	2.1 UJ	0.9 UJ
Silver	1.2 U	1.2 U	1.4 U	1.4 U	0.23	1.2 U	1.1 U
Sodium	140	230	160	170	130	210	200
Thallium	1.2 U	1.2 U	0.99 U	0.87 U	0.71 U	1.2 U	1.1 U
Tin	6 U	6.2 U	6.9 U	6.9 U	5.3 U	5.6	5.6 U
Vanadium	26	24	42	39	23	29	18
Zinc	2200	390	2100	2400	1500	2600	210

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T7-E1	CBS-CSB-T7-W1	CBS-CSB-T8-C1	CBS-CSB-T8-E1	CBS-CSB-T8-W1	CBS-CSB-T9-C1	CBS-CSB-T9-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/8/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Aluminum	14000	4400	4200	17000	9600	7400	11000
Antimony	4.8 UJ	2.6 UJ	12 UJ	5.2 UJ	2.3 UJ	2.7 UJ	2.4 UJ
Arsenic	8.8	5.1	3.3	18	16	5	5.1
Barium	220	180	99	360	260	160	260
Beryllium	0.84	0.19	0.32	0.75	0.42	0.47	0.59
Cadmium	22	3.1	0.58 U	29	4.4	0.25	10
Calcium	5100	2000	9900	5100	3400	10000	3500
Chromium	44 J	83 J	7.6 J	76 J	44 J	13 J	180 J
Cobalt	8.4	4.7	5.9	5.5	5.5	11	4.3
Copper	140	500	6.2	470	910	15	230
Cyanide	0.66 U	0.63 U	0.68 U	0.7 U	0.66 U	0.68 U	0.66 U
Iron	16000	5900	8700	21000	12000	16000	10000
Lead	55 J	55 J	5.5 J	84 J	43 J	9.3 J	76 J
Magnesium	3600 J	1400 J	6300 J	3500 J	2700 J	6200 J	2300 J
Manganese	130	59	63	99	80	170	70
Mercury	0.094 J	0.12 J	0.013 J	0.073 J	0.15 J	0.026 J	0.077 J
Molybdenum	0.85	0.28	0.54	0.96	0.54	0.83	0.34
Nickel	190	110	26	210	180	23	200
Potassium	1900	1200	1000	2200	1700	2100	1600
Selenium	1.4 UJ	1.3 UJ	5.8 UJ	2.6 UJ	1.1 UJ	0.94 UJ	1 UJ
Silver	1.2 U	1.3 U	1.2 U	1.3 U	0.24	1.4 U	1.2 U
Sodium	210	130	190	190	160	210	160
Thallium	1.2 U	1.3 U	1.2 U	1.1 U	1.1 U	1.4 U	1.2 U
Tin	6.1 U	6.4 U	5.8 U	6.2	5.6 U	6.8 U	6 U
Vanadium	32	13	12	42	28	22	27
Zinc	2900	710	5400	3400	1000	300	1900

Notes:
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U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T9-W1	CBS-CSB-T10-C1	CBS-CSB-T10-E1	CBS-CSB-T10-W1	CBS-CSB-T11-C1	CBS-CSB-T11-C1-D	CBS-CSB-T11-E1
Sample date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Aluminum	9900	7300	5800	9700	7000	6700	11000
Antimony	2.4 UJ	2.6 UJ	2.5 UJ	2.7 UJ	13 UJ	12 UJ	2.2 UJ
Arsenic	7.3	5.5	13	15	9.9	9.8	8.8
Barium	220	270	340	270	310	280	340
Beryllium	0.46	0.46	0.26	0.65	0.59 U	0.56 U	0.47 U
Cadmium	4.9	1.1	16	8.8	57	51	9.5
Calcium	3800	17000	3400	3700	7000	9200	3600
Chromium	52 J	13 J	130 J	27 J	14	14	89
Cobalt	13	7.2	3	16	13	16	4.9
Copper	500	150	440	410	340	230	230
Cyanide	0.64 U	0.71 U	0.68 U	0.68 U	0.68 U	0.68 U	0.6 U
Iron	12000	16000	10000	13000	11000	11000	11000
Lead	53 J	22 J	80 J	27 J	30	26	57
Magnesium	2700 J	6500 J	1200 J	2900 J	5100	6400	2200
Manganese	130	280	39	170	85	110	76
Mercury	0.29 J	0.024 J	0.16 J	0.084 J	0.035 J	0.8 J	0.12 J
Molybdenum	0.75	1.2	0.96	0.9	1	1.7	0.67 U
Nickel	230	28	140	280	450	560	190
Potassium	1700	1800	1400	1700	1500	1500	1500
Selenium	0.58 UJ	0.64 UJ	1 UJ	0.8 UJ	5.9	6.2 U	1.1 U
Silver	1.2 U	1.3 U	1.2 U	1.4 U	0.28	0.42	1.1 U
Sodium	130	200	180	170	180	180	150
Thallium	1.2 U	0.84 U	1.2 U	0.91 U	1.5 U	1.2 U	0.88 U
Tin	5.9 U	6.5 U	6.1 U	6.8 U	6.4 U	6.2 U	5.5 U
Vanadium	24	23	21	33	22	22	30
Zinc	1500	320	1900	1700	11000	9900	2100

Notes:
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U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T11-W1	CBS-CSB-T12-C1	CBS-CSB-T12-E1	CBS-CSB-T12-W1	CBS-CSB-T13-C1	CBS-CSB-T13-E1	CBS-CSB-T13-W1
Sample date	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001	11/19/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Aluminum	7500	6700	8000	11000	8200	8600	7900
Antimony	2.3 UJ	14 UJ	0.9 UJ	2.2 UJ	2.5 UJ	2.1 UJ	2.7 UJ
Arsenic	15	27	4.4	6.8	6.4	7.4	8.7
Barium	170	470	360	220	230	200	270
Beryllium	0.49 U	0.46 U	0.37 U	0.81	0.65 U	0.58 U	0.58 U
Cadmium	4	42	3.3	4.4	2.8	4.6	3.9
Calcium	2900	5700	2600	3800	14000	3100	3500
Chromium	58	140	48	80	13	21	74
Cobalt	7.2	11	4.9	7.9	9.7	6.4	8.1
Copper	560	89	280	620	30	170	240
Cyanide	0.63 U	1.1	0.58 U	0.64 U	0.67 U	0.59 U	0.67 U
Iron	10000	15000	9000	15000	21000	11000	12000
Lead	48	190	80	29	19	21	63
Magnesium	2200	2700	1600	3400	6900	2500	2900
Manganese	81	140	54	80	530	76	94
Mercury	0.12 J	0.84 J	0.14 J	0.1 J	0.031 J	0.061 J	0.096 J
Molybdenum	0.49 U	1.5	0.64 U	0.34 U	0.71 U	0.56 U	0.64 U
Nickel	250	630	330	400	29	340	240
Potassium	1500	1700	1200	1900	1800	1300	1700
Selenium	1.2 U	6.8 U	1.2 U	0.7	1.3 U	1.1 U	1.4 U
Silver	1.2 U	0.33	1.2 U	1.1 U	1.3 U	1.1 U	1.4 U
Sodium	130	170	110	130	190	110	140
Thallium	1.2 U	1 U	0.73 U	0.78 U	2.1 U	1.1 U	0.92 U
Tin	5.8 U	7.4	5.2	5.5 U	6.3 U	5.3 U	6.8 U
Vanadium	20	25	24	23	24	26	24
Zinc	1300	6600	1500	2100	660	1700	1900

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B	B	B	B
Sample	CBS-CSB-T14-1	CBS-CSB-T15-1	CBS-CSB-T16-1	CBS-CSB-T17-C1	CBS-CSB-T17-E1	CBS-CSB-T17-E1D	CBS-CSB-T17-WI
Sample date	12/20/2001	12/20/2001	12/20/2001	11/9/2001	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Aluminum	10000	6300	7400	14000	13000	9900	8400
Antimony	2.8 U	2.2 U	0.71	2.9 UJ	5.8 UJ	4.6 UJ	2.6 UJ
Arsenic	5.3	7.4	11	16	14	14	5.2
Barium	230	260	350	230	330	360	200
Beryllium	0.77	0.51	0.52	0.82 J	0.86 J	0.58 J	0.54 J
Cadmium	2.8	5.2	2.8	0.68 J	8.1	16	0.4 J
Calcium	8200	5600	6600	6300	7200	7100	9900
Chromium	17	43	27	19	56	55	14
Cobalt	11	5.6	9.3	14	11	9.6	6.9
Copper	33	370	1500	29	470	750	17
Cyanide	0.76 U	0.66 U	0.72 U	0.79 U	0.7 U	0.69 U	0.7 U
Iron	16000	11000	13000	18000	18000	19000	16000
Lead	15	71	100	27	96	150	10
Magnesium	6000	3200	3600	3900	4600	3800	6400
Manganese	130	110	99	120	150	160	170
Mercury	0.032 J	0.064 J	0.12 J	0.072 J	0.2 J	0.34 J	0.028 J
Molybdenum	1.4 UJ	0.5 J	0.97 U	2.1	1.1	1.1	1.2
Nickel	130	180	170	89 J	200 J	300 J	17 J
Potassium	2100	1300	1500	2400	2300	1700	1800
Selenium	1.4 U	1.1 U	1.2 U	1 UJ	2.9 UJ	2.3 UJ	1.3 UJ
Silver	1.4 U	1.1 U	1.3	1.5 U	0.3	0.62	1.3 U
Sodium	270	180	300	150	150	140	160
Thallium	1.4 U	1.9 U	1.4 U	1.5 U	1.4 U	1.2 U	1.3 U
Tin	7 U	5.5 U	7.3	7.3 U	8.8	13	6.4 U
Vanadium	29	19	22	36	36	28	24
Zinc	2700	1200	3800	1300 J	3200 J	3000 J	120 J

Notes:
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U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	B	B	B	B
Sample	CBS-CSB-T18-C1	CBS-CSB-T18-E1	CBS-CSB-T18-W1	CBS-CSB-T18-W1D
Sample date	11/9/2001	11/9/2001	11/9/2001	11/9/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:				
Aluminum	8500	13000	12000	20000
Antimony	2.5 UJ	2.3 UJ	2.5 UJ	2.7 UJ
Arsenic	4.1	11	10	9.8
Barium	190	270	220	310
Beryllium	0.54 J	0.8 J	0.81 J	1 J
Cadmium	0.38 J	11	12	14
Calcium	14000	2200	3700	4900
Chromium	14	26	99	77
Cobalt	8.4	6.8	5.7	7.5
Copper	17	49	37	60
Cyanide	0.68 U	0.69 U	0.68 U	0.67 U
Iron	19000	12000	14000	19000
Lead	11	26	30	59
Magnesium	6900	2800	3000	4000
Manganese	370	75	83	110
Mercury	0.029 J	0.029 J	0.051 J	0.055 J
Molybdenum	0.85 U	1.3	0.76 U	0.75 U
Nickel	28 J	210 J	65 J	94 J
Potassium	1700	1800	1900	2500
Selenium	0.65 UJ	1.1 UJ	0.87 UJ	1.7 UJ
Silver	1.2 U	1.2 U	1.2 U	1.4 U
Sodium	150	140	120	140
Thallium	0.81 UJ	1.2 U	1.2 U	0.99 UJ
Tin	6.1 U	5.8 U	6.2 U	6.8 U
Vanadium	25	33	34	40
Zinc	300 J	1900 J	1800 J	2500 J

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	C	C	C	C	C	C	C
Sample	CBS-CSC-T1-1	CBS-CSC-T2-1	CBS-CSC-T3-1	CBS-CSC-T4-1	CBS-CSC-T4-1-FD	CBS-CSC-T5-1	CBS-CSC-T6-1
Sample date	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001	12/13/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Aluminum	10000	9200	13000	11000	11000	13000	11000
Antimony	2.5 U	2.6 U	5.6 U	2.5 U	2.8 U	0.79	5.3 U
Arsenic	14	13	14	4.7	9.5	3	12
Barium	250	220	250	260	230	240	330
Beryllium	0.8	0.68	0.74	0.78	0.82	0.94	0.79
Cadmium	14 J	11 J	18 J	1.5 J	8.4 J	1.6 J	14 J
Calcium	10000	5500	6100	13000	8500	14000	7700
Chromium	27	110	21	18	30	20	42
Cobalt	8.9	7.4	14	9.4	9.4	9.6	9.1
Copper	81 J	160 J	120 J	50 J	200 J	40 J	250 J
Cyanide	0.67 U	0.71 U	0.74 U	0.72 U	0.76 U	0.77 U	0.76 U
Iron	19000	15000	20000	18000	17000	21000	20000
Lead	22	65	28	17	45	18	140
Magnesium	5100	3200	3800	6600	4700	6700	4000
Manganese	200	160	200	320	220	390	140
Mercury	0.046 J	0.06 J	0.048 J	0.073 J	0.13 J	0.074 J	0.31 J
Molybdenum	1.3 U	1 U	1.5 U	0.78 U	1.2 U	1.1 U	1.4 U
Nickel	200 J	260 J	570	55 J	200 J	60 J	170
Potassium	1800	1700	2100	1900	1800	2300	1800
Selenium	0.9 U	1.8 U	2.8 U	0.76 U	0.87 U	0.97 U	2 U
Silver	1.2 U	1.3 U	1.4 U	1.2 U	1.4 U	1.6 U	1.3 U
Sodium	120	110	110	170	140	200	120
Thallium	1.2 U	1.3 U	1.4 U	1.1 U	1.4 U	1.2 U	0.78 U
Tin	6.2 U	6.5 U	7 U	6.2 U	6.9 U	7.8 U	7.5
Vanadium	30	27	37	28	28	34	32
Zinc	1800 J	1900 J	3200 J	280 J	1500 J	340 J	3000 J

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	C	C	C
Sample	CBS-CSC-T7-1	CBS-CSC-T8-1	CBS-CSC-T9-1
Sample date	12/13/2001	12/13/2001	12/13/2001
Units	mg/kg	mg/kg	mg/kg
Analyte:			
Aluminum	11000	11000	8100
Antimony	5.9 U	3 U	2.7 U
Arsenic	7	11	6.2
Barium	270	240	200
Beryllium	0.92	0.82	0.96
Cadmium	24 J	17 J	15 J
Calcium	6100	6500	3600
Chromium	22	41	18
Cobalt	12	9.3	5
Copper	53 J	100 J	53 J
Cyanide	0.71 U	0.74 U	0.64 U
Iron	17000	17000	12000
Lead	32	33	20
Magnesium	4400	4200	2800
Manganese	140	120	79
Mercury	0.094 J	0.05 J	0.077 J
Molybdenum	1.6 U	1.6 U	1.5 U
Nickel	400	330	250 J
Potassium	2000	1900	1400
Selenium	2.2 U	1.1 U	0.78 U
Silver	1.5 U	1.5 U	1.4 U
Sodium	100	110	90
Thallium	1.5 U	0.87 U	1.4 U
Tin	7.4 U	7.5 U	6.8 U
Vanadium	36 J	32	23
Zinc	3400 J	2700 J	2000 J

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	D	D	D	D	D	D
Sample	CBS-CSD-T1-1	CBS-CSD-T2-1	CBS-CSD-T3-1	CBS-CSD-T4-1	CBS-CSD-T5-1	CBS-CSD-T6-1
Sample date	12/12/2001	12/12/2001	12/12/2001	12/12/2001	12/12/2001	12/12/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:						
Aluminum	9300	8300	12000	14000	12000	9800
Antimony	12 U	14 U	2.9 U	6 U	2.7 U	5.3 U
Arsenic	11	18	8.7	15	5.7	10
Barium	240	320	250	290	200	570
Beryllium	0.89	0.65	0.94	0.99	0.66	0.9
Cadmium	14 J	40 J	15 J	28 J	8.5 J	13 J
Calcium	5900	5500	5600	5200	4000	25000
Chromium	44	55	57	46	41	53
Cobalt	12	11	11	9.2	6	7.6
Copper	79 J	130 J	84 J	230 J	190 J	1600 J
Cyanide	0.72 UJ	0.74 UJ	0.71 UJ	0.72 UJ	0.67 UJ	0.7 UJ
Iron	16000	18000	17000	20000	14000	18000
Lead	39	150	36	61	23	280
Magnesium	3300	3700	4100	3600	2900	5000
Manganese	110	100	190	150	110	160
Mercury	0.14 J	0.11 J	0.07 J	0.71 J	0.065 J	0.33 J
Molybdenum	1.1 U	4.7	1 U	1.5 U	0.96 U	7
Nickel	90	180 J	250	410 J	260 J	530 J
Potassium	1600	1700	2100	2100	1600	1700
Selenium	2.8	6.9 U	1 U	3 U	1.4 U	1.7 U
Silver	1.2 U	1.4 U	1.4 U	1.5 U	1.4 U	1.5
Sodium	120	120	160	180	140	330
Thallium	0.94 U	0.85 U	1.1 U	1.5 U	1.4 U	1.3 U
Tin	6.2 U	6.6	7.1 U	7.5 U	6.8 U	11
Vanadium	32	26	34	36	33	28
Zinc	6400 J	8200 J	2000 J	3100 J	1800 J	3100 J

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E	E	E
Sample	CBS-CSE-T1-1	CBS-CSE-T2-1	CBS-CSE-T3-1	CBS-CSE-T3-1-FD	CBS-CSE-T4-1	CBS-CSE-T5-1	CBS-CSE-T6-1
Sample date	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001	12/18/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Aluminum	9800	7000	11000	9200	8700	5500	11000
Antimony	2.7 UJ	0.75 J	2.7 UJ	2.3 UJ	2.5 UJ	2.4 UJ	2.6 UJ
Arsenic	8.8	8.5	14	12	7.4	2.8	7.1
Barium	230	170	220	190	220	200	240
Beryllium	0.78	0.39	0.73	0.67	0.8	0.31	0.84
Cadmium	13 J	11 J	21 J	18 J	16 J	10 J	22 J
Calcium	6600	3500	4800	4200	5300	3300	6900
Chromium	57 J	120 J	120 J	100 J	29 J	170 J	60 J
Cobalt	6.9	3.2	6.8	5.9	6.6	4.3	8.1
Copper	380 J	480 J	92 J	90 J	240 J	64	170 J
Cyanide	0.72 U	0.64 U	0.73 U	0.68 U	0.68 U	0.63 U	0.74 U
Iron	17000	8700	16000	13000	14000	7500	19000
Lead	58 J	130 J	52 J	57 J	39 J	89 J	50 J
Magnesium	3800	1500	3200	2700	3300	1900	4400
Manganese	120	61	130	100	110	95	140
Mercury	0.11 J	0.25 J	0.076 J	0.11 J	0.083 J	0.094 J	0.25 J
Molybdenum	0.55 U	0.35 U	0.58 U	0.39 U	0.39 U	1.2 U	1.3 U
Nickel	260	190	220	180	220	120	170
Potassium	1900 J	1300 J	1900 J	1700 J	1600 J	1400 J	2200 J
Selenium	0.71 U	0.83 U	1.3 U	1.2 U	1.3 U	1.2 U	1.3 U
Silver	1.4 U	1.4 U	1.3 U	1.2 U	1.3 U	1.2 U	1.3 U
Sodium	310	190	250	210	290	190	240
Thallium	1.7 U	1.2 U	0.91 U	1 U	1.6 U	1.4 U	1.2 U
Tin	6.8 U	6.8 U	6.7 U	5.9 U	6.3 U	5.9 U	6.5 U
Vanadium	29	18	32	30	27	18	31
Zinc	2900	1300	2300	2000	2600	1600	2600

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E	E	E
Sample	CBS-CSE-T7-1	CBS-CSE-T8-1	CBS-CSE-T9-1	CBS-CSE-T10-1	CBS-CSE-T11-1	CBS-CSE-T12-1	CBS-CSE-T13-2
Sample date	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	2/14/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Aluminum	12000	11000	11000	7300	11000	14000	10000
Antimony	2.9 UJ	2.6 UJ	2.7 UJ	0.98 J	2.9 UJ	2.8 UJ	1 U
Arsenic	7.1	3.4 U	7.1	9.4	6.9	5.5	5.6
Barium	220	240	240	280	250	260	220
Beryllium	0.89	0.77	0.81	0.55	0.81	1.1	0.79
Cadmium	33 J	3.7 J	16 J	15 J	4.6 J	12 J	3.1
Calcium	7100 J	13000 J	5900 J	12000 J	12000 J	8500 J	12000
Chromium	19	18	18	19	19	21	18
Cobalt	8.7	8.3	8.9	7.8	9	11	8.2
Copper	510	25	39	300	88	33	94
Cyanide	2.6	0.79 U	0.75 U	0.69 U	0.72 U	0.8 U	0.75 U
Iron	19000	18000	22000	16000	21000	24000	20000
Lead	29 J	17 J	26 J	170 J	33 J	28 J	44
Magnesium	3900	6900	4200	5600	6100	5300	6500
Manganese	150	260	150	200	240	210	210
Mercury	0.12	0.34	0.6	0.6	0.46	0.69	0.84
Molybdenum	0.54 UJ	0.29 UJ	0.7 UJ	0.37 UJ	0.46 UJ	0.21 UJ	1.3 U
Nickel	310 J	44 J	160 J	170 J	67 J	120 J	52
Potassium	2400 J	2300 J	2500 J	1700 J	2400 J	2900 J	2200
Selenium	1.4 U	1.3 U	1.4 U	1.4 U	1.5 U	1.4 U	1.4 U
Silver	1.4 U	1.3 U	1.4 U	0.61	1.5 U	1.4 U	1.4 UJ
Sodium	250	190	220	280	240	280	160
Thallium	1.2 U	1.3 U	1.4 U	1.4 U	1.5 U	1.1 U	0.88
Tin	7.2 U	6.6 U	6.8 U	6.7	7.4 U	7 U	6.8 U
Vanadium	35	30	32	25	31	37	31
Zinc	2900	490	1900	2500	690	1300	320

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	E	E	E	E	E
Sample	CBS-CSE-T14-1	CBS-CSE-T15-1	CBS-CSE-T15-1-FD	CBS-CSE-T16-1	CBS-CSE-T17-1
Sample date	12/18/2001	12/18/2001	12/18/2001	12/21/2001	12/21/2001
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
Aluminum	12000	7300	6800	12000 J	10000
Antimony	2.7 UJ	2.5 UJ	2.3 UJ	4.7 J	3.2 U
Arsenic	6.8	6.5	6.9	20 J	13
Barium	250	160	140	640 J	270
Beryllium	0.92	0.57	0.52	0.91 J	0.74
Cadmium	5.6 J	2.7 J	3.6 J	38 J	16
Calcium	7300	6800	6400	8800 J	13000
Chromium	19 J	14 J	14 J	56 J	37
Cobalt	13	7.1	5.9	9.5 J	11
Copper	40 J	24 J	25 J	4300 J	350
Cyanide	0.77 U	0.65 U	0.63 U	1 UJ	0.88 U
Iron	20000	14000	15000	27000 J	20000
Lead	25 J	24 J	20 J	400 J	120
Magnesium	5300	3900	3600	4600 J	6600
Manganese	170	180	220	210 J	300
Mercury	0.28 J	0.25 J	0.19 J	1.6 J	0.27 J
Molybdenum	0.23 U	1.3 U	0.22 U	1.5 J	0.46 J
Nickel	140	56	61	600 J	200
Potassium	2600 J	1700 J	1500 J	2300 J	2100
Selenium	1.3 U	1.3 U	1.2 U	2 UJ	1.6 U
Silver	1.3 U	1.3 U	1.2 U	9.8 J	0.64
Sodium	200	170	170	390 J	270
Thallium	1.8 U	1.1 U	1.3 U	1.3 U	0.93 U
Tin	6.7 U	6.3 U	5.8 U	31 J	11
Vanadium	34	23	21	39 J	31
Zinc	830	560	690	5900 J	2100

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F	F	F
Sample	CBS-CSF-T1-1	CBS-CSF-T2-1	CBS-CSF-T3-1	CBS-CSF-T4-1	CBS-CSF-T5-1	CBS-CSF-T6-1	CBS-CSF-T6-1-FD
Sample date	12/21/2001	12/11/2001	12/11/2001	12/11/2001	1/8/2002	1/16/2002	1/16/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:							
Aluminum	9500	11000	12000	11000	6400	13000	11000
Antimony	3 U	2.7 UJ	2.8 UJ	2.5 UJ	25 UJ	5.4 UJ	2.6 UJ
Arsenic	8.6	13	9	7.9	19	7.5 J	11
Barium	270	330	290	260	270	290	200
Beryllium	0.65	0.82	0.89	0.78	0.49 U	0.89	0.71
Cadmium	0.77	4.4	3.2	2.8	57 J	70	27
Calcium	17000	15000 J	16000 J	14000 J	10000	8300	8900
Chromium	16	19	23	21	29	39	16
Cobalt	9.4	12	9.4	8.4	13	16	9.5
Copper	73	45	27	24	190 J	280	84
Cyanide	1.2	0.71 U	0.76 U	0.66 U	0.67 U	0.74 J	8.4 J
Iron	19000	26000	24000	21000	41000	21000	20000
Lead	21	29	24	21	450 J	45	29
Magnesium	8200	6900	6500	5800	4500	5900	6000
Manganese	410	550	460	400	890 J	290	320
Mercury	0.12 J	0.074	0.63	0.038	0.82 J	0.14 J	0.095 J
Molybdenum	0.37 J	1.3 U	1.2 U	1 U	2.2	0.9 UJ	0.95 UJ
Nickel	93	95	36	32	630 J	250	210
Potassium	2300	2300	2300	2000	1300 J	2300 J	1800 J
Selenium	1.5 U	1.5 U	0.82 U	1.1 U	9.3 U	2.4 UJ	1.3 UJ
Silver	1.5 U	1.3 U	1.4 U	1.2 U	0.79	1.4 U	1.3 U
Sodium	290	220	170 U	150	130	160	140
Thallium	1.5 U	1.7 U	1.6 U	1.6 U	3.2 U	1.2 U	1.6 U
Tin	7.6 U	3 U	2.9 U	1.9 U	17	6.8 U	6.5 U
Vanadium	25	31	34	30	26	30	30
Zinc	530	1100 J	1200 J	1100 J	15000	3200	2500

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Creek segment	F	F	F	F	F	F	F
Sample	**CBS-CSF-T7-1**	**CBS-CSF-T8-1**	**CBS-CSF-T9-1**	**CBS-CSF-T9-1-FD**	**CBS-CSF-T10-1**	**CBS-CSF-T11-1**	**CBS-CSF-T12-1**
Sample date	**1/16/2002**	**1/23/2002**	**1/23/2002**	**1/23/2002**	**1/25/2002**	**1/25/2002**	**1/23/2002**
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Analyte:							
Aluminum	9100	8900	12000	9700	5100	10000	8100
Antimony	2.8 UJ	2.5 UJ	3 UJ	0.62 J	2.4 UJ	2.5 UJ	2.7 UJ
Arsenic	8.6	11	12	10	8.2	9.7	12
Barium	200	160	190	160	160	200	240
Beryllium	0.66	0.65	0.77	0.65	0.47	0.72	0.56
Cadmium	25	20	14	11	23	35	38
Calcium	7700	5900	6000	4900	8400	7300	6400
Chromium	14	14	19	16	9.7	16	13
Cobalt	8.8	8	9	7.1	6.1	10	7.9
Copper	80	99 J	120 J	110 J	180 J	110 J	92 J
Cyanide	0.67 UJ	0.68 U	0.72 U	0.64 U	0.63 U	0.67 U	0.66 U
Iron	16000	18000	19000	17000	13000	18000	16000
Lead	27	28	53	50	41	23	18
Magnesium	5200	4200	4100	3300	5300	5200	4400
Manganese	210	200 J	350 J	260 J	170 J	240 J	190 J
Mercury	0.086 J	0.09	0.32	0.29	0.11	0.093	0.031
Molybdenum	1.2 UJ	1.4 U	0.98 U	0.85 U	0.87 U	0.79 U	1.4 U
Nickel	160	150	110	100	94	300	270
Potassium	1400 J	1500	1900	1500	1000	1700	1300
Selenium	1.2 UJ	1.2 U	1.4 U	1.3 U	1 U	1.8	1.4 U
Silver	1.4 U	1.2 U	1.5 U	1.2 U	1.2 U	1.3 U	1.4 U
Sodium	120	120	130	99	120	110	110
Thallium	1.4 U	1.1 UJ	1.5 UJ	0.89 UJ	0.73 UJ	1.1 UJ	1.4 UJ
Tin	6.9 U	6.2 U	7.5 U	6 U	5.9 U	6.3 U	6.8 U
Vanadium	25	26	30	26	19	29	27
Zinc	1600	1500	1400	1200	1200	2400	2400

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

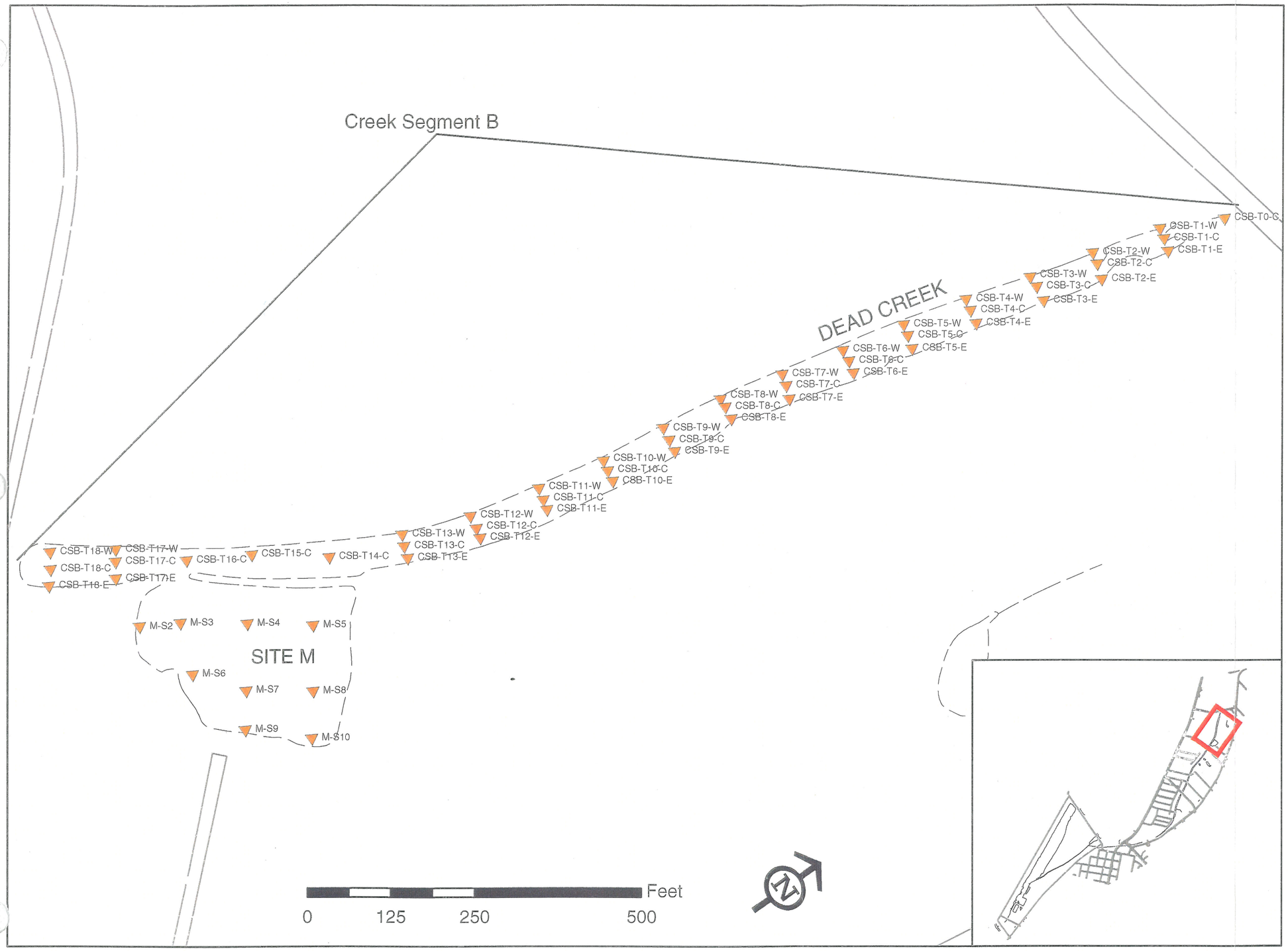
Creek segment	F	F	F	F	F
Sample	CBS-CSF-T13-1	CBS-CSF-T14-1	CBS-CSF-T15-1	CBS-CSF-T15-1-FD	CBS-CSF-T16-1
Sample date	1/16/2002	1/8/2002	1/8/2002	1/8/2002	2/6/2002
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Analyte:					
Aluminum	5900	8500	9900	5000	6000
Antimony	2.4 UJ	0.66 J	2.9 UJ	2.4 UJ	1.2 U
Arsenic	4.1	14	9.7	4.6	5.8 U
Barium	170	200	180	160	160
Beryllium	0.38	0.65 U	0.85 U	1.2	0.57 U
Cadmium	6.9	28 J	27 J	12 J	0.71 U
Calcium	14000	6100	5700	5500	9400
Chromium	9.3	16	17	8.9	11
Cobalt	5.6	9	8.5	4.9	6.3
Copper	23	150 J	260 J	750 J	20
Cyanide	0.66 UJ	0.65 U	0.71 U	0.63 U	0.68 U
Iron	11000	21000	18000	9900	13000
Lead	7.5	100 J	61 J	13 J	15
Magnesium	6100	4200	4100	3900	4200
Manganese	180	350 J	330 J	85 J	290
Mercury	0.018 J	0.32 J	0.16 J	0.17 J	0.04 J
Molybdenum	0.8 UJ	0.95 U	0.62 U	0.38 U	0.5 U
Nickel	68	230 J	210 J	130 J	15
Potassium	1100 J	1400 J	1500 J	890 J	940
Selenium	0.76 U	0.99 U	1.4 U	0.61 U	1.4 UJ
Silver	1.2 U	1.2 U	1.4 U	1.2 U	1.4 UJ
Sodium	140	110	100	92	140
Thallium	1.2 U	0.99 U	1.5 U	1.2 U	1.4 U
Tin	6.1 U	6.1 U	7.1 U	6 U	7.1 U
Vanadium	17	25	25	14	19
Zinc	400	1700	2000	950	59

Notes:
J - Detected, estimated.
U - Nondetected.
UJ - Nondetected, detection limit is estimated.
R - Rejected.

Sauget Area 1
Creek Bottom Soils
Human Health Risk Assessment

FIGURE 3-1
Sauget Area 1
Creek Bottom Soils
Sample Locations

Sheet 1 of 3



LEGEND

- Sample Locations
- Water
- Roads

Solutia, Inc.
Remediation Technology Group
St. Louis, Missouri

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Sauget Area 1
Creek Bottom Soils
Human Health Risk Assessment

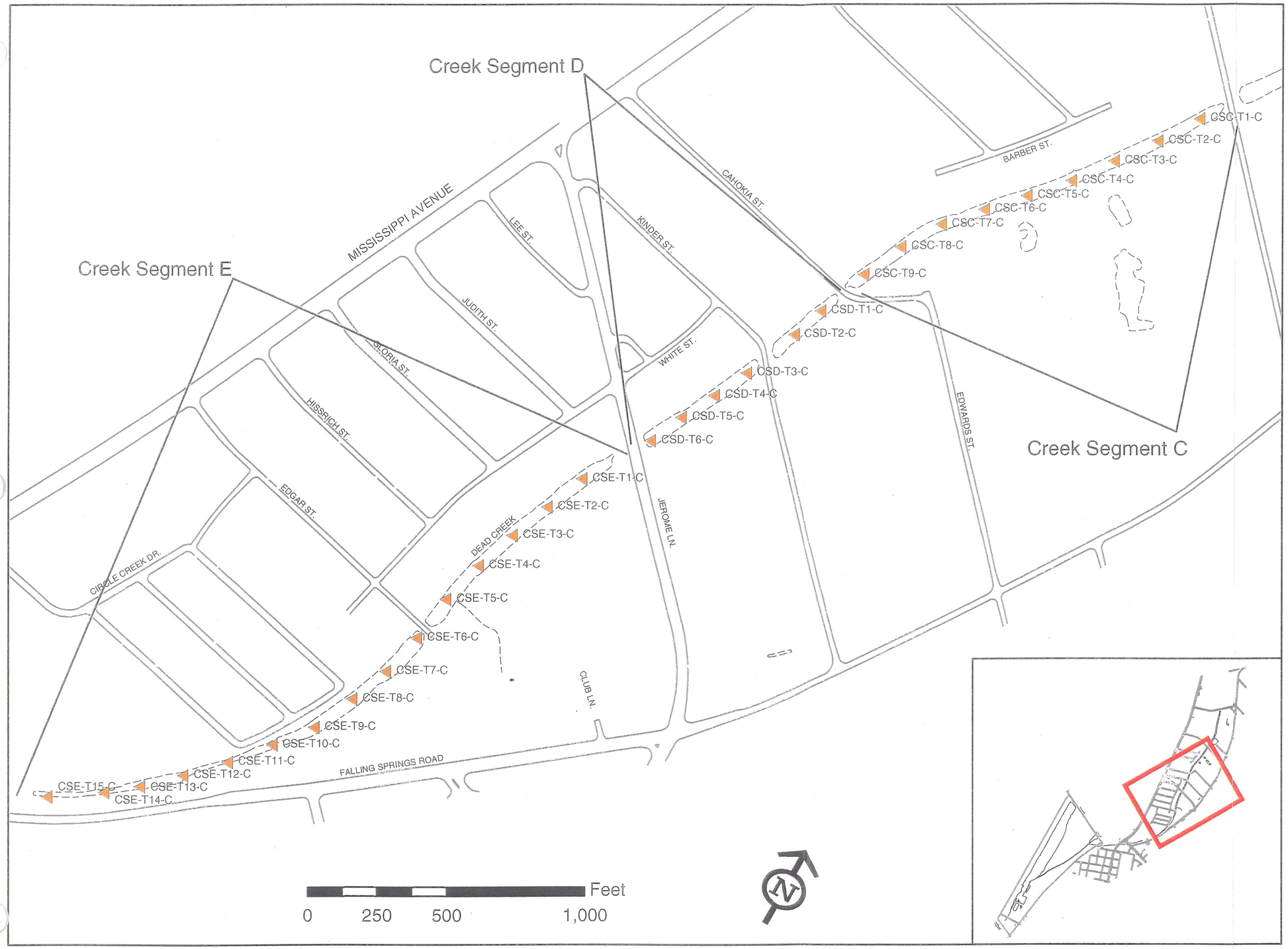

FIGURE 3-1 (cont.)
Sauget Area 1
Creek Bottom Soils
Sample Locations

Sheet 2 of 3

LEGEND

- Sample Locations
- Water
- Roads

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Sauget Area 1
Creek Bottom Soils
Human Health Risk Assessment

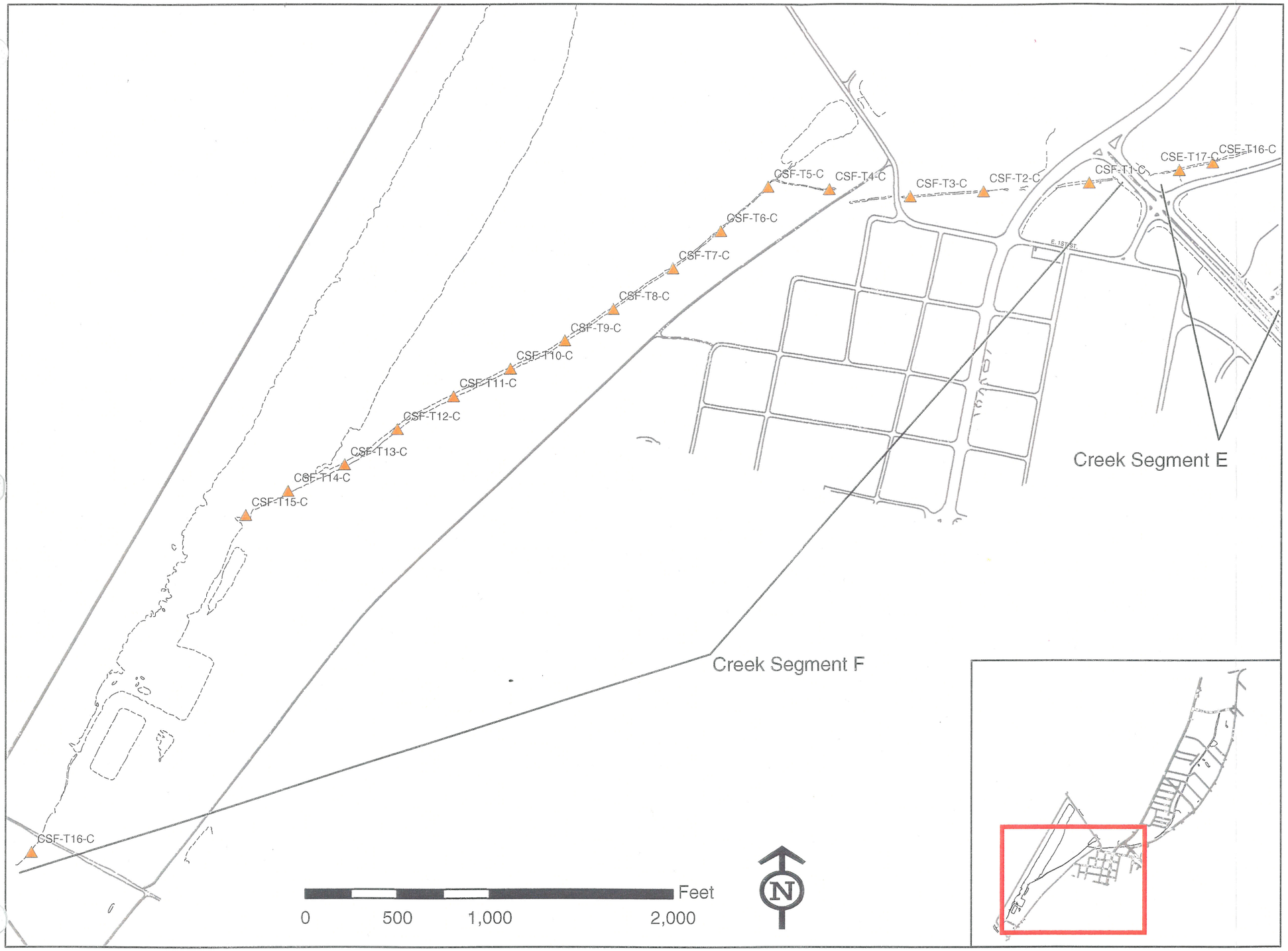

FIGURE 3-1 (cont.)
Sauget Area 1
Creek Bottom Soils
Sample Locations

Sheet 3 of 3

LEGEND

- Sample Locations
- Water
- Roads

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Post-Soil Removal Residual Concentrations

In

Creek Bottom Soils

Table 1
Dead Creek Segment B
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		T0+00C (2-3)	T0+25C (2-3)	T0+50C (2-3)	T0+75E (2-3)	T0+75W (2-3)	CSBT01-1	CSBT01-2	CSBT01-3
Date Sampled		5/18/2005	5/18/2005	5/12/2005	5/12/2005	5/13/2005	12/6/2005	12/6/2005	12/7/2005
Metals									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	800	100	44	NS	NS	NS	NS	NS
Mercury	7439-97-6	0.04	0.056	0.022 J	NS	0.029	NS	NS	NS
Semi-Volatile Organic Compounds (USEPA Method 8270C)									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Bis(2-ethylhexyl)phthalate	117-81-7		NS	NS	NS	NS	NS	NS	NS
Polychlorinated Biphenyls (PCBs)									
Analyte	**CAS No.**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**
PCB-1016	-	<43	<58	<45	<44	NS	NS	NS	NS
PCB-1221	-	<88	<120	<91	<90	NS	NS	NS	NS
PCB-1248	-	160	100	<45	<44	NS	NS	NS	NS
PCB-1232	-	<43	<58	<45	<44	NS	NS	NS	NS
PCB-1254	-	170 P	77 P	<45	<44	NS	NS	NS	NS
PCB-1242	-	<43	<58	<45	<44	NS	NS	NS	NS
PCB-1260	-	130	130	<45	<18 J	NS	NS	NS	NS
PCB-1268	-	43 J	<58	<45	<44	NS	NS	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)									
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-		NS	NS	NS	NS	0.006	ND	0.1038

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
P - The lower of the two values is reported when the % difference between the results of two GC columns is greater than 40%.
ND - Not Detected.
NS - Not Sampled.

Table 1
Dead Creek Segment B
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSBT01-4	T1+00E (2-3)	T1+25E (0-1)	T1+50E (0-1)	T1+00W (2-3)	T1+25W (0-1)	T1+50W (0-1)	T1+75E (0-1)
Date Sampled		12/7/2005	5/12/2005	5/12/2005	5/12/2005	5/13/2005	5/13/2005	5/13/2005	5/12/2005
Metals									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	7439-97-6	NS	NS	NS	NS	0.024 J	0.15	0.0099 J	0.051
Semi-Volatile Organic Compounds (USEPA Method 8270									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Bis(2-ethylhexyl)phthalate	117-81-7	NS	NS	NS	NS	NS	NS	NS	NS
Polychlorinated Biphenyls (PCBs)									
Analyte	**CAS No.**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**
PCB-1016	-	NS	<45	<51	<43	NS	NS	ND	ND
PCB-1221	-	NS	<90	<100	<87	NS	NS	ND	ND
PCB-1248	-	NS	<45	<51	<43	NS	NS	ND	ND
PCB-1232	-	NS	<45	<51	<43	NS	NS	ND	ND
PCB-1254	-	NS	<45	<51	<43	NS	NS	ND	ND
PCB-1242	-	NS	<45	<51	<43	NS	NS	ND	ND
PCB-1260	-	NS	<45	<51	<43	NS	NS	ND	ND
PCB-1268	-	NS	<45	<51	<43	NS	NS	ND	ND
Dioxin Toxic Equivalent Concentration (TEQ)									
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	0.0494	ND	ND	ND	ND	NS	ND	ND

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
P - The lower of the two values is reported when the % difference between the results of two GC columns is greater than 40%.
ND - Not Detected.
NS - Not Sampled.

Table 1
Dead Creek Segment B
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSBT2-1	CSBT2-2	CSBT2-3	T2+00E (1-2)	T2+25E (1-2)	T3+50E (0-1)	T3+50C (0-1)	T3+75C (0-1)
Date Sampled		12/9/2005	12/9/2005	12/12/2005	5/13/2005	5/13/2005	5/13/2005	5/16/2005	5/16/2005
Metals									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	NS	NS	NS	NS	1700	120
Mercury	7439-97-6	0.054	0.047 B	0.02 B	0.13	0.059	0.053	NS	NS
Semi-Volatile Organic Compounds (USEPA Method 8270									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Bis(2-ethylhexyl)phthalate	117-81-7	NS	NS	NS	NS	NS	0.09 J	NS	NS
Polychlorinated Biphenyls (PCBs)									
Analyte	**CAS No.**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**
PCB-1016	-	NS	NS	NS	ND	ND	<47	NS	NS
PCB-1221	-	NS	NS	NS	ND	ND	<98	NS	NS
PCB-1248	-	NS	NS	NS	ND	ND	<47	NS	NS
PCB-1232	-	NS	NS	NS	ND	ND	<47	NS	NS
PCB-1254	-	NS	NS	NS	ND	ND	170	NS	NS
PCB-1242	-	NS	NS	NS	ND	ND	<47	NS	NS
PCB-1260	-	NS	NS	NS	ND	ND	71	NS	NS
PCB-1268	-	NS	NS	NS	ND	ND	<47	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)									
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	ND	ND	NS	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
P - The lower of the two values is reported when the % difference between the results of two GC columns is greater than 40%.
ND - Not Detected.
NS - Not Sampled.

Table 1
Dead Creek Segment B
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSBT3-4	T4+00C (1-2)	T4+25C (1-2)	T4+50C (0-1)	T4+50E (0-1)	T4+75E (0-1)	T5+00E (1-2)	T5+25E (0-1)
Date Sampled		12/14/2005	5/16/2005	5/16/2005	5/16/2005	5/10/2005	5/10/2005	5/10/2005	5/10/2005
Metals									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	1700	60	750	NS	NS	NS	NS
Mercury	7439-97-6	NS	NS	NS	NS	NS	NS	NS	NS
Semi-Volatile Organic Compounds (USEPA Method 8270									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Bis(2-ethylhexyl)phthalate	117-81-7	ND	NS	NS	NS	NS	NS	NS	NS
Polychlorinated Biphenyls (PCBs)									
Analyte	**CAS No.**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**
PCB-1016	-	NS	NS	NS	NS	<47	<48	<46	<43
PCB-1221	-	NS	NS	NS	NS	<95	<97	<93	<88
PCB-1248	-	NS	NS	NS	NS	<47	<48	<46	<43
PCB-1232	-	NS	NS	NS	NS	<47	<48	<46	<43
PCB-1254	-	NS	NS	NS	NS	<47	<48	62	<43
PCB-1242	-	NS	NS	NS	NS	<47	<48	<46	<43
PCB-1260	-	NS	NS	NS	NS	<47	<48	24 J	<43
PCB-1268	-	NS	NS	NS	NS	<47	<48	<46	<43
Dioxin Toxic Equivalent Concentration (TEQ)									
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	ND	NS	NS	NS	NS	NS	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
P - The lower of the two values is reported when the % difference between the results of two GC columns is greater than 40%.
ND - Not Detected.
NS - Not Sampled.

Table 1
Dead Creek Segment B
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		T5+50E (0-1)	T5+75E (0-1)	T5+50C (0-1)	T5+75C (0-1)	T6+00E (1-2)	T6+25E (1-2)	T6+50E (1-2)	T6+00C (1-2)
Date Sampled		5/11/2005	5/12/2005	5/10/2005	5/12/2005	5/12/2005	5/12/2005	5/12/2005	5/12/2005
Metals									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	7439-97-6	NS	NS	0.06	0.073	NS	NS	NS	0.056
Semi-Volatile Organic Compounds (USEPA Method 8270									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Bis(2-ethylhexyl)phthalate	117-81-7	NS	NS	NS	NS	NS	NS	NS	NS
Polychlorinated Biphenyls (PCBs)									
Analyte	**CAS No.**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**
PCB-1016	-	<48	<44	ND	ND	<48	<44	<45	ND
PCB-1221	-	<98	<90	ND	ND	<97	<90	<92	ND
PCB-1248	-	<48	<44	ND	ND	<48	<44	<45	ND
PCB-1232	-	<48	<44	ND	ND	<48	<44	<45	ND
PCB-1254	-	<48	21 J	ND	ND	<48	<44	21 J	ND
PCB-1242	-	<48	<44	ND	ND	<48	<44	<45	ND
PCB-1260	-	<48	15 J	ND	ND	<48	<44	10 J	ND
PCB-1268	-	<48	<44	ND	ND	<48	<44	<45	ND
Dioxin Toxic Equivalent Concentration (TEQ)									
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
P - The lower of the two values is reported when the % difference between the results of two GC columns is greater than 40%.
ND - Not Detected.
NS - Not Sampled.

Table 1
Dead Creek Segment B
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		T6+25C (1-2)	T6+50C (1-2)	T7-50C (0-1)	T7+75C (0-1)	T8+00C (1-2)	T8+25C (0-1)	T8+50C (0-1)	T8+50W (0-1)
Date Sampled		5/12/2005	5/12/2005	5/11/2005	5/11/2005	5/11/2005	5/11/2005	5/11/2005	5/17/2005
Metals									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	2800	3500	2900	3100	2800	NS
Mercury	7439-97-6	0.051	0.046	NS	NS	NS	NS	NS	0.023 J
Semi-Volatile Organic Compounds (USEPA Method 8270									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Bis(2-ethylhexyl)phthalate	117-81-7	NS	NS	NS	NS	NS	NS	NS	NS
Polychlorinated Biphenyls (PCBs)									
Analyte	**CAS No.**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**
PCB-1016	-	ND	ND	ND	ND	ND	ND	NS	ND
PCB-1221	-	ND	ND	ND	ND	ND	ND	NS	ND
PCB-1248	-	ND	ND	ND	ND	ND	ND	NS	ND
PCB-1232	-	ND	ND	ND	ND	ND	ND	NS	ND
PCB-1254	-	ND	ND	ND	ND	ND	ND	NS	ND
PCB-1242	-	ND	ND	ND	ND	ND	ND	NS	ND
PCB-1260	-	ND	ND	ND	ND	ND	ND	NS	ND
PCB-1268	-	ND	ND	ND	ND	ND	ND	NS	ND
Dioxin Toxic Equivalent Concentration (TEQ)									
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
P - The lower of the two values is reported when the % difference between the results of two GC columns is greater than 40%.
ND - Not Detected.
NS - Not Sampled.

Table 1
Dead Creek Segment B
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		T8+75W (0-1)	T9+00W (1-2)	T9+25W (0-1)	T9+50W (0-1)	T10+50C (0-1)	T10+75C (0-1)	T11+00C (1-2)	T11+25C (0-1)
Date Sampled		5/17/2005	5/17/2005	5/17/2005	5/17/2005	5/11/2005	5/11/2005	5/11/2005	5/11/2005
Metals									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	NS	NS	2600	2200	180	2800
Mercury	7439-97-6	0.032	0.036	0.048	0.028	0.15	0.078	0.035	0.093
Semi-Volatile Organic Compounds (USEPA Method 8270									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Bis(2-ethylhexyl)phthalate	117-81-7	NS	NS	NS	NS	NS	NS	NS	NS
Polychlorinated Biphenyls (PCBs)									
Analyte	**CAS No.**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**
PCB-1016	-	ND	ND	ND	NS	<52	<50	<49	<52
PCB-1221	-	ND	ND	ND	NS	<110	<100	<99	<110
PCB-1248	-	ND	ND	ND	NS	<52	<50	<49	<52
PCB-1232	-	ND	ND	ND	NS	<52	<50	<49	<52
PCB-1254	-	ND	ND	ND	NS	<52	<50	<49	14 JP
PCB-1242	-	ND	ND	ND	NS	<52	<50	<49	<52
PCB-1260	-	ND	ND	ND	NS	<52	<50	<49	<52
PCB-1268	-	ND	ND	ND	NS	<52	<50	<49	<52
Dioxin Toxic Equivalent Concentration (TEQ)									
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
P - The lower of the two values is reported when the % difference between the results of two GC columns is greater than 40%.
ND - Not Detected.
NS - Not Sampled.

Table 1
Dead Creek Segment B
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		T11+50C (0-1)	T11+75C (0-1)	T12+00C (1-2)	T12+25C (0-1)	T12+50C (0-1)	T16+50E (0-1)	T16+75E (0-1)	CSBT16-1
Date Sampled		5/11/2005	5/11/2005	5/11/2005	5/17/2005	5/17/2005	5/16/2005	5/16/2005	12/21/2005
Metals									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	2800	3400	2700	230	80	NS	NS	NS
Mercury	7439-97-6	0.15	0.054	0.084	0.048	0.032	0.034	0.012	NS
Semi-Volatile Organic Compounds (USEPA Method 8270									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Bis(2-ethylhexyl)phthalate	117-81-7	NS	NS	NS	NS	NS	NS	NS	NS
Polychlorinated Biphenyls (PCBs)									
Analyte	**CAS No.**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**
PCB-1016	-	<51	ND	ND	ND	ND	<44	<47	NS
PCB-1221	-	<100	ND	ND	ND	ND	<89	<96	NS
PCB-1248	-	<51	ND	ND	ND	ND	<44	150	NS
PCB-1232	-	<51	ND	ND	ND	ND	<44	<47	NS
PCB-1254	-	<51	ND	ND	ND	ND	<44	200	NS
PCB-1242	-	<51	ND	ND	ND	ND	<44	<47	NS
PCB-1260	-	<51	ND	ND	ND	ND	<44	97	NS
PCB-1268	-	<51	ND	ND	ND	ND	<44	<47	NS
Dioxin Toxic Equivalent Concentration (TEQ)									
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	NS	NS	NS	ND

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
P - The lower of the two values is reported when the % difference between the results of two GC columns is greater than 40%.
ND - Not Detected.
NS - Not Sampled.

Table 1
Dead Creek Segment B
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSBT16-2	CSBT16-3	CSBT16-4	T17+00E (1-2)	T17+25E (1-2)	T17+50E (0-1)	CSBT17-1	CSBT17-2
Date Sampled		12/21/2005	12/21/2005	12/21/2005	5/16/2005	5/16/2005	5/16/2005	12/21/2005	12/21/2005
Metals									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	7439-97-6	NS	NS	NS	0.031	0.026 J	0.035	NS	NS
Semi-Volatile Organic Compounds (USEPA Method 8270									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Bis(2-ethylhexyl)phthalate	117-81-7	NS	NS	NS	NS	NS	NS	NS	NS
Polychlorinated Biphenyls (PCBs)									
Analyte	**CAS No.**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**	**(µg/kg)**
PCB-1016	-	NS	NS	NS	<43	<44	<46	NS	NS
PCB-1221	-	NS	NS	NS	<87	<89	<94	NS	NS
PCB-1248	-	NS	NS	NS	54	<44	<46	NS	NS
PCB-1232	-	NS	NS	NS	<43	<44	<46	NS	NS
PCB-1254	-	NS	NS	NS	77	9.8 J	<46	NS	NS
PCB-1242	-	NS	NS	NS	<43	<44	<46	NS	NS
PCB-1260	-	NS	NS	NS	38 J	10 J	<46	NS	NS
PCB-1268	-	NS	NS	NS	<43	<44	<46	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)									
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	ND	ND	ND	NS	NS	NS	ND	ND

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
P - The lower of the two values is reported when the % difference between the results of two GC columns is greater than 40%.
ND - Not Detected.
NS - Not Sampled.

Table 3
Dead Creek Segment D
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSD-T1-1	CSD-T1-2	CSD-T1-3	CSD-T1-4	CSD-T1-5	CSD-T1-6	CSD-T1-7	CSD-T1-8	CSD-T1-9	CSD-T1-10	CSD-T1-11
Date Sampled		1/5/2006	1/5/2006	1/5/2006	1/5/2006	1/5/2006	1/5/2006	1/5/2006	1/5/2006	1/5/2006	1/5/2006	1/5/2006
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	708 J	465 J	1920 J	4330 J	1710 J	63 J	410 J	60.8 J	112 J	72.9 J	86.2 J
Organochlorine Pesticides												
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Dieldrin	60-57-1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Polychlorinated Biphenyls (PCBs)												
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Total PCBs	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)												
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
ND - Not Detected.
NS - Not Sampled.

Table 3
Dead Creek Segment D
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		D1-1	D2-2	D3-2	D4-2	CSD-T6-2	CSD-T6-3	CSD-T6-4	CSD-T6-5	CSD-T6-6
Date Sampled		10/27/2004	10/27/2004	10/27/2004	10/25/2004	2/24/2006 and 1/13/2006	2/24/2006 and 1/13/2006	2/24/2006 and 1/13/2006	2/24/2006 and 1/13/2006	2/24/2006 and 1/13/2006
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	NS	NS	NS	NS	NS	NS	NS
Organochlorine Pesticides										
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Dieldrin	60-57-1	NS	NS	NS	NS	<0.00041	<0.00041	<0.00040	<0.00036	<0.00038
Polychlorinated Biphenyls (PCBs)										
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Total PCBs	-	ND	ND	0.0096 J	ND	NS	NS	NS	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)										
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	ND TEQ	ND TEQ	ND TEQ	0.0017 TEQ	ND TEQ

Notes
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
ND - Not Detected.
NS - Not Sampled.

Table 4
Dead Creek Segment E
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSET16-1	CSET16-2	CSET16-3	CSET16-4	CSET16-5	CSET16-6	CSET16-7	CSET16-8
Creek Segment		E	E	E	E	E	E	E	E
Date Sampled		3/23/2006	3/23/2006	3/23/2006	3/23/2006	3/23/2006	3/23/2006	3/23/2006	3/23/2006
Organochlorine Pesticides									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Dieldrin	60-57-1	<0.00042	<0.00039	<0.00037	<0.00036	<0.00036	<0.00037	<0.00036	<0.00036

Only detected analytes are listed.

Table 4
Dead Creek Segment E
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSET16-9	CSET16-10	CSET16-11	CSET16-12	CSET16-13
Creek Segment		E	E	E	E	E
Date Sampled		3/23/2006	3/23/2006	3/23/2006	3/23/2006	3/23/2006
Organochlorine Pesticides						
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Dieldrin	60-57-1	<0.00035	<0.00038	<0.00037	<0.00037	<0.00035

Only detected analytes are listed.

Table 5
Dead Creek Segment F
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSFT3-1	CSFT3-2	CSFT3-3	CSFT3-4	CSFT3-5	CSFT3-6	CSFT3-7	CSFT3-8	CSFT3-101	CSFT3-102	CSFT3-103
Creek Segment		F	F	F	F	F	F	F	F	F	F	F
Date Sampled		1/26/2006	1/26/2006	1/26/2006	1/26/2006	1/26/2006	1/27/2006	1/27/2006	1/27/2006	3/24/2006	3/24/2006	3/24/2006
Metals												
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	7439-97-6	0.023 J	0.13	0.058	0.051	0.11	0.12	0.063	0.086	NS	NS	NS
Organochlorine Pesticides												
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
beta-BHC	60-57-1	NS	NS	NS	NS	NS	NS	NS	NS	<0.0026	<0.0024	<0.0024
Dioxin Toxic Equivalent Concentration (TEQ)												
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
N -Spiked analyte recovery was outside stated control limits.
ND - Not Detected.
NS - Not Sampled.

Table 5
Dead Creek Segment F
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSFT3-104	CSFT3-105	CSFT3-106	CSFT3-107	CSFT3-108	CSFT3-109	CSFT3-110	CSFT3-111	CSFT3-112	CSFT3-113
Creek Segment		F	F	F	F	F	F	F	F	F	F
Date Sampled		3/24/2006	3/24/2006	3/24/2006	3/24/2006	3/24/2006	3/24/2006	3/24/2006	3/24/2006	3/24/2006	3/24/2006
Metals											
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	7439-97-6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Organochlorine Pesticides											
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
beta-BHC	60-57-1	<0.0024	<0.0027	<0.0024	<0.0025	<0.0025	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023
Dioxin Toxic Equivalent Concentration (TEQ)											
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
N -Spiked analyte recovery was outside stated control limits.
ND - Not Detected.
NS - Not Sampled.

Table 5
Dead Creek Segment F
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSFT3-114	F01-1	F02-1	F03-1	F04-1	F05-2	F06-2	F07-2	F08-1	F09-1
Creek Segment		F	F	F	F	F	F	F	F	F	F
Date Sampled		3/24/2006	10/25/2004	11/29/2004	11/29/2004	11/29/2004	11/29/2004	11/29/2004	11/29/2004	11/29/2004	11/30/2004
Metals											
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	53	145	1010	1480	351	1440	1910	1970	3280
Mercury	7439-97-6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Organochlorine Pesticides											
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
beta-BHC	60-57-1	<0.0022	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)											
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
N -Spiked analyte recovery was outside stated control limits.
ND - Not Detected.
NS - Not Sampled.

Table 5
Dead Creek Segment F
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		F10-1	F11-1	F12-1	F13-1	F14-1	F15-2	F16-2	F17-2	F18-2
Creek Segment		F	F	F	F	F	F	F	F	F
Date Sampled		12/2/2004	12/2/2004	12/2/2004	12/2/2004	12/2/2004	12/2/2004	12/2/2004	12/2/2004	12/2/2004
Metals										
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	1510	1740	2000	1980	2240	623	185	985	2230
Mercury	7439-97-6	NS	NS	NS	NS	NS	NS	NS	NS	NS
Organochlorine Pesticides										
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
beta-BHC	60-57-1	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)										
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
N -Spiked analyte recovery was outside stated control limits.
ND - Not Detected.
NS - Not Sampled.

Table 5
Dead Creek Segment F
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		F19-2	F20-2	F21-2	F22-2	F23-2	F24-2	F25-2	F26-2	F27-2	F28-1
Creek Segment		F	F	F	F	F	F	F	F	F	F
Date Sampled		12/2/2004	12/2/2004	12/2/2004	12/2/2004	12/2/2004	12/2/2004	12/2/2004	12/2/2004	12/2/2004	12/2/2004
Metals											
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	886	1450	1230	1200	2230	1460	1590	1190	1500	1250
Mercury	7439-97-6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Organochlorine Pesticides											
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
beta-BHC	60-57-1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)											
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
N -Spiked analyte recovery was outside stated control limits.
ND - Not Detected.
NS - Not Sampled.

Table 5
Dead Creek Segment F
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSFT5-1	CSFT5-2	CSFT5-3	CSFT5-4	CSFT5-5	CSFT5-6	CSFT5-7	CSFT5-8
Creek Segment		F	F	F	F	F	F	F	F
Date Sampled		2/3/2006	2/3/2006	2/3/2006	2/3/2006	2/3/2006	2/3/2006	2/3/2006	2/3/2006
Metals									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	7439-97-6	0.036	NS	0.05 J	NS	0.043 J	NS	0.059	NS
Organochlorine Pesticides									
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
beta-BHC	60-57-1	NS	NS	NS	NS	NS	NS	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)									
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	ND TEQ	ND TEQ	ND TEQ	ND TEQ	ND TEQ	0.0024 TEQ	ND TEQ

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
N -Spiked analyte recovery was outside stated control limits.
ND - Not Detected.
NS - Not Sampled.

Table 5
Dead Creek Segment F
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSFT5-9	CSFT5-10	CSFT5-11	CSFT5-12	CSFT5-13	CSFT5-14	CSFT5-15	CSFT5-16	CSFT5-17
Creek Segment		F	F	F	F	F	F	F	F	F
Date Sampled		2/3/2006	2/22/2006	2/22/2006	2/22/2006	2/9/2006	2/9/2006	2/9/2006	2/9/2006	2/9/2006
Metals										
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	7439-97-6	0.16	NS	0.059	NS	0.038	NS	0.1	NS	0.024 J
Organochlorine Pesticides										
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
beta-BHC	60-57-1	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)										
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	0.0064 TEQ	0.007 TEQ	ND TEQ	ND TEQ	0.087 TEQ	ND TEQ	ND TEQ	ND TEQ	ND TEQ

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
N -Spiked analyte recovery was outside stated control limits.
ND - Not Detected.
NS - Not Sampled.

Table 5
Dead Creek Segment F
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSFT5-18	CSFT5-19	CSFT5-20	CSFT5-21	CSFT5-22	CSFT5-23	CSFT5-24	CSFT5-STKPL	F29-1	F30-1
Creek Segment		F	F	F	F	F	F	F	F	F	F
Date Sampled		2/9/2006	2/9/2006	2/9/2006	2/9/2006	2/9/2006	2/9/2006	2/9/2006	2/27/2006	12/2/2004	12/3/2004
Metals											
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	NS	NS	NS	NS	NS	1130 N	2150	1580
Mercury	7439-97-6	NS	<0.00668	NS	0.025 J	NS	0.061	<0.00668	0.055	NS	NS
Organochlorine Pesticides											
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
beta-BHC	60-57-1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)											
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	ND TEQ	ND TEQ	ND TEQ	ND TEQ	0.354 TEQ	0.002 TEQ	0.0083 TEQ	0.0017 TEQ	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
N -Spiked analyte recovery was outside stated control limits.
ND - Not Detected.
NS - Not Sampled.

Table 5
Dead Creek Segment F
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

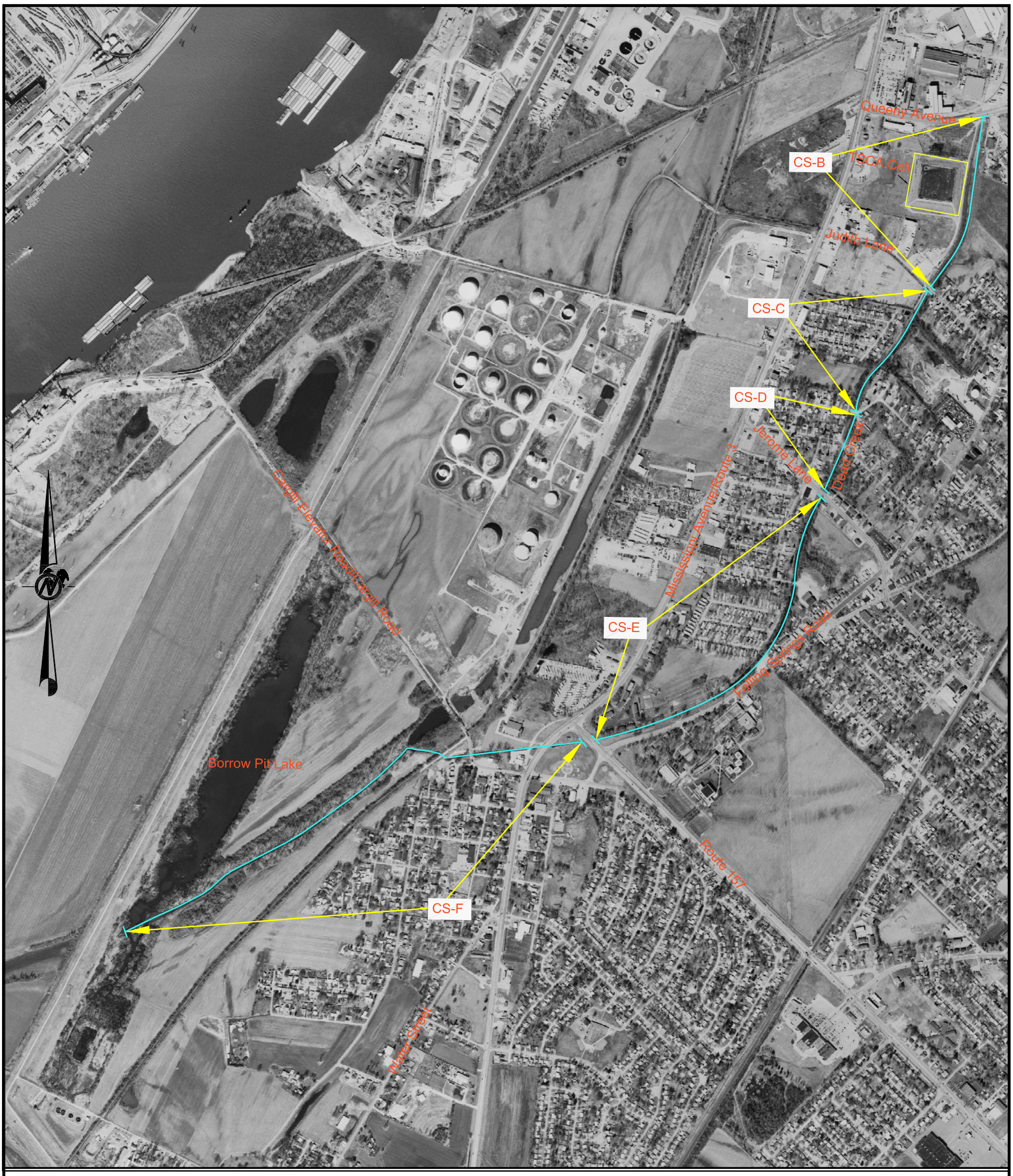
Sample		F31-1	F32-1	CSFT9-1	CSFT9-2	CSFT9-3	CSFT9-4	CSFT9-5	CSFT9-6	CSFT9-7	CSFT14-1
Creek Segment		F	F	F	F	F	F	F	F	F	F
Date Sampled		12/3/2004	12/3/2004	2/6/2006	2/6/2006	2/6/2006	2/6/2006	2/6/2006	2/6/2006	2/6/2006	2/13/2006
Metals											
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	1270	2420	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	7439-97-6	NS	NS	<0.00668	0.065	0.064	0.12	0.056	0.017 J	<0.00668	0.04 J
Organochlorine Pesticides											
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
beta-BHC	60-57-1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)											
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
N -Spiked analyte recovery was outside stated control limits.
ND - Not Detected.
NS - Not Sampled.

Table 5
Dead Creek Segment F
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample		CSFT14-2	CSFT14-3	CSFT14-4	CSFT14-5	CSFT14-6	CSFT14-7	CSFT14-8
Creek Segment		F	F	F	F	F	F	F
Date Sampled		2/13/2006	2/13/2006	2/13/2006	2/16/2006	2/16/2006	2/16/2006	2/15/2006
Metals								
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Zinc	7440-66-6	NS	NS	NS	NS	NS	NS	NS
Mercury	7439-97-6	0.026 J	0.01 J	0.052 J	0.041 J	0.016 J	0.013 J	0.016 JN
Organochlorine Pesticides								
Analyte	**CAS No.**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
beta-BHC	60-57-1	NS	NS	NS	NS	NS	NS	NS
Dioxin Toxic Equivalent Concentration (TEQ)								
Analyte	**CAS No.**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**	**(ng/g)**
Total Dioxin TEQ	-	NS	NS	NS	NS	NS	NS	NS

Notes:
Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
N -Spiked analyte recovery was outside stated control limits.
ND - Not Detected.
NS - Not Sampled.



0.2 0 0.2 0.4

APPROXIMATE SCALE MILES

Notes:

1.) AERIAL PHOTO FROM TOPOZONE, 2007

Legend:

CS-F CREEK SEGMENT (CS-B through CS-F)

PROJECT No. 043-9670			
FILE No. 0439670.001			
REV. 0	SCALE AS SHOWN		
DESIGN	MNH	02/22/08	
CADD	AWG	09/30/08	
CHECK	MNH	09/30/08	
REVIEW	MNH	09/30/08	
FIGURE 1			

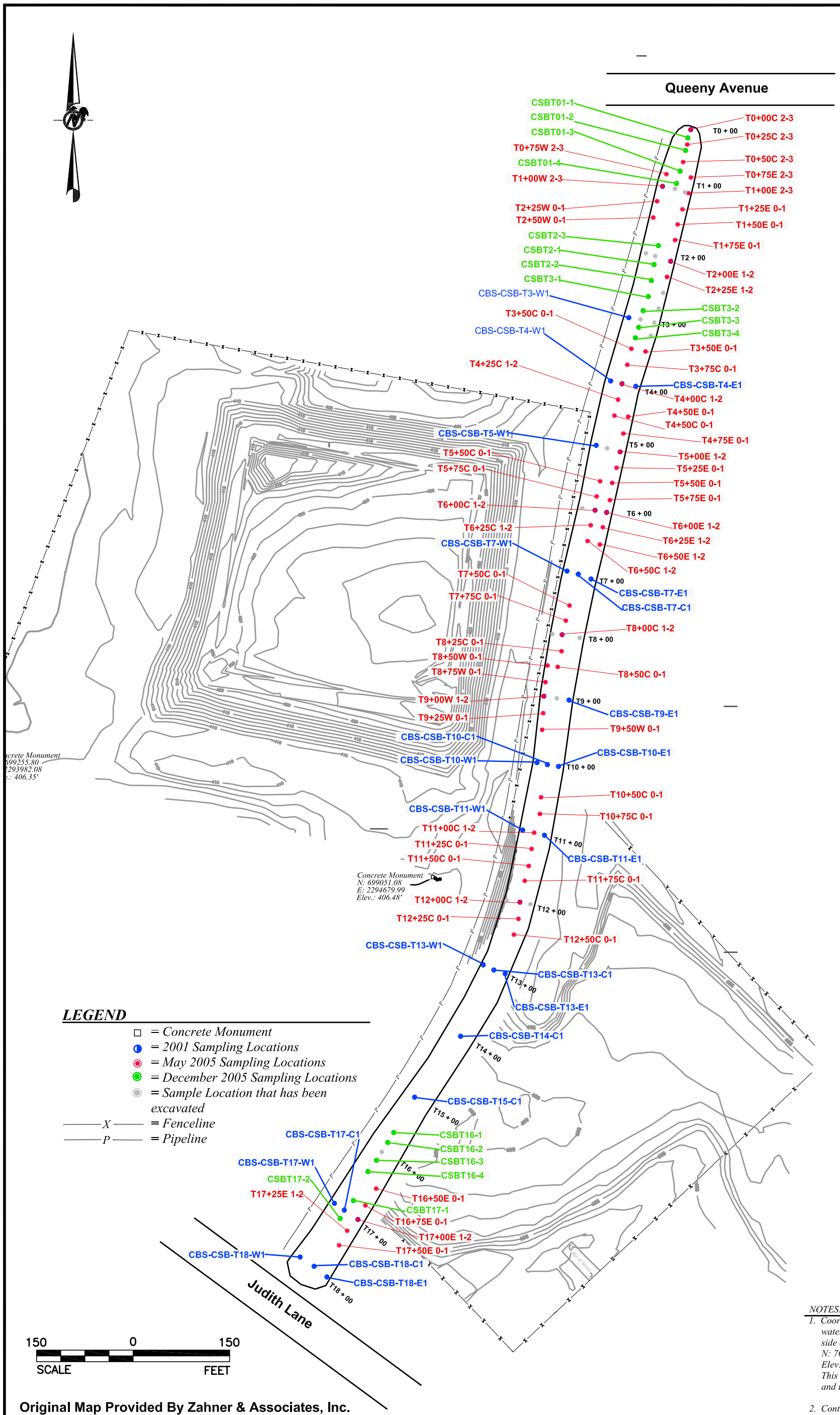
TITLE

DEAD CREEK SEGMENT MAP

PROJECT

SOLUTIA INC.
DEAD CREEK
Sauget, Illinois

Golder Associates
St. Louis, Missouri



LEGEND

- □ = Concrete Monument
- = 2001 Sampling Locations
- = May 2005 Sampling Locations
- = December 2005 Sampling Locations
- = Sample Location that has been excavated
- ——X—— = Fenceline
- ——P—— = Pipeline

NOTES:

1. Coordinates and elevations based on storm water outlet (invert) located on South side of Queeny Avenue.
   N: 700195.15 E: 2295072.71
   Elev: 397.67'
   This information provided by Solutia, and is from work performed by others.
2. Contours are at 1.0 foot intervals.

Original Map Provided By Zahner & Associates, Inc.

FIGURE 2	REVIEW MNH 9/17/08	CHECK AWG 9/17/08	CADD JCW 9/17/08
DESIGN MNH 7/8/05	REV. 1 SCALE AS SHOWN	FILE No. 0439670A001	PROJECT No. 033-9626

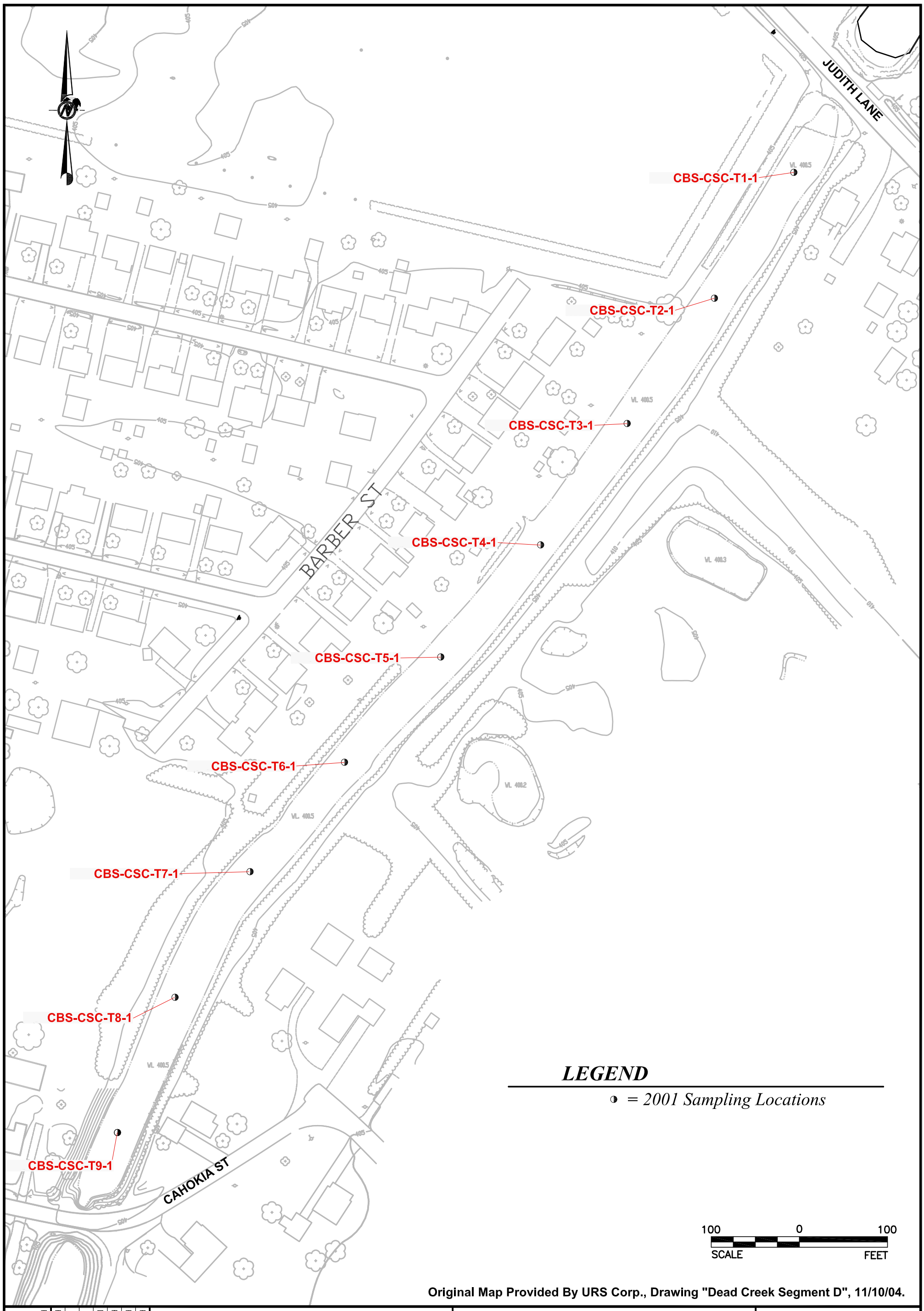
TITLE

DRAFT
DEAD CREEK SEGMENT B
SAMPLE LOCATIONS

PROJECT

SOLUTIA INC
DEAD CREEK
Sauget, Illinois

Golder Associates
St. Louis, Missouri



Original Map Provided By URS Corp., Drawing "Dead Creek Segment D", 11/10/04.

FIGURE 3	REVIEW MNH 9/16/08	CHECK AWG 9/16/08	CADD MEB 09/16/08
DESIGN AWG 09/15/08	REV. 0 SCALE AS SHOWN	FILE No.	PROJECT No. 033-9626

TITLE

DRAFT
DEAD CREEK SEGMENT C
SAMPLE LOCATIONS

PROJECT

SOLUTIA INC
DEAD CREEK
Sauget, Illinois

Golder Associates
St. Louis, Missouri

CAHUKIA ST

KINDER ST

JEROME LN

PARKING

CSD-T1-1
CSD-T1-2
CSD-T1-3
CSD-T1-4
CSD-T1-5
CSD-T1-6
CSD-T1-7
CSD-T1-8
CSD-T1-9
CSD-T1-10
CSD-T1-11
CBS-CSD-T3-1
CBS-CSD-T4-1
D1-1
D2-2
CSD-T6-2
CSD-T6-3
D-3-2
CSD-T6-4
D4-2
CSD-T6-5
CSD-T6-6

LEGEND

- *= 2001 Sampling Locations*
- *= 2004 PCB Sampling Locations*
- *= 2006 Sampling Locations*
- *= Sample Locations that have been excavated*

100 0 100
SCALE FEET
1" to 100'

Original Map Provided By URS Corp., Drawing "Dead Creek Segment D", 11/10/04.

FIGURE 4	REVIEW MNH 9/19/08	CHECK AWG 09/18/08	CADD MEB 09/16/08
DESIGN AWG 09/15/08	REV. 0 SCALE AS SHOWN	FILE No.	PROJECT No. 033-9626

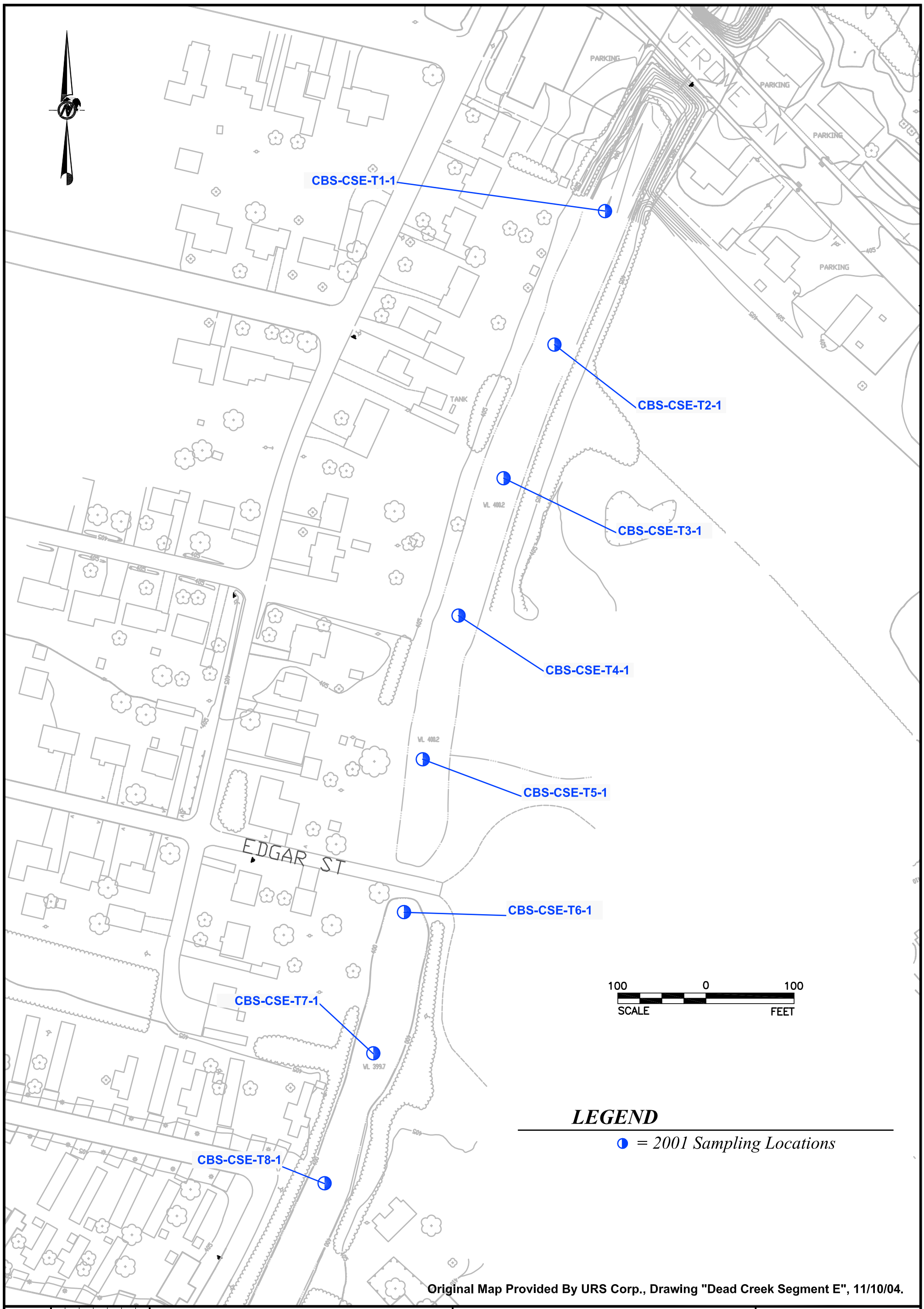
TITLE

DRAFT
DEAD CREEK SEGMENT D
SAMPLE LOCATIONS

PROJECT

SOLUTIA INC
DEAD CREEK
Sauget, Illinois

Golder Associates
St. Louis, Missouri



Original Map Provided By URS Corp., Drawing "Dead Creek Segment E", 11/10/04.

FIGURE 5A	REVIEW MNH 10/19/08	CHECK AWG 09/18/08	CADD MEB 09/16/08
DESIGN AWG 09/15/08	REV. 0 SCALE AS SHOWN	FILE No.	PROJECT No. 033-9626

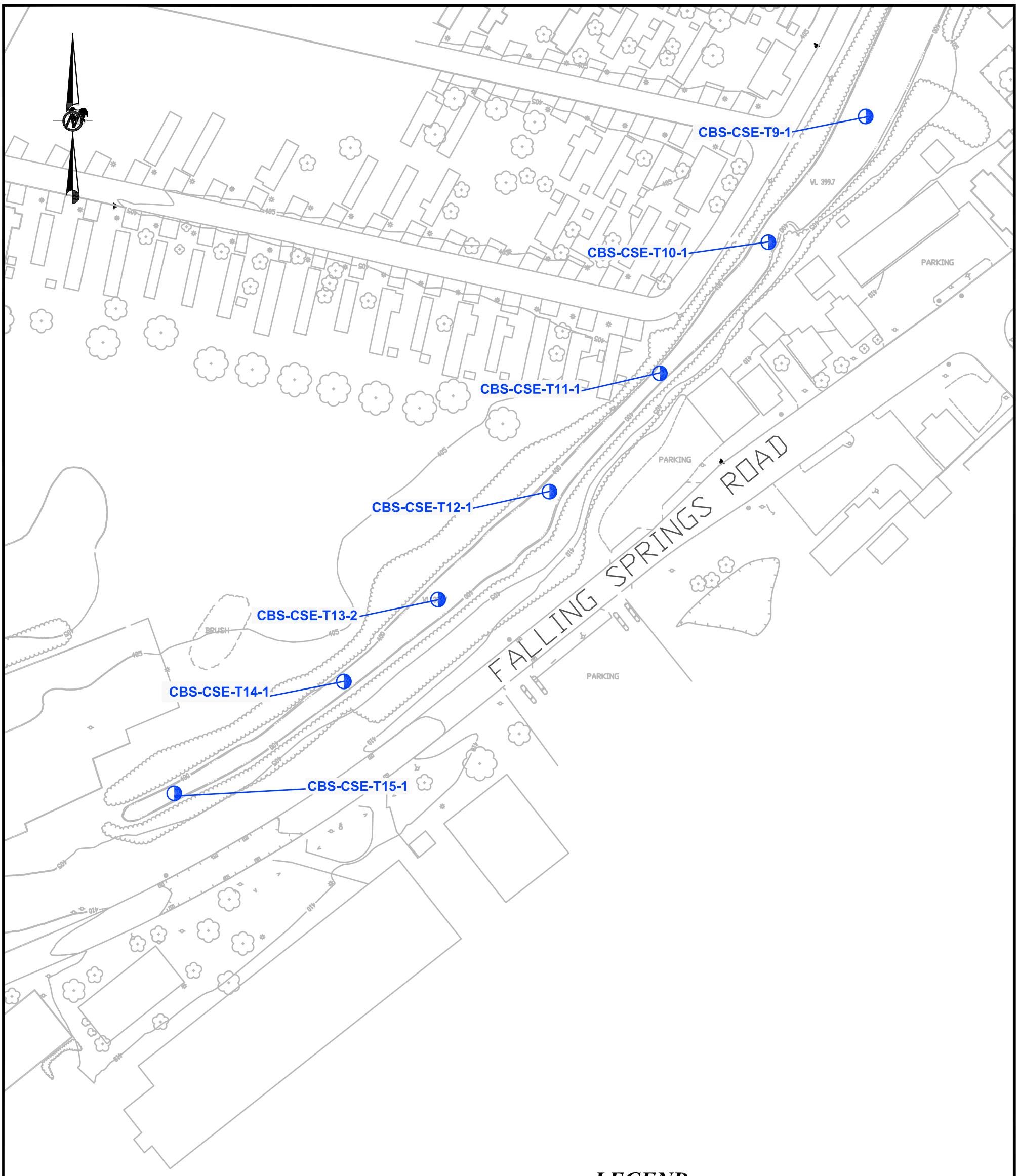
TITLE

DRAFT
DEAD CREEK SEGMENT E
SAMPLE LOCATIONS
(SHEET 1 OF 3)

PROJECT

SOLUTIA INC
DEAD CREEK
Sauget, Illinois

Golder Associates
St. Louis, Missouri



LEGEND

◑ = *2001 Sampling Locations*

100 0 100
SCALE FEET

Original Map Provided By URS Corp., Drawing "Dead Creek Segment E", 11/10/04.

FIGURE 5B	REVIEW MNH 9/19/08	CHECK AWG 09/18/08	CADD MEB 09/16/08
DESIGN AWG 09/15/08	REV. 0 SCALE AS SHOWN	FILE No.	PROJECT No. 033-9626

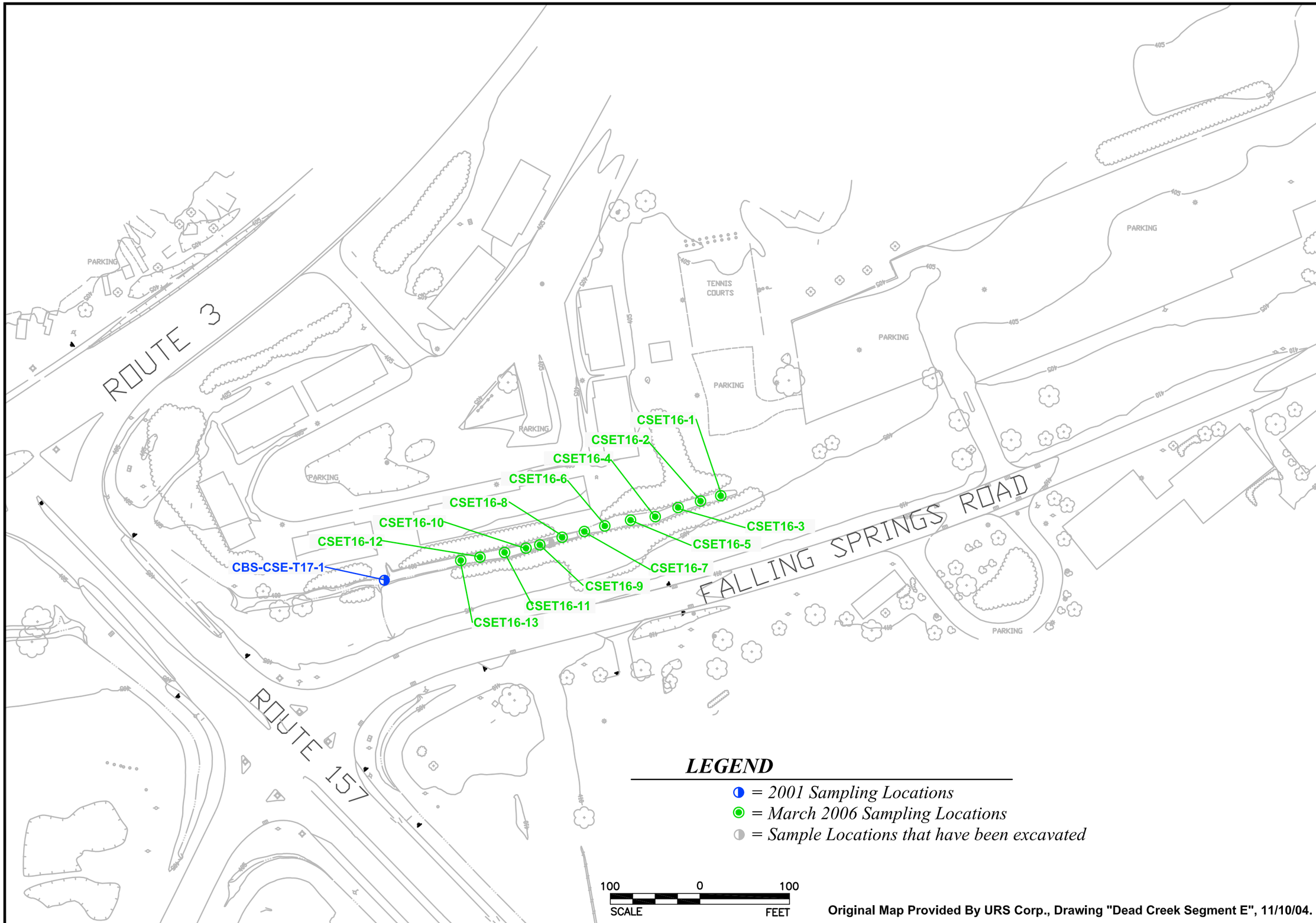
TITLE

DRAFT
DEAD CREEK SEGMENT E
SAMPLE LOCATIONS
(SHEET 2 OF 3)

PROJECT

SOLUTIA INC
DEAD CREEK
Sauget, Illinois

Golder Associates
St. Louis, Missouri



Original Map Provided By URS Corp., Drawing "Dead Creek Segment E", 11/10/04.

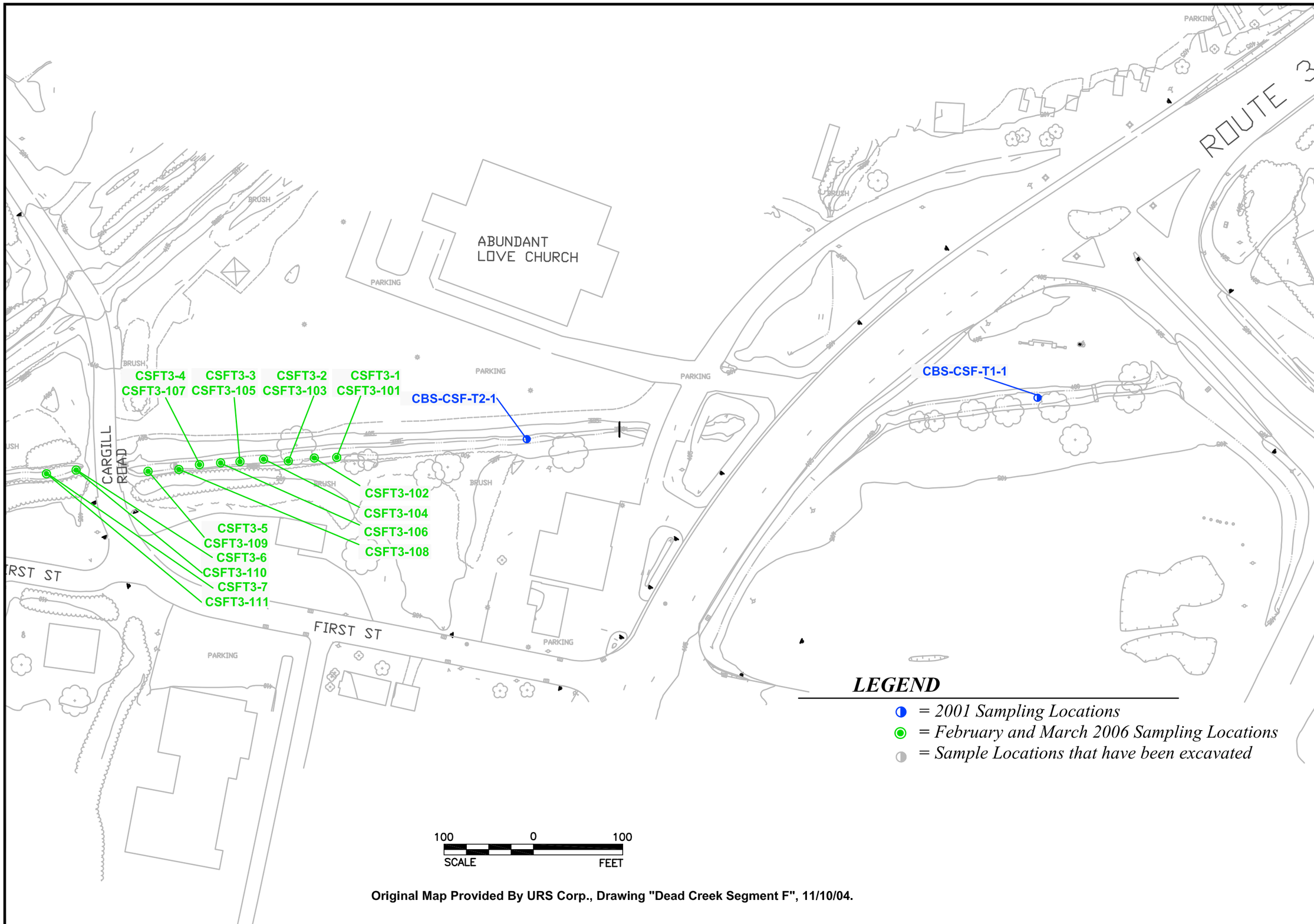
Golder Associates
St. Louis, Missouri

PROJECT
SOLUTIA INC
DEAD CREEK
Sauget, Illinois

TITLE
DRAFT
DEAD CREEK SEGMENT E
SAMPLE LOCATIONS
(SHEET 3 OF 3)

PROJECT No.	033-9626	
FILE No.	0339626A001	
REV. 0	SCALE AS SHOWN	
DESIGN	AWG	09/16/08
CADD	JCW	09/17/08
CHECK	AWG	09/18/08
REVIEW	MNH	9/19/08

FIGURE
5C



Original Map Provided By URS Corp., Drawing "Dead Creek Segment F", 11/10/04.

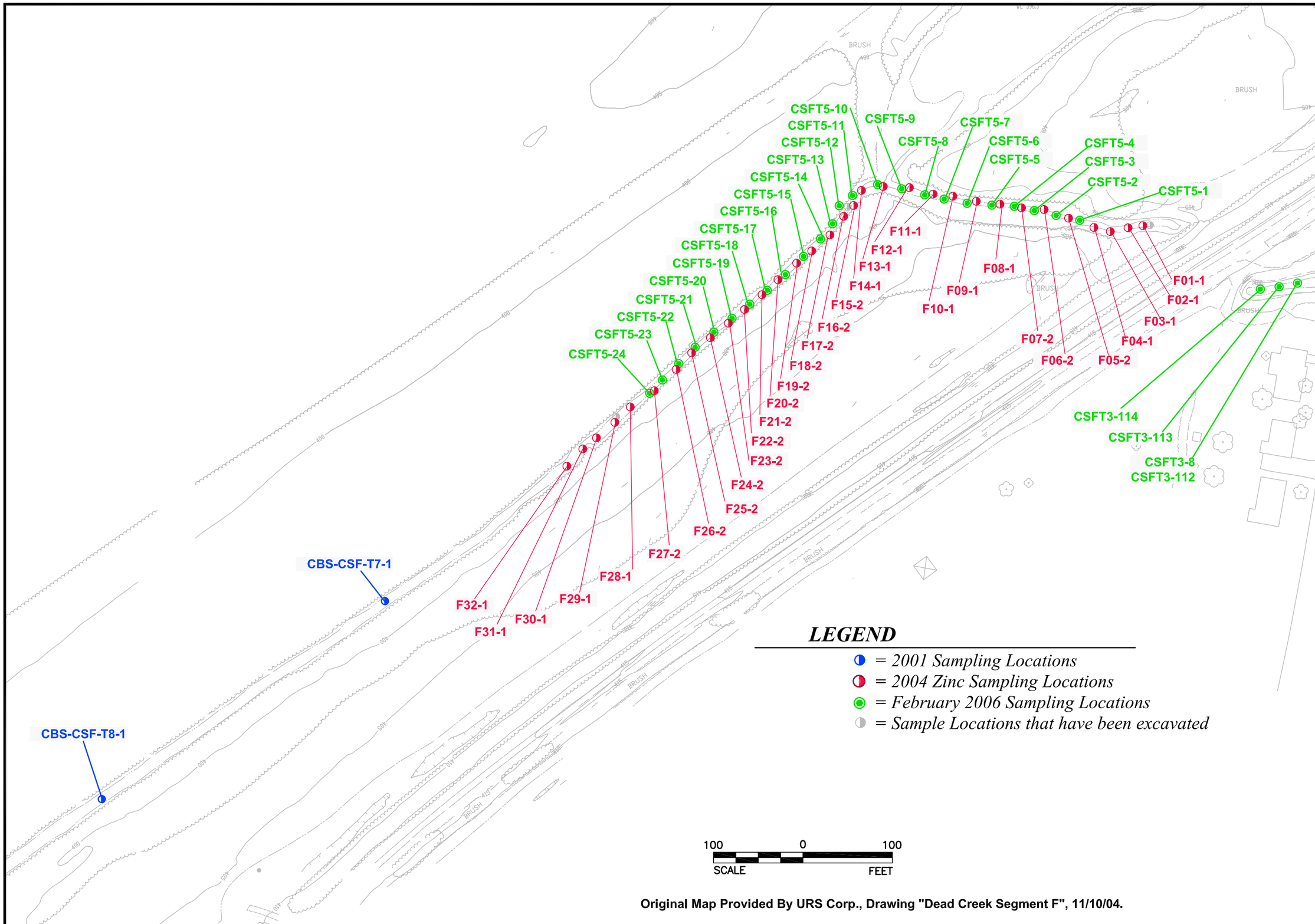
Golder Associates
St. Louis, Missouri

PROJECT
SOLUTIA INC
DEAD CREEK
Sauget, Illinois

TITLE
DRAFT
DEAD CREEK SEGMENT F
SAMPLE LOCATIONS
(SHEET 1 OF 3)

PROJECT No.	033-9626	
FILE No.	0339626A005	
REV. 0	SCALE AS SHOWN	
DESIGN	AWG	9/17/08
CADD	JCW	9/18/08
CHECK	AWG	9/18/08
REVIEW	MNH	9/18/08

FIGURE
6A



Original Map Provided By URS Corp., Drawing "Dead Creek Segment F", 11/10/04.

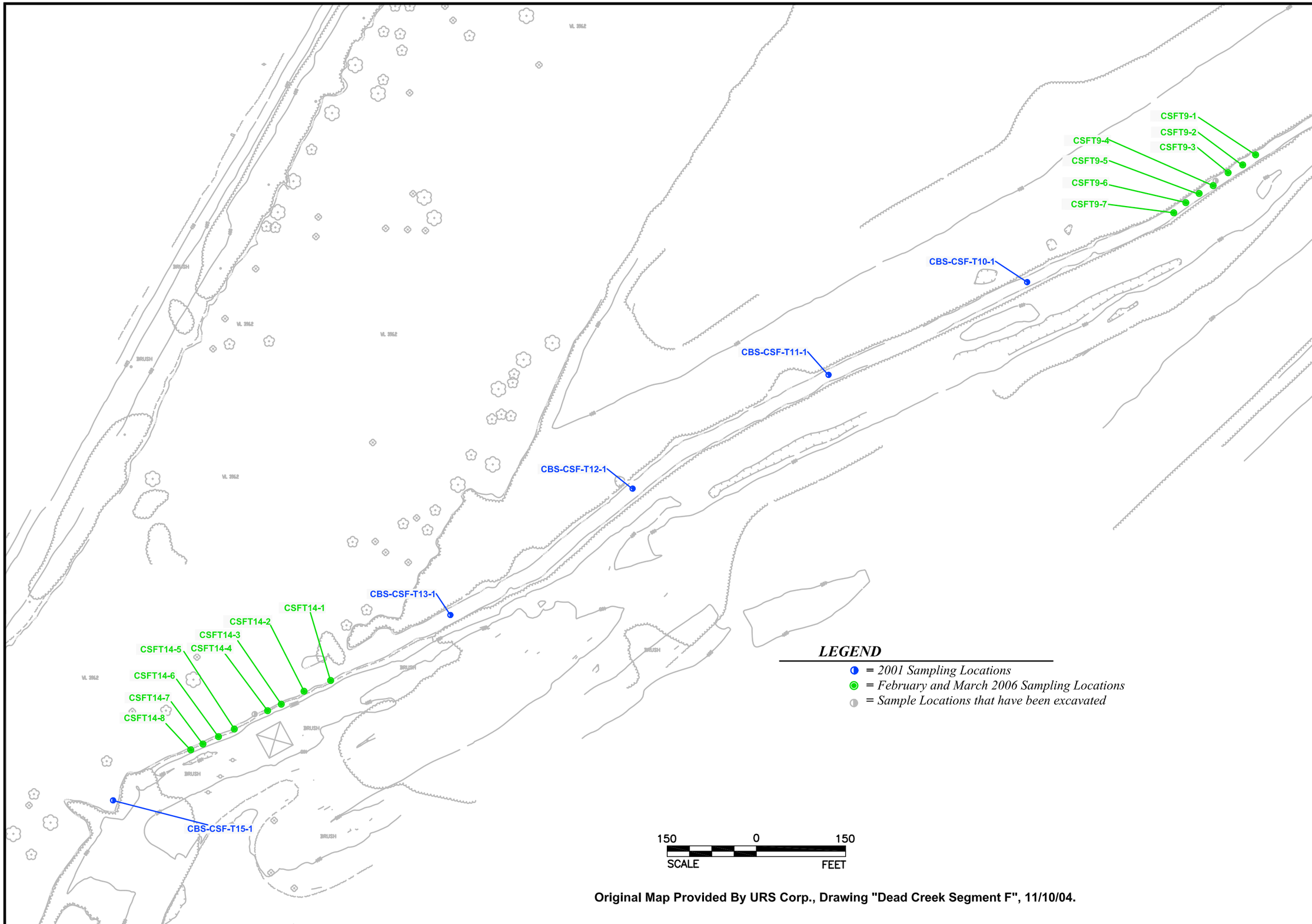
Golder Associates
St. Louis, Missouri

PROJECT
SOLUTIA INC
DEAD CREEK
Sauget, Illinois

TITLE
DRAFT
DEAD CREEK SEGMENT F
SAMPLE LOCATIONS
(SHEET 2 OF 3)

PROJECT No.	033-9626	
FILE No.	0339626B006	
REV. 0	SCALE AS SHOWN	
DESIGN	AWG	9/17/08
CADD	JCW	9/18/08
CHECK	AWG	9/18/08
REVIEW	MNH	9/19/08

FIGURE
6B



Original Map Provided By URS Corp., Drawing "Dead Creek Segment F", 11/10/04.

Golder Associates
St. Louis, Missouri

PROJECT
SOLUTIA INC
DEAD CREEK
Sauget, Illinois

TITLE
DRAFT
DEAD CREEK SEGMENT F
SAMPLE LOCATIONS
(SHEET 3 OF 3)

PROJECT No.	033-9626	
FILE No.	0339626C006	
REV. 0	SCALE AS SHOWN	
DESIGN	AWG	9/17/08
CADD	JCW	9/18/08
CHECK	AWG	9/18/08
REVIEW	MNH	9/19/08

FIGURE
6C

Post-Soil Removal Residual Concentrations

In

Borrow Pit Lake

-DRAFT-
Table 6
Dead Creek Segment Borrow Pit Lake
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample			BPL-HGSED-01 (0-0.5)	BPL-HGSED-67 (0-0.5)	BPL-HGSED-02 (0-0.5)	BPL-HGSED-03 (0-0.5)	BPL-HGSED-04 (0-0.5)	BPL-HGSED-61 (0-0.5)
Creek Segment			BPL	BPL DUP 01	BPL	BPL	BPL	BPL DUP 04
Date Sampled			5/12/2003	5/12/2003	5/6/2003	5/6/2003	5/6/2003	5/6/2003
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.106	0.0825	0.0502	0.0107	0.0317	0.0286

Sample			BPL-HGSED-05 (0-0.5)	BPL-HGSED-06 (0-0.5)	BPL-HGSED-07 (0-0.5)	BPL-HGSED-08 (0-0.5)	BPL-HGSED-09 (0-0.5)	BPL-HGSED-10 (0-0.5)
Creek Segment			BPL	BPL	BPL	BPL	BPL	BPL
Date Sampled			5/12/2003	5/6/2003	5/12/2003	5/6/2003	1/0/1900	5/6/2003
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.0586	0.0267	0.0524	0.0611	0.0845	0.0339

Sample			BPL-HGSED-11 (0-0.5)	BPL-HGSED-12 (0-0.5)	BPL-HGSED-13 (0-0.5)	BPL-HGSED-14 (0-0.5)	BPL-HGSED-62 (0-0.5)	BPL-HGSED-15 (0-0.5)
Creek Segment			BPL	BPL	BPL	BPL	BPL DUP 14	BPL
Date Sampled			5/6/2003	5/6/2003	5/6/2003	5/7/2003	5/7/2003	5/6/2003
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.0517	0.0649	0.0597	0.0737	0.0425	0.107

Sample			BPL-HGSED-16 (0-0.5)	BPL-HGSED-17 (0-0.5)	BPL-HGSED-18 (0-0.5)	BPL-HGSED-19 (0-0.5)	BPL-HGSED-20 (0-0.5)	BPL-HGSED-21 (0-0.5)
Creek Segment			BPL	BPL	BPL	BPL	BPL	BPL
Date Sampled			5/7/2003	5/13/2003	5/7/2003	5/13/2003	5/7/2003	5/13/2003
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.0352	0.0950	0.125	0.151	0.133	0.144

Sample			BPL-HGSED-22 (0-0.5)	BPL-HGSED-23 (0-0.5)	BPL-HGSED-24 (0-0.5)	BPL-HGSED-25 (0-0.5)	BPL-HGSED-26 (0-0.5)	BPL-HGSED-27 (0-0.5)
Creek Segment			BPL	BPL	BPL	BPL	BPL	BPL
Date Sampled			5/6/2003	5/7/2003	5/6/2003	5/7/2003	5/7/2003	5/7/2003
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.129	0.125	0.146	0.140	0.101	0.176

Sample			BPL-HGSED-28 (0-0.5)	BPL-HGSED-29 (0-0.5)	BPL30-1	BPL30-2	BPL30-3	BPL30-4
Creek Segment			BPL	BPL	BPL	BPL	BPL	BPL
Date Sampled			5/7/2003	5/7/2003	2/6/2006	2/6/2006	1/26/2006	2/6/2006
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.138	0.132	0.034 J	0.042 J	0.049	0.014 J

Sample			BPL31-1	BPL31-2	BPL31-3	BPL31-4	BPL32-1	BPL32-2
Creek Segment			BPL	BPL	BPL	BPL	BPL	BPL
Date Sampled			2/7/2006	2/7/2006	2/7/2006	2/7/2006	2/15/2006	2/15/2006
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.17	0.029 J	0.039 J	0.00668 U	0.00668 U N	0.13 N

Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
N - Spiked analyte recovery was outside stated control limits.
U - Analyte was not detected at or above the Method Detection Limit
ND - Not Detected.
NS - Not Sampled.
BPL - Borrow Pit Lake

Prepared by: JLW Date: 10/1/2008
Checked by: AWG Date: 10/2/2008
Reviewed by: MNH Date: 10/6/2008

-DRAFT-
Table 6
Dead Creek Segment Borrow Pit Lake
Summary of Soil Confirmation Samples
Solutia Inc. - Sauget, Illinois

Sample			BPL32-3	BPL33-1	BPL33-2	BPL33-3	BPL33-4	BPL34-1
Creek Segment			BPL	BPL	BPL	BPL	BPL	BPL
Date Sampled			2/15/2006	2/7/2006	2/7/2006	2/7/2006	2/7/2006	2/15/2006
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.14 N	0.13	0.031 J	0.10	0.015 J	0.024 J N

Sample			BPL34-2	BPL34-3	BPL-HGSED-35	BPL36-1	BPL36-2	BPL36-3
Creek Segment			BPL	BPL	BPL	BPL	BPL	BPL
Date Sampled			2/16/2006	2/15/2006	5/8/2003	2/9/2006	2/9/2006	2/20/2006
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.017 J	0.036 J N	0.0746	0.17	0.09	0.12

Sample			BPL36-4	BPL-HGSED-37	BPL38-1B	BPL38-2B	BPL38-3B	BPL38-4B
Creek Segment			BPL	BPL	BPL	BPL	BPL	BPL
Date Sampled			2/22/2006	5/8/2003	2/20/2006	2/20/2006	2/20/2006	2/20/2006
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.013 J	0.0930	0.076	0.048	0.073	0.00668 U

Sample			BPL-HGSED-39 (0-0.5)	BPL-HGSED-40 (0-0.5)	BPL-HGSED-41 (0-0.5)	BPL-HGSED-42 (0-0.5)	BPL-HGSED-43 (0-0.5)	BPL-HGSED-44 (0-0.5)
Creek Segment			BPL	BPL	BPL	BPL	BPL	BPL
Date Sampled			5/8/2003	5/8/2003	5/8/2003	5/8/2003	5/8/2003	5/8/2003
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.0648	0.160	0.0852	0.0553	0.0962	0.170

Sample			BPL-HGSED-65 (0-0.5)	BPL-HGSED-45 (0-0.5)	BPL-HGSED-46 (0-0.5)	BPL-HGSED-47 (0-0.5)	BPL-HGSED-48 (0-0.5)	BPL-HGSED-68 (0-0.5)
Creek Segment			BPL DUP 44	BPL	BPL	BPL	BPL	BPL DUP 48
Date Sampled			5/8/2003	5/8/2003	5/8/2003	5/13/2003	5/13/2003	5/13/2008
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.147	0.0371	0.0684	0.0731	0.0679	0.0675

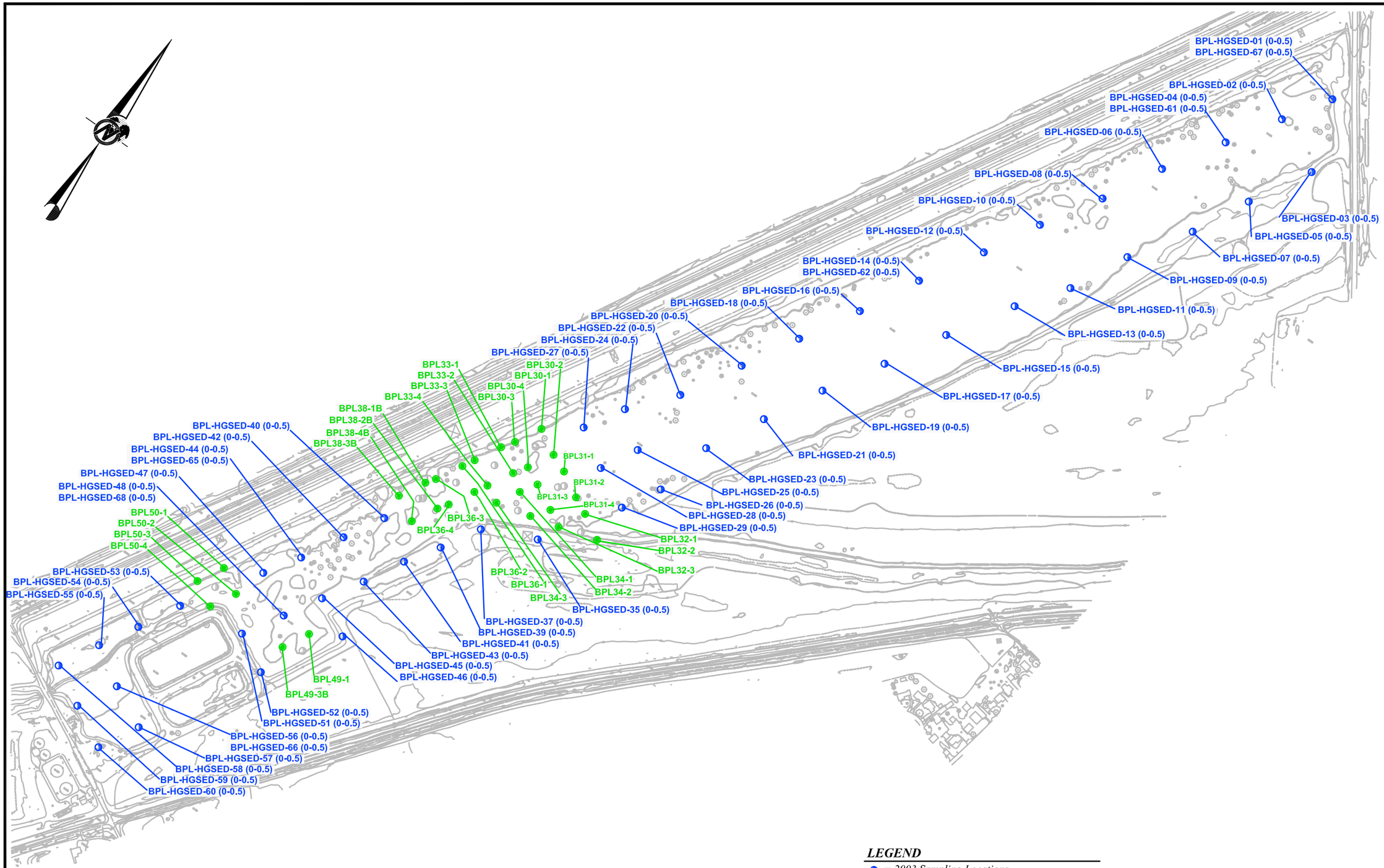
Sample			BPL49-1	BPL49-3B	BPL50-1	BPL50-2	BPL50-3	BPL50-4
Creek Segment			BPL	BPL	BPL	BPL	BPL	BPL
Date Sampled			2/22/2006	2/22/2006	2/13/2006	2/13/2006	2/13/2006	2/15/2006
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.027 J	0.00668 U	0.045	0.067	0.081	0.16 N

Sample			BPL-HGSED-51 (0-0.5)	BPL-HGSED-52 (0-0.5)	BPL-HGSED-53 (0-0.5)	BPL-HGSED-54 (0-0.5)	BPL-HGSED-55 (0-0.5)	BPL-HGSED-56 (0-0.5)
Creek Segment			BPL	BPL	BPL	BPL	BPL	BPL
Date Sampled			5/13/2003	5/13/2003	5/8/2003	5/9/2003	5/9/2003	5/9/2003
Metals								
Analyte	**CAS No.**	**RBC (mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury	7439-97-6	0.18	0.0618	0.0584	0.0593	0.168	0.0268	0.048

Sample		BPL-HGSED-66 (0-0.5)	BPL-HGSED-57 (0-0.5)	BPL-HGSED-58 (0-0.5)	BPL-HGSED-59 (0-0.5)	BPL-HGSED-60 (0-0.5)
Creek Segment		BPL DUP 56	BPL	BPL	BPL	BPL
Date Sampled		5/9/2003	5/9/2003	5/9/2003	5/9/2003	5/13/2003
Metals						
Analyte		**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**
Mercury		0.0471	0.0261	0.0337	0.0434	0.0553

Only detected analytes are listed.
Flags and Qualifiers
J - Result is an estimated value below the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL); The concentration is an approximate value.
N - Spiked analyte recovery was outside stated control limits.
U - Analyte was not detected at or above the Method Detection Limit
ND - Not Detected.
NS - Not Sampled.
BPL - Borrow Pit Lake

Prepared by: JLW Date: 10/1/2008
Checked by: AWG Date: 10/2/2008
Reviewed by: MNH Date: 10/6/2008



LEGEND

- = 2003 Sampling Locations
- = 2006 Sampling Locations
- = Sample Locations that have been excavated

400 0 400

SCALE FEET

Original Map Provided By URS Corp., Drawing "Borrow Pit Lake", 11/10/04.

Golder Associates
St. Louis, Missouri

PROJECT

SOLUTIA INC
DEAD CREEK
Sauget, Illinois

TITLE

DRAFT
BORROW PIT LAKE
SAMPLE LOCATIONS

PROJECT No.	033-9626	
FILE No.	0339626C006	
REV. 0	SCALE AS SHOWN	
DESIGN	AWG	9/17/08
CADD	JCW	9/18/08
CHECK	AWG	10/2/08
REVIEW	MNH	10/3/08

FIGURE

7

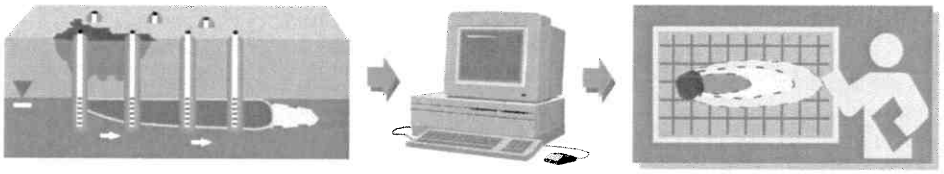
Groundwater Mass Flux

To the

Mississippi River

Regional Groundwater Flow and Contaminant Transport Model

American Bottoms Aquifer



Submitted to:

Mr. Steve Shroff, URS Corp.

April 14, 2008

GSI Environmental Inc.
2211 Norfolk, Suite 1000, Houston, TX 77098

All Source Areas

Modeled mass flux to the river for all source areas was calculated as the sum of the mass fluxes to the river for individual SA1, SA2, WGK, and Clayton Chemical sources. Overall, when all modeled constituents are included, over 94% of the total plume mass flux that would have discharged to the river in 2038 without the GMCS is predicted to be captured by the GMCS.

	Modeled Mass Flux To River with GMCS OFF (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	20,386	11,621	7,014	987	404	358	2	1
2010	19,825	11,030	7,001	958	438	387	8	2
2020	29,600	15,234	11,631	1,414	884	411	19	6
2030	25,187	12,891	9,948	1,201	772	348	20	8
2038	21,224	10,843	8,402	1,009	651	296	17	7

CB = chlorobenzene; DCB = 1,4-dichlorobenzene; 2,4-D = 2,4-Dichlorophenoxyacetic acid; PCE = tetrachloroethene; TCE = trichloroethene; 1,2-DCE = cis-1,2-Dichloroethene; VC = vinyl chloride; kg/yr = kilograms per year.

	Modeled Mass Flux To River with GMCS ON (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	619	114	320	63	21	101	0.03	0.02
2010	688	83	481	23	55	46	0.7	0.1
2020	1,833	129	1,368	63	224	36	11	2
2030	1,608	109	1,199	56	199	32	10	2
2038	1,378	92	1,030	48	172	28	9	1

	Percent Mass Flux Captured by GMCS (%)							
With GMCS ON	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	97	99	95	94	95	72	98	99
2010	97	99	93	98	88	88	92	95
2020	94	99	88	96	75	91	41	67
2030	94	99	88	95	74	91	49	79
2038	94	99	88	95	74	91	48	79

Sauget Area 1 Source Areas Only

For Sauget Area 1 sources only, overall, when all modeled constituents are included, 86% of the total plume mass flux that would have discharged to the river in 2038 without the GMCS is predicted to be captured by the GMCS.

	Modeled Mass Flux To River with GMCS OFF (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	274	0	135	19	13	107	0.0001	0
2010	396	0.001	215	41	25	107	6	1
2020	1,124	0.01	805	77	92	132	16	3
2030	998	0.01	720	66	83	113	14	2
2038	854	0.01	618	56	72	95	12	2

CB = chlorobenzene; DCB = 1,4-dichlorobenzene; 2,4-D = 2,4-Dichlorophenoxyacetic acid; PCE = tetrachloroethene; TCE = trichloroethene; 1,2-DCE = cis-1,2-Dichloroethene; VC = vinyl chloride; kg/yr = kilograms per year.

	Modeled Mass Flux To River with GMCS ON (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	142	0	43	14	4	81	0	0
2010	77	0.0001	29	8	2	37	0.6	0.1
2020	151	0.004	58	42	13	25	11	2
2030	141	0.004	57	38	13	22	10	2
2038	121	0.004	50	32	11	19	8	1

	Percent Mass Flux Captured by GMCS (%)							
With GMCS ON	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	48	97	68	26	73	25	98	98
2010	81	89	87	79	91	66	90	90
2020	87	39	93	45	86	81	29	31
2030	86	32	92	43	85	80	27	29
2038	86	32	92	43	85	80	27	29

Sauget Area 2 Source Areas Only – Combined

For Sauget Area 2 sources only, overall, when all modeled constituents are included, 98% of the total plume mass flux that would have discharged to the river in 2038 without the GMCS is predicted to be captured by the GMCS.

	Modeled Mass Flux To River with GMCS OFF (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	18,458	11,621	6,491	0	346	0	0	0
2010	17,521	11,030	6,160	0	330	0	0	0
2020	24,523	15,234	8,835	0	455	0	0	0
2030	20,754	12,891	7,476	0	387	0	0	0
2038	17,452	10,843	6,289	0	321	0	0	0

CB = chlorobenzene; DCB = 1,4-dichlorobenzene; 2,4-D = 2,4-Dichlorophenoxyacetic acid; PCE = tetrachloroethene; TCE = trichloroethene; 1,2-DCE = cis-1,2-Dichloroethene; VC = vinyl chloride; kg/yr = kilograms per year.

	Modeled Mass Flux To River with GMCS ON (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	321	114	200	0	8	0	0	0
2010	230	83	143	0	4	0	0	0
2020	377	129	242	0	6	0	0	0
2030	320	109	205	0	5	0	0	0
2038	269	92	173	0	4	0	0	0

With GMCS ON	Percent Mass Flux Captured by GMCS (%)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	98	99	97	-	98	-	-	-
2010	99	99	98	-	99	-	-	-
2020	98	99	97	-	99	-	-	-
2030	98	99	97	-	99	-	-	-
2038	98	99	97	-	99	-	-	-

Sauget Area 2 Source Areas – Site R Only

For Sauget Area 2 Site R sources only, overall, when all modeled constituents are included, 99% of the total plume mass flux that would have discharged to the river in 2038 without the GMCS is predicted to be captured by the GMCS.

	Modeled Mass Flux To River with GMCS OFF (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	18,337	11,621	6,370	0	346	0	0	0
2010	17,408	11,030	6,047	0	330	0	0	0
2020	24,265	15,234	8,576	0	455	0	0	0
2030	20,531	12,891	7,254	0	387	0	0	0
2038	17,265	10,843	6,102	0	321	0	0	0

CB = chlorobenzene; DCB = 1,4-dichlorobenzene; 2,4-D = 2,4-Dichlorophenoxyacetic acid; PCE = tetrachloroethene; TCE = trichloroethene; 1,2-DCE = cis-1,2-Dichloroethene; VC = vinyl chloride; kg/yr = kilograms per year.

	Modeled Mass Flux To River with GMCS ON (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	295	114	174	0	8	0	0	0
2010	209	83	122	0	4	0	0	0
2020	330	129	194	0	6	0	0	0
2030	279	109	165	0	5	0	0	0
2038	235	92	139	0	4	0	0	0

With GMCS ON	Percent Mass Flux Captured by GMCS (%)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	98	99	97	-	98	-	-	-
2010	99	99	98	-	99	-	-	-
2020	99	99	98	-	99	-	-	-
2030	99	99	98	-	99	-	-	-
2038	99	99	98	-	99	-	-	-

Sauget Area 2 Source Areas – Site O Only

For Sauget Area 2 Site O sources only, when all modeled constituents are included, 82% of the total plume mass flux that would have discharged to the river in 2038 without the GMCS is predicted to be captured by the GMCS.

	Modeled Mass Flux To River with GMCS OFF (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	121	0	121	0	0	0	0	0
2010	113	0	113	0	0	0	0	0
2020	260	0	260	0	0	0	0	0
2030	222	0	222	0	0	0	0	0
2038	187	0	187	0	0	0	0	0

CB = chlorobenzene; DCB = 1,4-dichlorobenzene; 2,4-D = 2,4-Dichlorophenoxyacetic acid; PCE = tetrachloroethene; TCE = trichloroethene; 1,2-DCE = cis-1,2-Dichloroethene; VC = vinyl chloride; kg/yr = kilograms per year.

	Modeled Mass Flux To River with GMCS ON (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	26	0	26	0	0	0	0	0
2010	21	0	21	0	0	0	0	0
2020	47	0	47	0	0	0	0	0
2030	41	0	41	0	0	0	0	0
2038	34	0	34	0	0	0	0	0

With GMCS ON	Percent Mass Flux Captured by GMCS (%)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	79	-	79	-	-	-	-	-
2010	81	-	81	-	-	-	-	-
2020	82	-	82	-	-	-	-	-
2030	82	-	82	-	-	-	-	-
2038	82	-	82	-	-	-	-	-

Clayton Chemical Source Areas Only

For Clayton sources only, overall, when all modeled constituents are included, 98% of the total plume mass flux that would have discharged to the river in 2038 without the GMCS is predicted to be captured by the GMCS.

	Modeled Mass Flux To River with GMCS OFF (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	1,562	0	308	967	32	251	2	1
2010	1,523	0	292	917	31	280	2	1
2020	2,216	0	537	1,337	57	279	3	3
2030	1,888	0	457	1,135	49	236	6	6
2038	1,589	0	385	953	40	201	5	5

CB = chlorobenzene; DCB = 1,4-dichlorobenzene; 2,4-D = 2,4-Dichlorophenoxyacetic acid; PCE = tetrachloroethene; TCE = trichloroethene; 1,2-DCE = cis-1,2-Dichloroethene; VC = vinyl chloride; kg/yr = kilograms per year.

	Modeled Mass Flux To River with GMCS ON (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	87	0	16	49	1	21	0.03	0.02
2010	28	0	4	15	0.4	9	0.04	0.01
2020	50	0	16	21	1	11	0.09	0.03
2030	43	0	14	18	1	10	0.2	0.06
2038	37	0	12	16	1	9	0.2	0.05

With GMCS ON	Percent Mass Flux Captured by GMCS (%)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	94	-	95	95	96	92	98	99
2010	98	-	98	98	99	97	98	99
2020	98	-	97	98	98	96	97	99
2030	98	-	97	98	98	96	97	99
2038	98	-	97	98	98	96	97	99

W.G. Krummrich Source Areas Only

For WKG sources only, overall, when all modeled constituents are included, 28% of the total plume mass flux that would have discharged to the river in 2038 without the GMCS is predicted to be captured by the GMCS.

	Modeled Mass Flux To River with GMCS OFF (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	92	0	80	0	12	0	0	0
2010	385	0	334	0	51	0	0	0
2020	1,735	0.0003	1,454	0	282	0	0	0
2030	1,548	0.0004	1,294	0	254	0	0	0
2038	1,329	0.0004	1,111	0	218	0	0	0

CB = chlorobenzene; DCB = 1,4-dichlorobenzene; 2,4-D = 2,4-Dichlorophenoxyacetic acid; PCE = tetrachloroethene; TCE = trichloroethene; 1,2-DCE = cis-1,2-Dichloroethene; VC = vinyl chloride; kg/yr = kilograms per year.

	Modeled Mass Flux To River with GMCS ON (kg/yr)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	69	0	61	0	9	0	0	0
2010	352	0	305	0	48	0	0	0
2020	1,256	0.0003	1,052	0	204	0	0	0
2030	1,103	0.0004	923	0	180	0	0	0
2038	951	0.0003	795	0	155	0	0	0

With GMCS ON	Percent Mass Flux Captured by GMCS (%)							
	All 7 COCs	**2,4-D**	**CB**	**1,2-DCE**	**DCB**	**VC**	**TCE**	**PCE**
2006	25	55	24	-	27	-	-	-
2010	8	-	9	-	6	-	-	-
2020	28	19	28	-	28	-	-	-
2030	29	14	29	-	29	-	-	-
2038	28	14	28	-	29	-	-	-

October 2000

Surface Water and Sediment Bioassays

Table 8-5
Toxicity Test Summary
WGK Plant Ecological Risk Assessment
Sauget, Illinois

STATION	SEDIMENT[1]				SURFACE WATER[2]					
	Amphipod 28-d Chronic Sediment Bioassay		Fathead Minnow 7-d Chronic Sediment Bioassay		Fathead Minnow Surface Water Bioassay			Ceriodaphnia Surface Water Bioassay		
	Survival	Growth	Survival	Growth	Acute 2d Survival	Chronic 7d Survival	Chronic 7d Growth	Acute 2d Survival	Chronic 7d Survival	Chronic 7d Reproduction
UDA-11	No	No	No	No	No	No	No	No	No	No
UDA-12	No	No	No	No	No	No	No	No	No	No
PDA-8	No	No	No	No	No	No	No	No	No	Yes
PDA-8 FD					No	No	No	No	No	No
PDA-9	No	No	Yes	Yes*	No	No	No	No	No	Yes
PDA-10	No	No	No	No	No	No	No	No	No	No
PDA-5	Yes	Yes*	Yes[3]	Yes*	No	No	No	No	No	Yes
PDA-6	No	No	No	No	No	No	No	No	No	No
PDA-7	No	No	No	No	No	No	No	No	No	No
PDA-2	No	No	No	No	No	No	No	Yes[3]	Yes[3]	Yes*
PDA-2 FD					No	No	No	Yes[3]	Yes[3]	Yes*
PDA-3	No	No	Yes	Yes*	No	No	No	Yes	Yes	Yes*
PDA-3 FD	No	No	Yes	Yes*						
PDA-4	No	No	No	No	No	No	No	Yes	Yes	Yes*
DDA-13	No	No	No	No	Yes	Yes	Yes*	No	No	No
DDA-1	No	No	No	No	No	Yes	Yes*	No	No	No

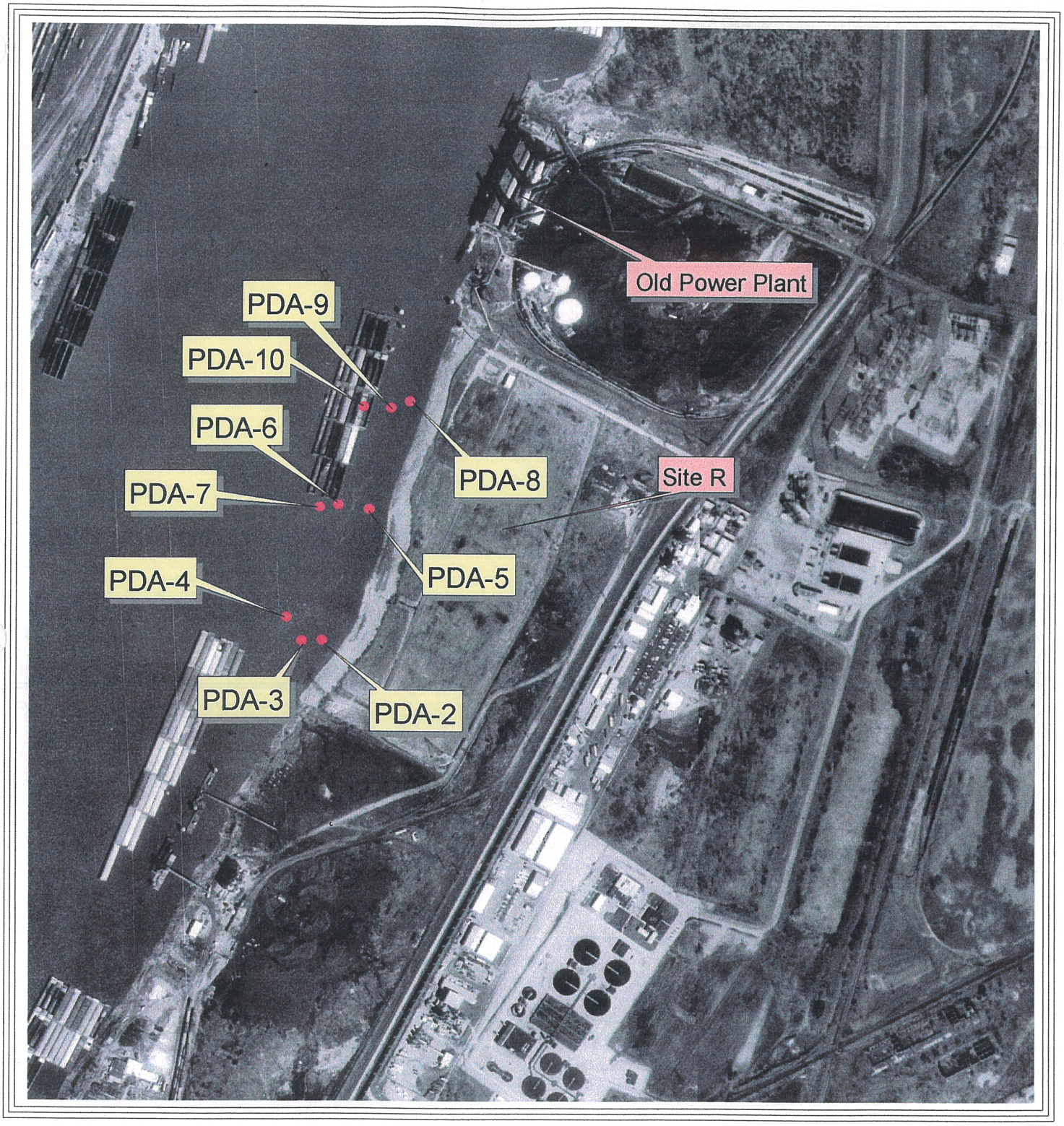
[1]"Yes" indicates a statistically significant reduction in the organism response when compared to the control group

[2]"Yes" indicates a statistically significant reduction in the organism response when compared to one or more of the control groups

[3] 0% survival in this sample

*Samples with effects on survival were excluded from statistical analysis of the more sensitive endpoint (growth or reproduction); it is assumed that the more sensitive endpoint is affected if survival is affected.

Figure 2-1. PDA Transect Layout
WGK Plant Ecological Risk Assessment
Sauget, Illinois

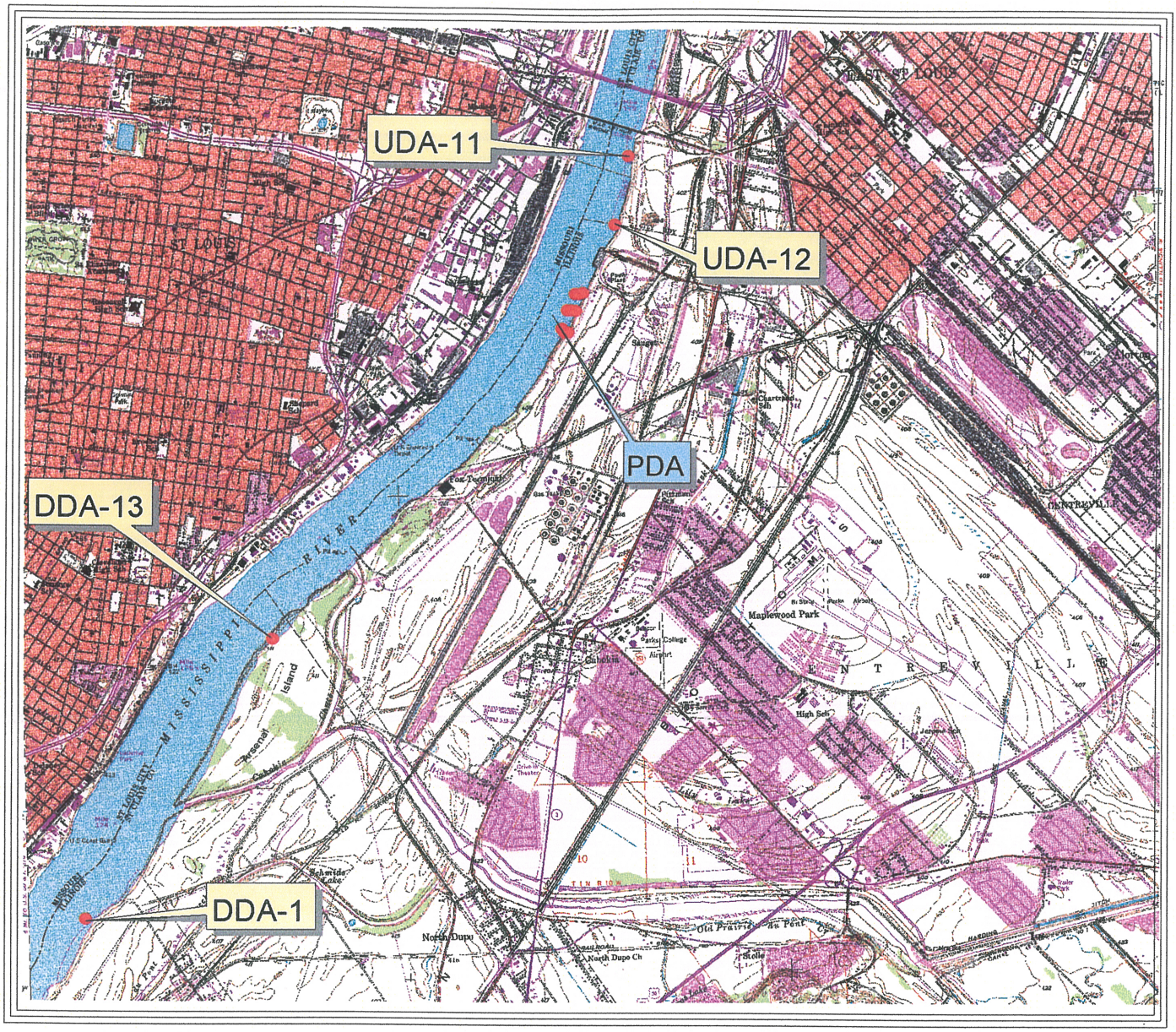


NOTE:
North Stations = PDA10, PDA9, PDA8
Middle Stations = PDA7, PDA6, PDA5
South Stations (South of Dike) = PDA4, PDA3, PDA2

0.1 0 0.1 0.2 Miles

N
W E
S

Figure 2-3. PDA, UDA and DDA Locus Map
WGK Plant Ecological Risk Assessment
Sauget, Illinois



1 0 1 2 Miles

N
W E
S

November 2002

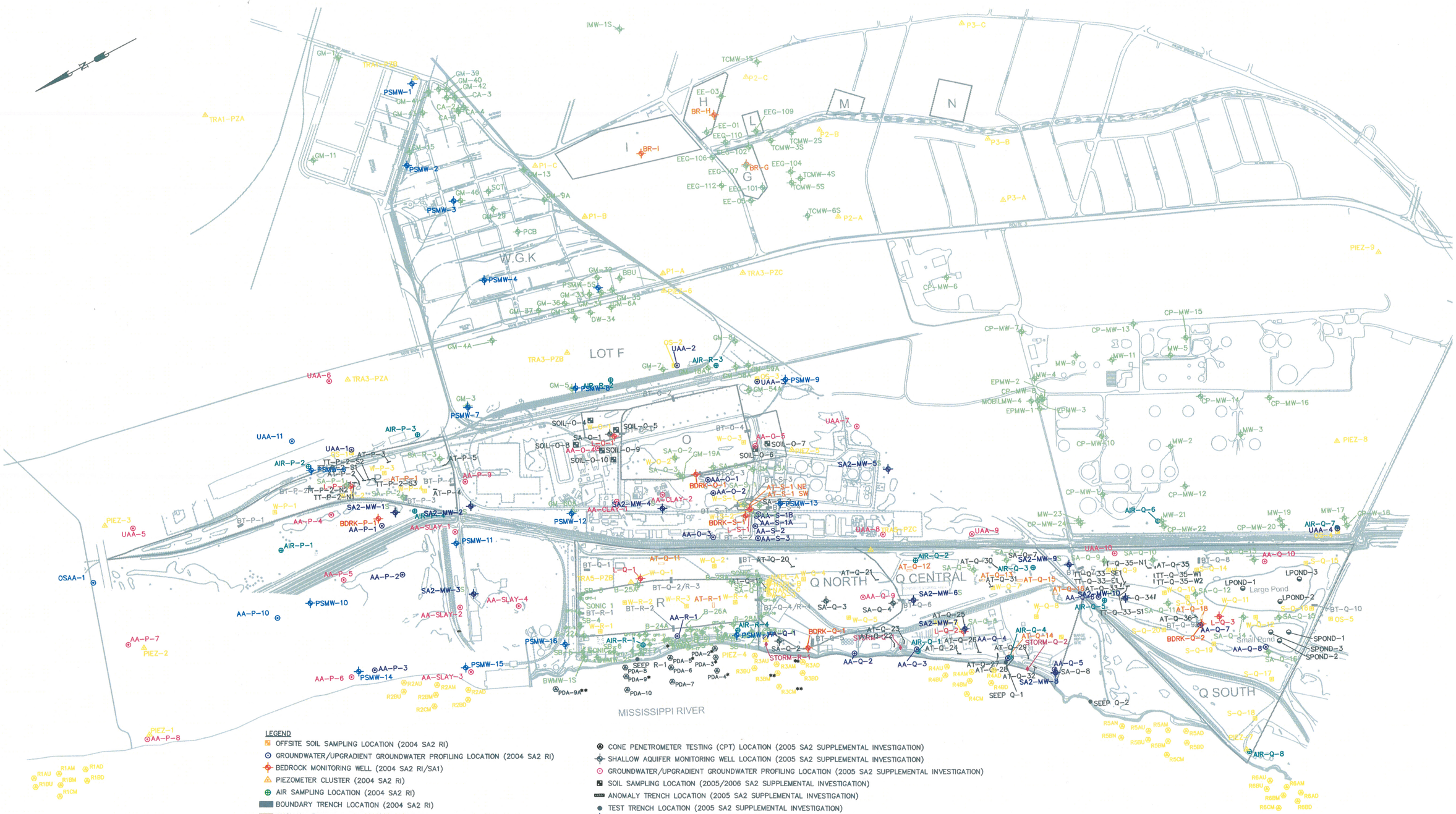
Surface Water and Sediment Bioassays

Table 7-13 Summary of toxicity testing of sediments using *H. azteca* and *C. tentans*.

Sample ID	Toxicity Test Species			
	H. azteca		*C. tentans*	
	Is Mean Survival < Control?	Is Mean Growth < Control?	Is Mean Survival < Control?	Is Mean Growth < Control?
R1AD1S	No	No	No	No
R1AM1S	No	No	No	No
R1AU1S	No	No	No	No
R1BD1S	No	No	No	No
R1BM1S	Yes	No	No	No
R1BM2S	No	No	No	No
R1BU1S	No	No	No	No
R1CM1S	No	No	No	No
R2AD1S	No	No	No	No
R2AM1S	No	No	No	No
R2AM2S	No	No	No	No
R2AU1S	No	No	No	No
R2BD1S	No	No	No	No
R2BM1S	No	No	No	No
R2BU1S	No	No	No	No
R2CM1S	No	No	No	No
R3AD1S	No	No	No	No
R3AM1S	No	No	No	No
R3AU1S	No	No	No	No
R3BD1S	No	No	No	No
R3BM1S	No	No	No	No
R3BU1S	No	No	No	No
R3CM1S	No	No	No	No
R4AD1S	No	No	No	No
R4AM1S	No	No	No	No
R4AU1S	No	No	No	No
R4BD1S	No	No	No	No
R4BM1S	No	No	No	No
R4BU1S	No	No	No	No
R4CM1S	No	No	No	No
R4CM2S	No	No	No	No
R5AM1S	No	No	No	No
R5AN1S	No	No	No	No
R5AU1S	No	No	No	No
R5BM1S	No	No	No	No
R5BN1S	No	No	No	No
R5BU1S	No	No	No	No
R5CM1S	No	No	No	No
R6AD1S	No	No	No	No
R6AM1S	No	No	No	No
R6AM2S	No	No	No	No
R6AU1S	No	No	No	No
R6BM1S	No	No	No	No
R6BU1S	No	No	No	No
R6CM1S	No	No	No	No

Table 7-15. Summary of statistical analyses of surface water toxicity testing using *P. promelas* and *C. dubia*.

Sample ID	Toxicity Test Species					
	P. promelas			*C. dubia*		
	Is Mean Acute Survival < Contol?	Is Mean Chronic Survival < Control?	Is Mean Growth < Control?	Is Mean Acute Survival < Contol?	Is Mean Chronic Survival < Control?	Is Mean Neonate Production < Control?
R1AD1W	No	No	No	No	No	No
R1AM1W	No	No	No	No	No	No
R1AU1W	No	No	No	No	No	No
R1BD1W	No	No	No	No	No	No
R1BM1W	No	No	No	No	No	No
R1BM2W	No	No	No	No	No	No
R1BU1W	No	No	No	No	No	No
R1CM1W	No	No	No	No	No	No
R2AD1W	No	No	No	No	No	No
R2AM1W	No	No	No	No	No	No
R2AM2W	No	No	No	No	No	No
R2AU1W	No	No	No	No	No	No
R2BD1W	No	No	No	No	No	No
R2BM1W	No	No	No	No	No	No
R2BU1W	No	No	No	No	No	No
R2CM1W	No	No	No	No	No	No
R3AD1W	No	No	No	No	No	Yes
R3AM1W	No	No	No	No	No	Yes
R3AU1W	No	No	No	Yes	Yes	Yes
R3BD1W	No	No	No	No	No	No
R3BM1W	No	No	No	No	No	Yes
R3BU1W	No	No	No	No	No	Yes
R3CM1W	No	No	No	No	No	No
R4AD1W	No	No	No	No	Yes	Yes
R4AM1W	No	No	No	No	Yes	No
R4AU1W	No	No	No	No	No	No
R4BD1W	No	No	No	No	No	No
R4BM1W	No	No	No	No	No	No
R4BU1W	No	No	No	No	No	No
R4CM1W	No	No	No	No	No	No
R4CM2W	No	No	No	No	No	No
R5AD1W	No	No	No	No	Yes	No
R5AM1W	No	No	No	No	No	No
R5AN1W	No	No	No	No	No	No
R5AU1W	No	No	No	No	No	No
R5BD1W	No	No	No	No	No	No
R5BM1W	No	No	No	No	No	No
R5BN1W	No	No	No	No	No	No
R5BU1W	No	No	No	No	No	No
R5CM1W	No	No	No	No	No	No
R6AD1W	No	No	No	No	No	No
R6AM1W	No	No	No	No	Yes	No
R6AM2W	No	No	No	No	No	No
R6AU1W	No	No	No	No	No	No
R6BM1W	No	No	No	No	No	Yes
R6BU1W	No	No	No	No	No	No
R6CM1W	No	No	No	No	No	No



LEGEND

- OFFSITE SOIL SAMPLING LOCATION (2004 SA2 RI)
- GROUNDWATER/UPGRADIENT GROUNDWATER PROFILING LOCATION (2004 SA2 RI)
- BEDROCK MONITORING WELL (2004 SA2 RI/SA1)
- PIEZOMETER CLUSTER (2004 SA2 RI)
- AIR SAMPLING LOCATION (2004 SA2 RI)
- BOUNDARY TRENCH LOCATION (2004 SA2 RI)
- ANOMALY TRENCH LOCATION (2004 SA2 RI)
- SOIL/WASTE CHARACTERIZATION BORING LOCATION (2004 SA2 RI)
- LEACHATE MONITORING WELL LOCATION (2004 SA2 RI)
- SURFACE WATER/SEDIMENT SAMPLE LOCATION (2004 SA2 RI)
- STORMWATER SAMPLE LOCATION (2004 SA2 RI)
- SEEP SAMPLING LOCATION (2004 SA2 RI)
- POND SAMPLING LOCATION (2004 SA2 RI)
- SURFACE WATER/SEDIMENT LOCATION (2000 MENZIE CURRA/SITE R GMCS)
- CONE PENETROMETER TESTING (CPT) LOCATION (2005 SA2 SUPPLEMENTAL INVESTIGATION)
- SHALLOW AQUIFER MONITORING WELL LOCATION (2005 SA2 SUPPLEMENTAL INVESTIGATION)
- GROUNDWATER/UPGRADIENT GROUNDWATER PROFILING LOCATION (2005 SA2 SUPPLEMENTAL INVESTIGATION)
- SOIL SAMPLING LOCATION (2005/2006 SA2 SUPPLEMENTAL INVESTIGATION)
- ANOMALY TRENCH LOCATION (2005 SA2 SUPPLEMENTAL INVESTIGATION)
- TEST TRENCH LOCATION (2005 SA2 SUPPLEMENTAL INVESTIGATION)
- MONITORING WELL CLUSTER (2006 SA2 SUPPLEMENTAL INVESTIGATION)
- NAPL INVESTIGATION MONITORING WELL (2006 SA2 SUPPLEMENTAL INVESTIGATION)
- WGK PLUME STABILITY MONITORING WELL (2006)
- GROUNDWATER/UPGRADIENT GROUNDWATER PROFILING LOCATION (2006 SA2 SUPPLEMENTAL INVESTIGATION)
- REGIONAL GROUNDWATER MONITORING WELL
- * SW/SED LOCATIONS TAKEN DURING SUPPLEMENTAL INVESTIGATION (2005 & 2007)
- ** SW/SED LOCATIONS TAKEN DURING SUPPLEMENTAL INVESTIGATION (2005)

0 1000
SCALE FEET

Figure 3-1 Sample Location Map
Sauget Area 2, Sauget, Illinois

amec EARTH & ENVIRONMENTAL, INC.
285 Davidson Avenue, Suite 405
Somerset, NJ 08873

Project Number: 1-7305-0000

Source: URS

Sauget Area 1

Ecological Risk Assessment

Update of Terrestrial Screening

ENSR

Prepared for:
Solutia, Inc.
St. Louis, Missouri

Sauget Area 1
Ecological Risk Assessment Addendum
Update of Terrestrial Screening

ENSR Corporation
November 2009
Document No.: 06105-025-300

ENSR

Prepared for:
Solutia, Inc.
St. Louis, Missouri

Sauget Area 1
Ecological Risk Assessment Addendum
Update of Terrestrial Screening

Prepared By
Christine Archer

Reviewed By
David F. Mitchell, Ph.D.

ENSR Corporation
November 2009
Document No.: 06105-025-300

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1.0 Introduction

This report presents an ecological evaluation of the floodplain soils and creek bottom soils associated with Dead Creek, Sauget Area 1, located in Sauget and Cahokia, Illinois. The purpose of this evaluation is to compare the soil data sets against ecologically-based soil screening values to determine whether terrestrial receptors are at risk due to exposure to site-related constituents.

This document serves to update the terrestrial screening conducted in 2001 as part of the Ecological Risk Assessment (ERA) for Sauget Area 1 (Menzie-Cura & Associates, 2001). Since the ERA was submitted, additional investigations and remedial actions have been conducted, additional soil screening values have become available, and portions of Dead Creek have been de-watered such that current conditions represent terrestrial, not aquatic, habitat.

Therefore, this updated terrestrial screening is designed to evaluate the available surface soil data against current soil screening values derived for the protection of terrestrial receptors and determine whether concentrations of site-related constituents in areas outside the remedial activities are above these screening values. The focus of this screening is on floodplain surface soils and the de-watered creek bottom soils (i.e., former sediments) in Dead Creek (Figure 1-1).

Dead Creek has previously been divided into Segments B through F and each segment has been evaluated separately. Since the focus of this evaluation is on potential terrestrial exposures, only de-watered portions of Dead Creek have been evaluated. Segment F remains an aquatic habitat and Segment B is being remediated such that future ecological receptors contact with creek bottom soils will not be possible. Approximately 1,800 ft of Segment B will be covered with a geotextile liner and topped with approximately 18 inches of stone armament. Therefore, the terrestrial screening is focused on floodplain soils and Dead Creek Segments C, D, and E.

1.1 Ecological Risk Assessment Approach

In accordance with relevant United States Environmental Protection Agency (USEPA) guidance (USEPA, 1997; USEPA, 1998) the principal components of the 2001 ERA (Menzie-Cura & Associates, 2001) conducted for Sauget Area I included:

- Problem Formulation: In this step, the objectives of the ERA were defined, and a plan for characterizing and analyzing potential risks was presented. Available information regarding potential stressors and the environmental setting were integrated to identify potentially complete exposure pathways. Products generated through problem formulation include measurement and assessment endpoints and the conceptual site model (CSM).
- Risk Analysis (also referred to as the Exposure and Ecological Effects Assessment steps): This step is directed by the problem formulation step. Data were evaluated to characterize potential ecological exposures and effects and chemicals of potential concern (COPCs) were selected.
- Risk Characterization: During risk characterization, exposure and stressor response profiles were integrated through risk estimation and a weight of evidence assessment. Risk characterization included a summary of uncertainties, strengths, and weaknesses associated with the risk assessment.

The approach used to update the evaluation of the surface soils in this document is consistent with the ERA approach used previously (Menzie-Cura & Associates, 2001) and with relevant federal guidance (USEPA, 1997; USEPA, 1998). The report is organized according to the three steps described above. Each step has been updated to reflect the current understanding of the existing conditions within the floodplains and Dead Creek.

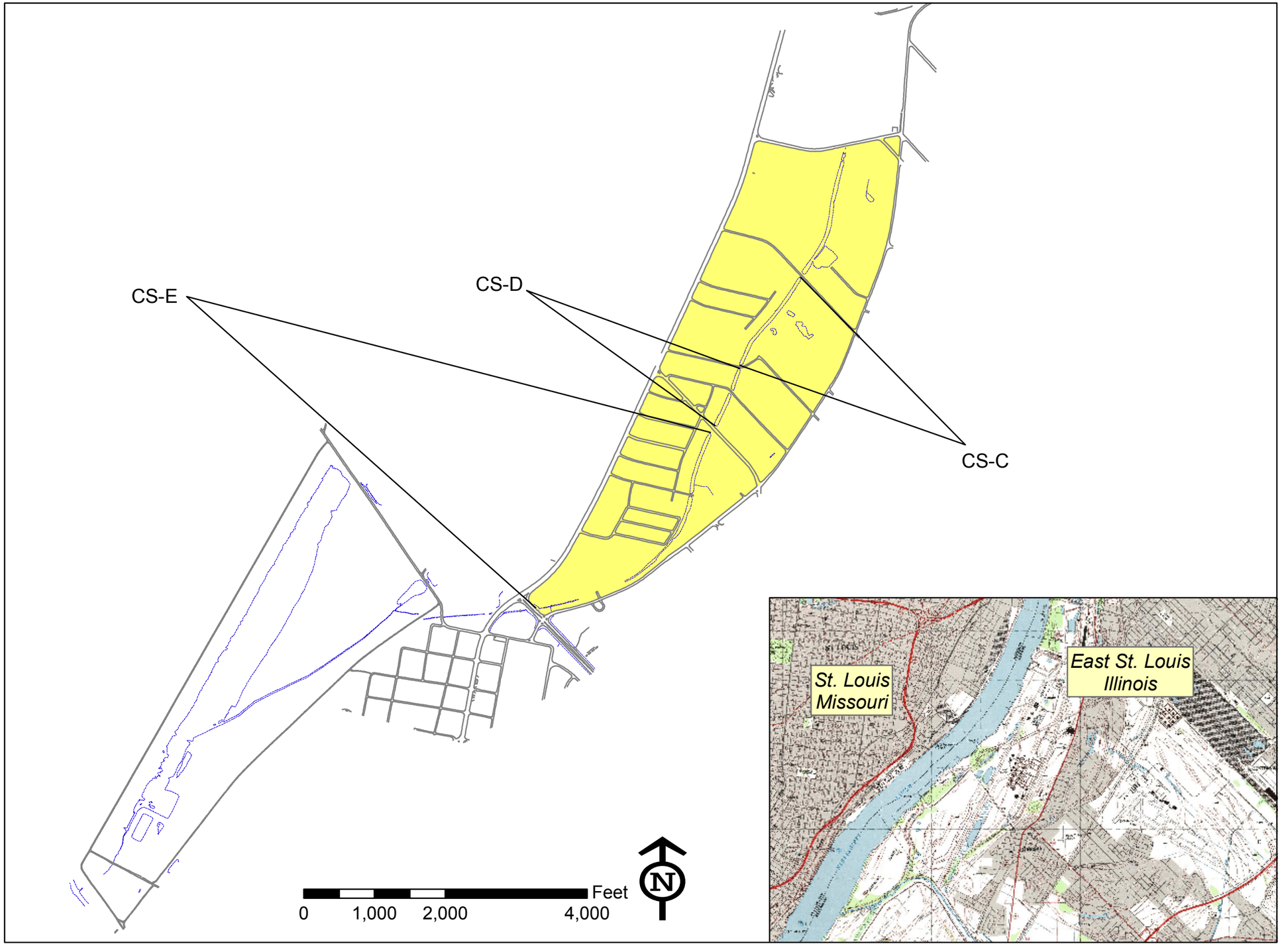

FIGURE 1-1
Sauget Area 1 Study Area
Sauget Area 1
Ecological Risk Assessment
Addendum

LEGEND

- Water
- Roads
- CS-C Dead Creek Segments
- Floodplain Soils

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2.0 Problem Formulation

Problem formulation is the initial step of the ERA process and provides the basis for decisions regarding the scope and objectives of the ERA. Information is collected in order to develop a CSM, in which COPCs and exposure pathways are identified. The problem formulation phase includes:

- Definition of risk assessment objectives;
- Definition of geographic area to be considered;
- Identification of exposure pathways;
- Selection of endpoints to be assessed; and
- Development of the CSM.

A description of the fate and transport mechanisms and mechanisms of ecotoxicity for the COPCs was presented in Section 3.1 of the 2001 ERA (Menzie-Cura & Associates, 2001). The current understanding of these mechanisms is consistent with the previous description so this information has not been presented again in this update.

2.1 Definition of Risk Assessment Objectives

The purpose of this document is to update the soil data set considered in the terrestrial screening portion of the previous ERA and re-evaluate the potential for risks to terrestrial receptors due to exposure to chemical stressors present in surface soils within the floodplains of Dead Creek. Following the de-watering and sediment removal actions within Dead Creek, there is also the potential for ecological receptors to be exposed to the creek bottom soils within de-watered portions of Dead Creek.

2.2 Definition of Geographic Area to be Considered

Dead Creek is an intermittent urban stream that bisects Sauget Area 1, passing through areas of commercial land use, areas of open land, and areas of residential land use, and eventually discharges to Borrow Pit Lake and Prairie DuPont Creek. The floodplains consist of developed and undeveloped parcels of land located along Dead Creek. The creek currently receives stormwater runoff from a variety of developed commercial properties. Creek segments C, D, and E have been de-watered and no longer provide aquatic habitat. These areas are currently dominated by grasses.

Figure 1-1 presents an overview of the floodplains and the three segments of Dead Creek being evaluated. Figures 2-1 and 2-2 present the locations of the floodplain soils and the creek bottom soil samples.

2.3 Identification of Complete Exposure Pathways

USEPA (1997, 1998) defines a complete exposure pathway as “one in which the chemical can be traced or expected to travel from the source to a receptor that can be affected by chemicals.” Therefore, in order for a complete exposure pathway to exist, a chemical, a migration pathway, a receptor and mechanisms of toxicity of that chemical must be demonstrated.

Terrestrial receptors potentially exposed to site-related COPCs in soils include plants and soil invertebrates, as well as birds and mammals foraging within the floodplain and de-watered sections of the Dead Creek channel. Plants and soil invertebrates may be exposed to COPCs through direct contact with the soils. Birds and mammals may be exposed to COPCs by ingesting food items (i.e., plants, earthworms, small mammals) that may have bioaccumulated COPCs present in the soil or through the incidental ingestion of soil during foraging.

Due to the presence of feathers or fur, birds and mammals are not expected to be exposed to significant concentrations of site-related COPCs through direct contact. Feathers and fur limit the direct contact of skin with impacted media and reduce the likelihood of significant dermal exposure. Dermal exposure is expected to be negligible relative to other routes in most cases (Sample, et al., 1997).

Exposure of birds and mammals to site-related COPCs in soils due to inhalation is also assumed to be negligible. In most areas under evaluation, the surface soils are vegetated and the release of surface soils to the wind and resulting aerial suspension of contaminated dust particulates is expected to be minimal. In addition, most volatile organic compounds (VOCs) rapidly volatilize from soil to air, where they are rapidly diluted and dispersed (Sample, et al., 1997).

Ecological exposure pathways evaluated in this evaluation include the following:

- Direct contact with floodplain surface soils or de-watered creek bottom soils by terrestrial plant species;
- Direct contact with floodplain surface soils or de-watered creek bottom soils by terrestrial invertebrate species;
- Direct contact with floodplain surface soils or de-watered creek bottom soils by terrestrial amphibians and reptiles
- Vertebrate wildlife ingestion of prey items that may have bioaccumulated COPCs from floodplain surface soils or de-watered creek bottom soils.

2.4 Selection of Assessment Endpoints and Measures of Effect

According to the USEPA (1998), assessment endpoints are formal expressions of the actual environmental value to be protected. They usually describe potential adverse effects to long-term persistence, abundance, or reproduction of populations of key species or key habitats. Since direct measurement of assessment endpoints is often not feasible, surrogate endpoints (called measures of effect) are used to provide the information necessary to evaluate whether the values associated with the assessment endpoint are being protected. A measure of effect is a measurable ecological characteristic and/or response to a stressor (USEPA, 1998).

The assessment endpoint for the terrestrial evaluation is the survival, growth, and reproduction of local populations of terrestrial wildlife exposed to floodplain and creek bottom soils associated with de-watered sections of Dead Creek.

Typically, measures of effect have clearly defined numeric criteria. The measure of effects should provide a "general indication of the potential for ecological risk or lack thereof" (USEPA, 2001). For this terrestrial evaluation, the measures of effect include:

- Comparison of surface soil analytical chemistry results from the floodplain samples to ecological soil screening values for protection of wildlife, plants, soil dwelling invertebrates, terrestrial amphibians, and reptiles.
- Comparison of creek bottom soil analytical chemistry results from Dead Creek samples to ecological soil screening values for protection of wildlife, plants, soil dwelling invertebrates, terrestrial amphibians, and reptiles.

These soil concentrations provide a measure of exposure, and ecological soil screening values indicate levels above which effects may occur. This measure of effect evaluates the potential for soil concentrations of COPCs in the Dead Creek floodplain and creek bottom to cause adverse effects.

2.5 Conceptual Site Model

The CSM presents a working hypothesis regarding how the COPCs might pose hazards to the terrestrial ecological receptors within the floodplain and Dead Creek. The CSM helps describe the origin, fate, transport, exposure pathways, and ecological receptors of concern. The CSM is meant to be a "living" model that can be updated and modified as additional data become available. Figure 2-3 presents a general CSM for terrestrial receptors exposed to floodplain soils and creek bottom soils.

The primary sources of chemical stressors in surface soils and creek bottom soils include historic waste water discharges to the creek. Leaching of constituents into the soil and groundwater may also have released constituents into the creek and the floodplain soils. Overland stormwater runoff is another potential migration pathway of COPCs to the floodplains and the creek. Although historically the creek represented an aquatic habitat, due to de-watering efforts the creek bed is now dry (except during flooding conditions) and provides potential habitat for terrestrial receptors.

Terrestrial plants, invertebrates and vertebrates may be exposed to COPCs in soil through direct contact. Plants may also take up COPCs via their roots and animals may ingest COPCs from direct ingestion of soil, or ingestion of prey and food items that may have accumulated COPCs in their tissue.

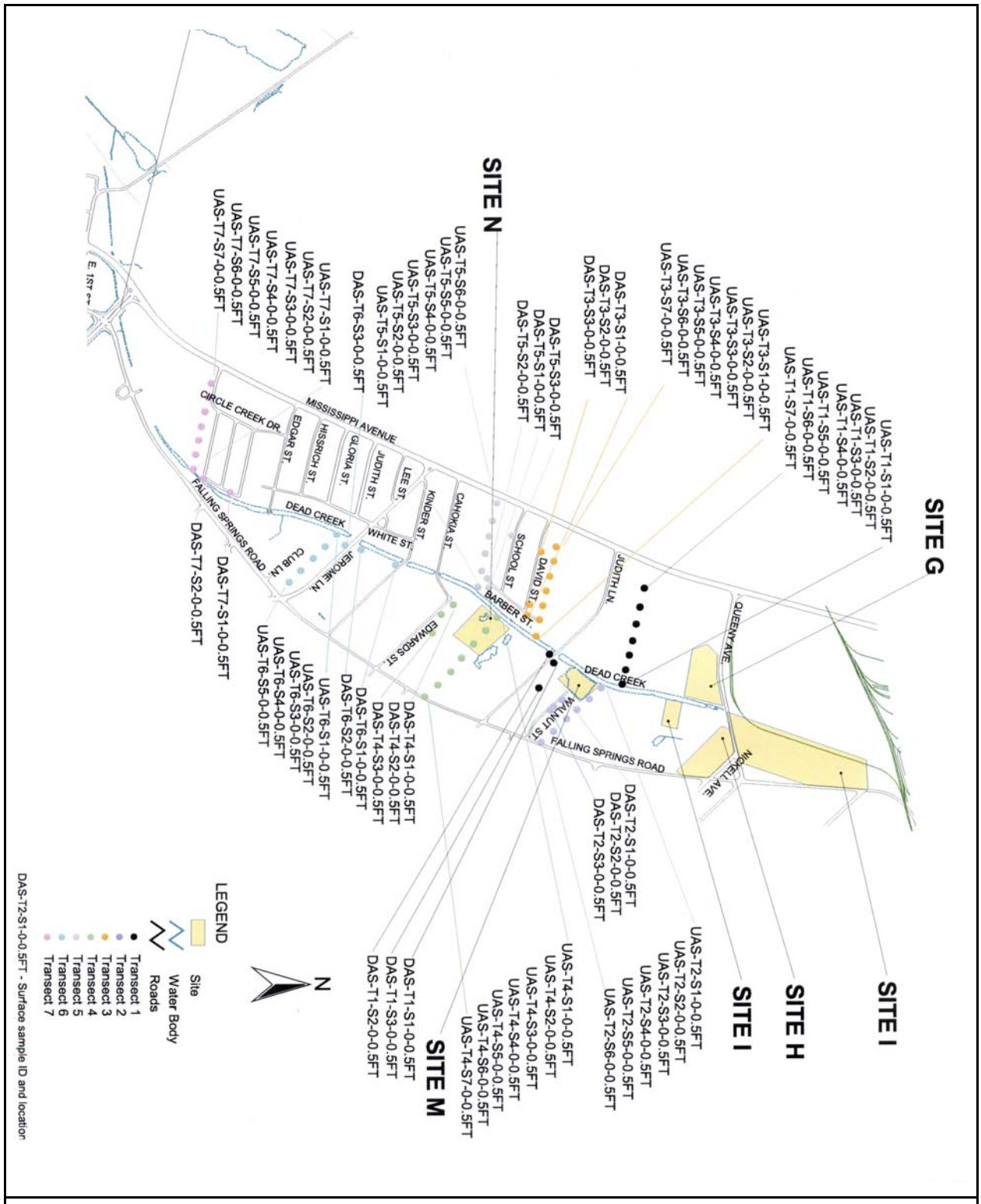

Figure 2-1
Floodplain Surface Soil Sample Locations
Sauget Area 1
Ecological Risk Assessment Addendum

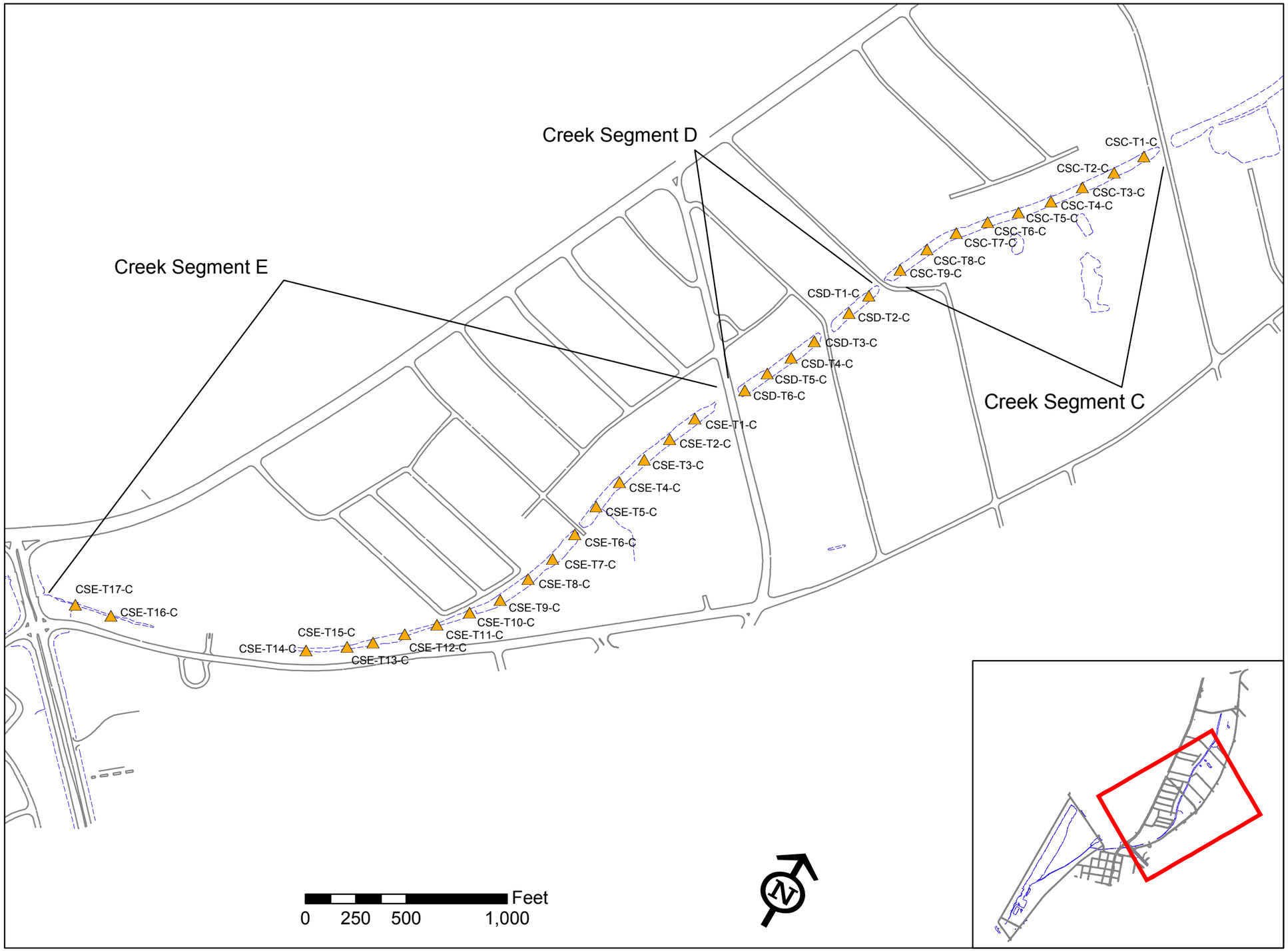

FIGURE 2-2
Creek Bottom Soil
Sample Locations
Sauget Area 1
Ecological Risk Assessment
Addendum

LEGEND

- Sample Locations
- Water
- Roads

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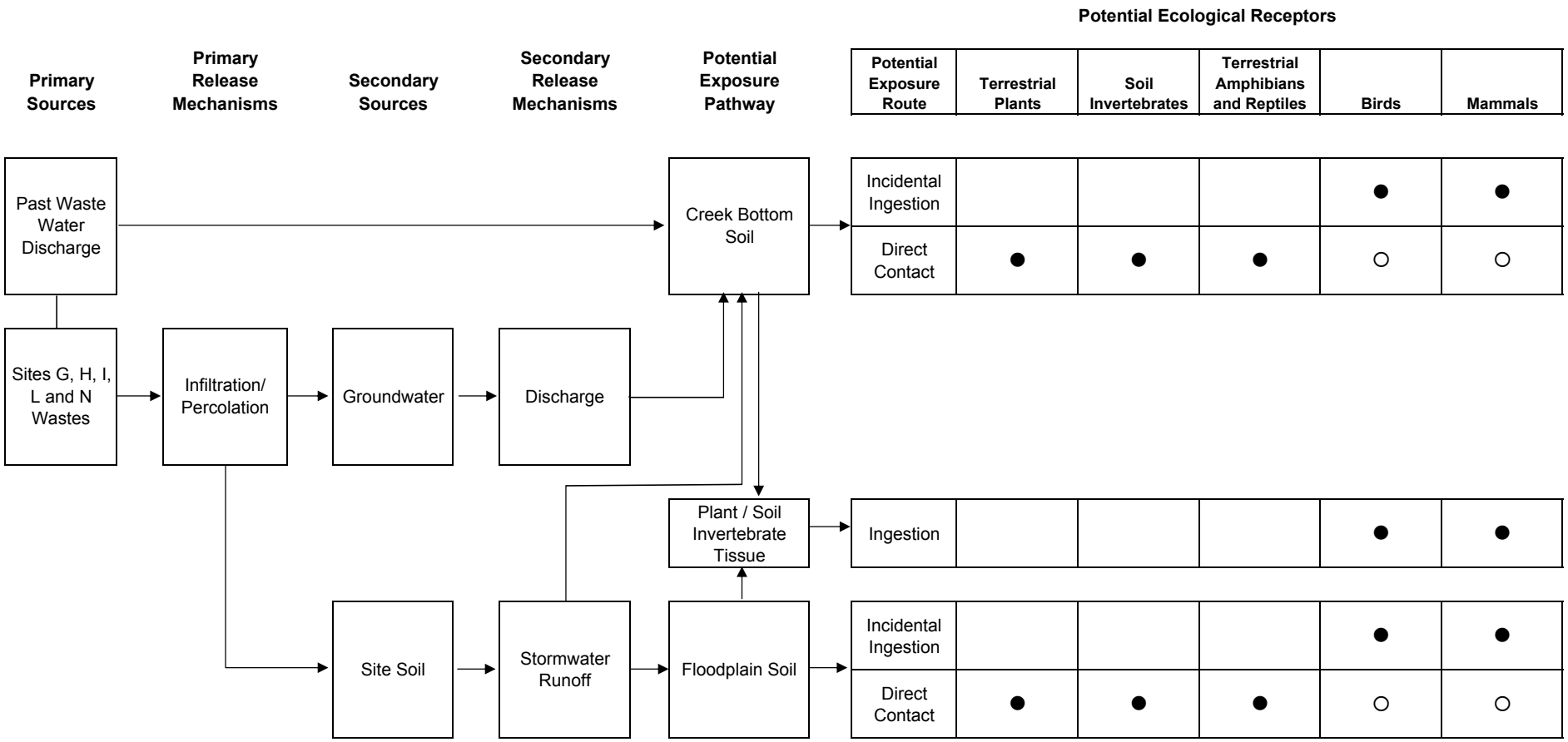
Figure 2-3
Conceptual Site Model for Terrestrial Receptors
Sauget Area 1



Key:
● Pathway potentially complete, further evaluation recommended.
○ Pathway evaluated and found incomplete or insignificant.
Boxes without circles indicate pathway is not applicable to that receptor.

3.0 Risk Analysis

The risk analysis phase of this terrestrial screening update is based on the CSM developed in problem formulation. Risk analysis includes both the characterization of potential ecological exposure and effects. The ecological exposure assessment involves the identification of potential exposure pathways and an evaluation of the magnitude of exposure of identified ecological receptors. The ecological effects assessment describes the potential adverse effects associated with the identified COPCs to ecological receptors and reflects the type of assessment endpoints selected.

As described in Section 2, terrestrial receptors such as plants and soil invertebrates may be exposed to site-related COPCs through direct contact with the soil. Birds and mammals that consume plants and soil invertebrates may also be exposed to COPCs that may have bioaccumulated into these food items or through the incidental ingestion of soil during foraging. To assess potential risks to these receptors, COPCs in surface soils and creek bottom soils were evaluated against conservative screening values derived for the protection of terrestrial receptors.

3.1 Data Considered in the Terrestrial Screening

The data set considered in this evaluation includes surface soils collected from within the floodplains and creek bottom soils collected from Dead Creek Segments C, D, and E (Figures 2-1 and 2-2). Samples were analyzed for dioxins/furans, herbicides, pesticides, metals, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs) including polycyclic aromatic hydrocarbons (PAHs).

The floodplain surface soil data set is consistent with the data set evaluated in the 2001 ERA. However, the summary statistics have been re-calculated in accordance with current USEPA guidance (USEPA, 2002, USEPA, 2007) and the soil screening values have been updated to reflect values not available in 2001.

The data set for the creek bottom soils associated with Dead Creek Segments D and E consists of samples collected in two phases: a post-excavation phase conducted in 2001 and 2002 after the initial creek excavation, and an additional post-excavation phase conducted between 2004 and 2006 following the removal of additional material above risk based criteria (RBCs) for protection of aquatic life. The RBCs were derived by Menzie-Cura & Associates (Menzie-Cura & Associates, 2002). The analyses conducted on the latter post excavation samples were limited to specific constituents of interest; however, the sediment excavation removed additional constituents beyond those analyzed in the post-excavation sampling. To address both data sets, the terrestrial screening of the creek bottom soils in Segments D and E has been conducted in two phases. The first phase evaluates the data collected in 2001 and 2002 and identifies constituents above the current soil screening values. The second phase of the screening evaluates the post excavation analytical results to determine whether the remaining creek bottom soils are likely to pose a risk to ecological receptors.

Since material was not excavated from Dead Creek Segment C, the terrestrial screening for this area uses the data available from the 2001.

3.2 Data Treatment

PAHs were presented as individual PAHs as well as high molecular weight (HMW) PAHs and low molecular weight (LMW) PAHs to reflect the available soil screening values. PCBs were presented as total PCBs, rather than as the individual Aroclors, to be consistent with the available soil screening values.

For dioxins/furans, the ecological screening levels apply to 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD). Therefore toxic equivalency factors (TEFs) were used to equate the potential toxicity of each congener to that of 2,3,7,8-TCDD. The World Health Organization (WHO) (Van den Berg et al., 2006) has assigned a TEF to

each of the applicable dioxin/furan congeners for mammals. The concentration for each dioxin/furan congener was multiplied by its TEF, resulting in a TCDD toxic equivalence concentration (TCDD-TEQ). The TCDD-TEQ values for each of the congeners were then added together to derive TCDD-TEQ for each sample for mammals. This value is referred to as the Dioxin TEQ in this evaluation.

The data for each area and medium included in the terrestrial screening were summarized for use in the risk assessment. The following guidance documents were used to develop the summary statistics:

- Risk Assessment Guidance for Superfund: Volume I – Human Health Evaluation Manual, Part A (USEPA, 1989).
- Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites (USEPA, 2002).

Data for samples and their duplicates were averaged before summary statistics are calculated, such that a sample and its duplicate were treated as one sample for calculation of summary statistics (including maximum detection and frequency of detection). Where both the sample and the duplicate are not detected, the resulting values are the average of the sample-specific quantitation limits (SSQLs). Where both the sample and the duplicate are detected, the resulting values are the average of the detected results. Where one of the pair is reported as not detected and the other is detected, the detected concentration was used.

Summary statistics for floodplain soils and the 2001-2002 Dead Creek data for Creek Segments C, D, and E are presented in Appendix A and include the following statistics:

Frequency of Detection: The frequency of detection is reported as a ratio and a percentage based on the total number of samples analyzed and the number of samples reported as detected for a specific constituent. The number of samples used to calculate statistics reflects the treatment of non-detects described above.

Maximum Detected Concentration: This is the maximum detected concentration for each constituent/area/medium combination, after duplicates have been averaged.

Minimum Detected Concentration: This is the minimum detected concentration for each constituent/area/medium combination, after duplicates have been averaged.

Mean Detected Concentration: This is the arithmetic mean concentration for each constituent/area/medium combination, after duplicates have been averaged.

USEPA's ProUCL Version 4.00.02 software (USEPA, 2007) was used to calculate Upper Confidence Limits (UCLs). The ProUCL recommended UCL (95%, 97.5%, 99%) was used. Based on information presented in the ProUCL guidance (USEPA, 2007) regarding minimum sample size and frequency of detection, UCLs were calculated where at least 10 samples and at least six detected results are available. Where too few samples or detects are available, the maximum detected concentration is used. ProUCL version 4.00.02 recommends 10 to 15 or more distinct results for the most accurate and reliable UCL calculation. When fewer than 10 detects were present in the dataset, the calculations were reviewed individually to determine appropriate UCLs. Where these standards were not met, the maximum detected concentration was used as the maximum exposure point concentration (EPC) in the screening. Appendix A presents the summary statistics for each data set, including the UCLs, and the exports from the ProUCL Version 4.00.02 software.

The background soil concentrations represent twice the average background soil concentrations. As documented in the 2001 ERA (Menzie-Cura & Associates, 2001), this data set comes from three soil samples selected during discussions with USEPA during the development of the Site Sampling Plan work plan for the project. Mean concentrations for the background soil data set were updated as described above.

3.3 Selection of Soil Screening Values

For this evaluation, the soil screening values used in the 2001 ERA were updated to reflect currently available values derived for the protection of terrestrial receptors. The Ecological Soil Screening Levels (Eco-SSLs) recently developed by USEPA were used as the primary source of soil screening values. Eco-SSLs for plants, soil invertebrates, birds, and mammals were derived according to USEPA guidance (USEPA, 2005) for a variety of metals and organic compounds.

When Eco-SSLs were not available for a constituent, wildlife-based preliminary remediation goals (PRGs; Efroymson et al., 1997a) and the plant and soil invertebrate soil screening values (Efroymson et al., 1997b, c) derived by the Oak Ridge National Laboratory (ORNL) were used. The values derived by the ORNL were used as the soil screening values in the previous ERA (Menzie-Cura & Associates, 2001).

The wildlife Eco-SSLs selected for use in this evaluation were based on an insectivorous bird (American woodcock), an insectivorous mammal (short-tailed shrew), an herbivorous mammal (meadow vole), a carnivorous bird (red-tailed hawk), and a carnivorous mammal (long-tailed weasel). The ORNL PRGs derived for the red-tailed hawk and red fox were selected when Eco-SSLs were not available.

The woodcock, shrew, and vole represent the same species and/or feeding guilds as the American woodcock, short-tailed shrew, and white-footed mouse identified in the 2001 ERA as potentially exposed wildlife receptors. The carnivorous receptors were added to the evaluation at the request of EPA Region 5.

The selected soil screening value represented the lowest of the plant, earthworm, and wildlife values (Table 3-1).

3.4 Terrestrial Screening Results

Tables 3-2 through 3-11 compare concentrations detected in Dead Creek floodplain soils and creek bottom soils to soil screening values and background concentrations. The purpose of this screening is to assess the potential for risks to terrestrial receptors due to exposure to chemical stressors present in surface soils following remedial actions within the floodplain and Dead Creek. This comparison represents a conservative evaluation of the data because the selected soil screening value represents the lowest of the values identified for plants, soil invertebrates, birds and mammals.

Soil constituents in these tables fall into several categories including:

1. constituents for which the maximum EPC exceeds the screening value (indicated in yellow on the screening tables);
2. constituents for which no screening value is available and the maximum EPC exceeds twice the average background concentration (or no background concentration was available) (indicated in green on the screening tables);
3. constituents for which the maximum EPC is less than the screening value;
4. constituents for which the maximum EPC is below background and there is no screening value;
5. constituents detected at a frequency of less than 5%; and
6. constituents of low toxicity (i.e., essential nutrients).

Constituents in the first category may pose a potential risk to wildlife because soil concentrations exceed a toxicity-based screening value. However, in some cases, constituents in this category are also below background concentrations indicating that conditions are consistent with the surrounding soils and may not be site-related. For constituents in the second category, sufficient toxicity information is not available to draw conclusions about the potential for adverse impacts due to exposure to these constituents.

Constituents in the remaining categories are unlikely to present an ecological risk because the maximum EPC is less than a conservative screening value, concentrations are consistent with background, constituents are detected infrequently (less than 5% when at least 20 samples are available), or are of low toxicity (i.e., nutrients like calcium, magnesium, potassium, and sodium).

The remainder of this section discusses the results of these comparisons for the sampling areas and soil sample types.

3.4.1 Floodplain Soils

These samples represent the top six inches of soil in locations within the developed and undeveloped floodplain of Dead Creek. Table 3-2 compares the maximum EPCs within this data set against the selected soil screening values and the representative background concentrations.

For these soils, the first category described at the beginning of Section 3.4 represents constituents for which the maximum EPC is greater than the selected soil screening value. Constituents in this category include Dioxin TEQ, aluminum, antimony, cadmium, chromium, copper, lead, manganese, mercury, selenium, vanadium, zinc, 4,4'-DDT, dieldrin, and HMW PAHs. The maximum EPCs for all of these constituents, except selenium, dieldrin, and HMW PAHs, were below twice the average background concentration, indicating that concentrations are consistent with the surrounding soils. The maximum EPC for HMW PAHs was above twice the average background concentration. Background concentrations were not available for selenium and dieldrin.

Although selenium was not detected in background soil, the Illinois Environmental Protection Agency (IEPA, 1994) reports a background range of less than 0.12 mg/kg to 2.6 mg/kg selenium in soils within metropolitan statistical areas. The average reported background concentration in these areas is 0.58 mg/kg. The floodplain 95% UCL of 0.82 mg/kg is less than twice the IEPA average background concentration. Therefore, the selenium concentrations detected in floodplain surface soil are likely to be within the range of Illinois background.

Table 3-3 identifies individual floodplain soil sample locations that exceed the soil screening values. Individual samples above twice the average background concentration are also identified. Individual concentrations of chromium, copper, lead, manganese, mercury, vanadium, zinc, and 4,4'-DDT exceeded the background concentration, although the maximum EPC represented by the 95% UCL did not. Of the 65 samples available for these constituents, both the ecological screening value and the background concentration were exceeded once for manganese, mercury, and vanadium, twice for chromium, copper, and lead, and three times for zinc and 4,4'-DDT. Individual concentrations of HMW PAHs exceeded both the ecological screening value and the background concentration in ten of the 65 samples analyzed.

As indicated in Table 3-2, there are several constituents present in floodplain surface soils that lack a soil screening value, but that are detected at concentrations above background or the constituent was not detected in the background data set. These constituents fall into the second category described at the beginning of Section 3.4 where sufficient toxicity information is not available to draw conclusions about the potential for adverse impacts. Many constituents fall into this second category (including herbicides, pesticides, SVOCs (mainly PAHs), and VOCs), because soil screening values are available for only a few of the constituents detected in soil.

Several constituents presented in Table 3-2 are unlikely to present an ecological risk to terrestrial receptors within the floodplain because the maximum EPCs are below the screening values (selected metals, PCBs, DDD, DDE, selected SVOCs, LMW PAHs, and toluene) or the background levels (MCPA, MCPP, iron), the constituents were infrequently detected (selected pesticides, SVOCs, and VOCs), or the constituents represent essential nutrients of low toxicity (calcium, magnesium, potassium, and sodium).

As indicated in Table 3-3, few floodplain soil concentrations exceed both soil screening values and background concentrations. These sample locations are scattered throughout the floodplain (Figure 3-1) and do not represent a spatial or geographical pattern (e.g., upstream-downstream gradient, distance from channel, etc.).

3.4.2 Dead Creek Segment C

These nine samples represent the creek bottom soils within Segment C of Dead Creek sampled during the 2001-2002 post excavation investigation. Additional sediment removal efforts were not warranted within this segment because concentrations were not above the aquatic sediment RBCs. Table 3-4 compares the maximum EPCs within this data set against the selected soil screening values and the representative background concentrations. Due to the low number of samples available within this data set, 95% UCLs could not be calculated so the maximum EPC represents the maximum detected concentration within Segment C. The frequency of detection was not considered in this evaluation because too few samples were available.

Several constituents fall into the first category described at the beginning of Section 3.4 where the maximum EPC is greater than the selected soil screening value. Constituents in this category include Dioxin TEQ, aluminum, antimony, barium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, vanadium, zinc, and dieldrin. The maximum EPCs for Dioxin TEQ, aluminum, antimony, barium, cobalt, lead, manganese and vanadium were below twice the average background concentration indicating that concentrations are consistent with the surrounding soil. Background concentrations were not available for dieldrin. The maximum EPCs for the remaining constituents (cadmium, chromium, copper, mercury, nickel, and zinc) also exceeded twice the average background concentration.

Table 3-5 identifies individual Segment C creek bottom soil sample locations that exceed the soil screening values. Individual samples above twice the average background concentration are also identified. Individual concentrations of cadmium, chromium, copper, mercury, nickel, and zinc exceeded the background concentration. Of the nine samples available for these constituents, both the ecological screening value and the background concentration were exceeded once for copper and mercury, three times for chromium, seven times for cadmium, eight times for zinc, and nine times for nickel.

As indicated in Table 3-4 there are several constituents present in Segment C creek bottom soils that lack a soil screening value and were not detected in the background data set. These constituents fall into the second category described at the beginning of Section 3.4 where sufficient toxicity information is not available to draw conclusions about the potential for adverse impacts. Twelve constituents fall into this second category: two herbicides, six pesticides, and four VOCs. These constituents were generally detected in less than a third of the samples.

Several constituents presented in Table 3-4 are unlikely to present an ecological risk to terrestrial receptors within the floodplain because the maximum EPCs are below the screening values (arsenic, beryllium, tin, PCBs, pentachlorophenol, HMW and LMW PAHs, chlorobenzene, styrene, and toluene) or the background levels (iron, benzo(g,h,i)perylene, phenanthrene, methylene chloride), or the constituents represent essential nutrients of low toxicity (calcium, magnesium, potassium, and sodium).

Concentrations of most constituents were below screening values or below background concentrations or there was insufficient information available to evaluate toxicity (i.e., no screening value). However, concentrations of six constituents (cadmium, copper, chromium, mercury, nickel, and zinc) exceeded both the soil screening value and background in at least one sample.

3.4.3 Dead Creek Segment D

Six samples represent the creek bottom soils within Segment D of Dead Creek sampled during the 2001-2002 post excavation investigation. Table 3-6 compares the maximum EPCs within this data set against the selected soil screening values and the representative background concentrations. Due to the low number of samples available within this data set, 95% UCLs could not be calculated so the maximum EPC represents the

maximum detected concentration within Segment D. The frequency of detection was not considered in this evaluation because too few samples were available.

Several constituents fall into the first category described at the beginning of Section 3.4 where the maximum EPC is greater than the selected soil screening value. Constituents in this category include Dioxin TEQ, aluminum, barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, vanadium, zinc, total PCBs, 4,4'-DDT, dieldrin, and HMW PAHs. The maximum EPCs for aluminum, vanadium, and HMW PAHs were below twice the average background concentration indicating that concentrations are consistent with the surrounding soil. Background concentrations were not available for selenium and dieldrin. The maximum EPCs for the remaining constituents (Dioxin TEQ , barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, zinc, total PCBs, and 4,4'-DDT) also exceeded twice the average background concentration.

Table 3-7 identifies individual Segment D creek bottom soil sample locations that exceed the soil screening values. Individual samples above twice the average background concentration are also identified. Individual concentrations of Dioxin TEQ, barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, zinc, total PCBs, and 4,4'-DDT exceeded the background concentration. Of the six samples available for these constituents, both the ecological screening value and the background concentration were exceeded once for barium, lead, Dioxin TEQ, 4,4'-DDT, and total PCBs, twice for copper, mercury, and molybdenum, five times for cadmium, and six times for chromium, nickel, and zinc.

As indicated in Table 3-6 there are several constituents present in Segment D creek bottom soils that lack a soil screening value and either were not detected in the background data set, or were detected above background. These constituents fall into the second category described at the beginning of Section 3.4 where sufficient toxicity information is not available to draw conclusions about the potential for adverse impacts. Fifteen constituents fall into this second category: four herbicides, six pesticides, four SVOCs, and one VOC.

Several constituents presented in Table 3-6 are unlikely to present an ecological risk to terrestrial receptors within the floodplain because the maximum EPCs are below the screening values (arsenic, beryllium, cobalt, manganese, silver, tin, 4,4'-DDD, 1,4-dichlorobenzene, pentachlorophenol, LMW PAHs, chlorobenzene, and toluene) or the background levels (iron, benzo(a)pyrene, fluoranthene, phenanthrene, pyrene, and methylene chloride), or the constituents represent essential nutrients of low toxicity (calcium, magnesium, potassium, and sodium).

Concentrations of most constituents were below screening values or below background concentrations or there was insufficient information available to evaluate toxicity (i.e., no screening value). However, concentrations of 12 constituents (Dioxin TEQ, barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, zinc, total PCBs, and 4,4'-DDT) exceeded both the soil screening value and background in at least one sample.

Based on exceedances of the aquatic sediment-based RBC, sediment was excavated from two areas within Segment D. These areas of excavation included the removal of 2001 and 2002 samples collected from Transects 1, 2, 5, and 6. Removal of these historic soil samples from the evaluation presented in Table 3-7 substantially reduces the number of screening value and background exceedances. Post excavation samples were analyzed for zinc, dieldrin, total PCBs and Dioxin TEQ (Table 3-8). Figure 3-2 presents the locations of the post-excavation samples within Segment D. A comparison of these data against the soil screening values and background concentrations indicates that post-excavation levels of dieldrin, total PCBs and Dioxin TEQ are below the screening levels and background. Post-excavation concentrations of zinc exceed the soil screening level in some samples and exceed both the screening level and background in three samples; although the zinc concentrations were below the sediment RBC.

3.4.4 Dead Creek Segment E

Seventeen samples represent the creek bottom soils within Segment E of Dead Creek sampled during the 2001-2002 post-excavation investigation. Table 3-9 compares the maximum EPCs within this data set against the selected soil screening values and the representative background concentrations. The frequency of detection was not considered in this evaluation because too few samples were available.

Several constituents fall into the first category described at the beginning of Section 3.4 where the maximum EPC is greater than the selected soil screening value. Constituents in this category include Dioxin TEQ, aluminum, antimony, barium, cadmium, chromium, copper, lead, mercury, nickel, silver, vanadium, zinc, 4,4'-DDD, dieldrin, and HMW PAHs. The maximum EPCs for Dioxin TEQ, aluminum, barium, lead, and vanadium were below twice the average background concentration indicating that concentrations are consistent with the surrounding soil. Background concentrations were not available for 4,4'-DDD or dieldrin. The maximum EPCs for the remaining constituents (antimony, cadmium, chromium, copper, mercury, nickel, silver, zinc, and HMW PAHs) also exceeded twice the average background concentration.

Table 3-10 identifies individual Segment E creek bottom soil sample locations that exceed the soil screening values. Individual samples above twice the average background concentration are also identified. Individual concentrations of antimony, barium, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc, and HMW PAHs exceeded both the screening value and background concentrations. Of the 17 samples available for these constituents, both the ecological screening value and the background concentration were exceeded once for antimony, barium, lead, silver, and HMW PAHs, six times for chromium and copper, 12 times for cadmium and mercury, 13 times for zinc, and 17 times for nickel.

As indicated in Table 3-9 there are several constituents present in Segment E creek bottom soils that lack a soil screening value and either, were not detected in the background data set, or were detected above background. These constituents fall into the second category described at the beginning of Section 3.4 where sufficient toxicity information is not available to draw conclusions about the potential for adverse impacts. Twenty four constituents fall into this second category: two herbicides, eight pesticides, ten SVOCs (mostly PAHs), three VOCs, and cyanide. Most of these constituents were detected in three or fewer samples.

Several constituents presented in Table 3-9 are unlikely to present an ecological risk to terrestrial receptors within the floodplain because the maximum EPCs are below the screening values (arsenic, beryllium, cobalt, manganese, molybdenum, thallium, tin, 4,4'-DDE, 4,4'-DDT, 1,4-dichlorobenzene, di-n-butylphthalate, pentachlorophenol, LMW PAHs, chlorobenzene, and toluene) or the background levels (iron, anthracene, bis(2-ethylhexyl)phthalate, phenanthrene, and methylene chloride), or the constituents represent essential nutrients of low toxicity (calcium, magnesium, potassium, and sodium).

Concentrations of most constituents were below screening values or below background concentrations or there was insufficient information available to evaluate toxicity (i.e., no screening value). However, concentrations of 11 constituents (antimony, barium, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc, and HMW PAHs) exceeded both the soil screening value and background in at least one sample.

Based on exceedances of the aquatic sediment-based RBC, sediment was excavated from Segment E. These areas of excavation included the removal of 2001 and 2002 samples collected from Transect 16. Removal of these samples from the evaluation presented in Table 3-9 reduces the number of screening value and background exceedances. Post excavation samples were analyzed for dieldrin (Table 3-11). Figure 3-3 presents the locations of the post-excavation samples within Segment E. A comparison of these data against the soil screening value indicates that post-excavation levels of dieldrin are below the screening level. No background concentrations of dieldrin were available for comparison.

Table 3-1
Selection of Soil Screening Values
Sauget Area 1

	Terrestrial Receptors								
Constituent	**Plant**	**Soil Invertebrate**	**Insectivorous Bird (American woodcock)**	**Herbivorous Mammal (Meadow vole or white-footed mouse)**	**Insectivorous Mammal (Short-tailed shrew)**	**Carnivorous Bird (Red-tailed hawk)**	**Carnivorous Mammal (Red fox or Long-tailed weasel)**	**Selected Soil Screening Value**	
DIOXINS									
Dioxin TEQ	--	--	0.0000158 [4]	0.0000223 [4]	0.00000315 [4]	0.00125 [4]	0.0000305 [4]	0.00000315	shrew
METALS									
Aluminum	50 [2]	--	--	--	--	--	--	50	plant
Antimony	5 [2]	78 [1]	--	10	0.27	--	4.9	0.27	shrew
Arsenic	18 [1]	60 [3]	43 [1]	170 [1]	46 [1]	1100 [1]	170 [1]	18	plant
Barium	500 [2]	330 [1]	283 [4]	3200 [1]	2000 [1]	--	9100 [1]	283	woodcock
Beryllium	10 [2]	40 [1]	--	21	34	--	90	10	plant
Cadmium	32 [1]	140 [1]	0.77 [1]	73 [1]	0.36 [1]	630 [1]	84 [1]	0.36	shrew
Chromium	1 [2]	0.4 [3]	26.0 [1]	380 [1]	34 [1]	780 [1]	180 [1]	0.4	soil invertebrate
Cobalt	13 [1]	--	120 [1]	2100 [1]	230 [1]	1300 [1]	470 [1]	13	plant
Copper	70 [1]	80 [1]	28 [1]	1100 [1]	49 [1]	1600 [1]	560 [1]	28	woodcock
Lead	120 [1]	1700 [1]	11 [1]	1200 [1]	56 [1]	510 [1]	460 [1]	11	woodcock
Manganese	220 [1]	450 [1]	4300 [1]	5300 [1]	4000 [1]	65000 [1]	6200 [1]	220	plant
Mercury	0.3 [2]	0.1 [3]	0.00051 [4]	7.1 [4]	0.15 [4]	12.3 [4]	0.83 [4]	0.00051	woodcock
Molybdenum	2 [2]	--	44 [4]	37 [4]	4.8 [4]	165000 [4]	64.0 [4]	2	plant
Nickel	38 [1]	280 [1]	121 [4]	340 [1]	246 [4]	2800 [1]	130 [1]	38	plant
Selenium	0.52 [1]	4.1 [1]	1.2 [1]	2.7 [1]	0.63 [1]	83 [1]	2.8 [1]	0.52	plant
Silver	560 [1]	--	4.2 [1]	1500 [1]	14 [1]	930 [1]	990 [1]	4.2	woodcock
Thallium	1 [2]	--	--	48.5 [4]	2.1 [4]	-- [4]	3.6 [4]	1	plant
Tin	50 [2]	--	--	--	--	--	--	50	plant
Vanadium	2 [2]	--	7.8 [1]	1300 [1]	280 [1]	140 [1]	580 [1]	2	plant
Zinc	160 [1]	120 [1]	46 [1]	6800 [1]	79 [1]	30000 [1]	10000 [1]	46	woodcock
PCBs									
Total PCBs	40 [2]	--	0.655 [4]	1.6 [4]	0.371 [4]	15.5 [4]	3.1 [4]	0.371	shrew
PESTICIDES									
4,4'-DDD	--	--	0.093 [1]	24 [1]	0.063 [1]	0.12 [1]	0.021 [1]	0.021	weasel
4,4'-DDE	--	--	0.093 [1]	24 [1]	0.063 [1]	0.12 [1]	0.021 [1]	0.021	weasel
4,4'-DDT	--	--	0.093 [1]	24 [1]	0.063 [1]	0.12 [1]	0.021 [1]	0.021	weasel
Dieldrin	--	--	0.022 [1]	0.39 [1]	0.0049 [1]	0.11 [1]	0.0065 [1]	0.0049	shrew

Table 3-1
Selection of Soil Screening Values
Sauget Area 1

	Terrestrial Receptors								
Constituent	**Plant**	**Soil Invertebrate**	**Insectivorous Bird (American woodcock)**	**Herbivorous Mammal (Meadow vole or white-footed mouse)**	**Insectivorous Mammal (Short-tailed shrew)**	**Carnivorous Bird (Red-tailed hawk)**	**Carnivorous Mammal (Red fox or Long-tailed weasel)**	**Selected Soil Screening Value**	
SVOCs									
1,2,4-Trichlorobenzene	--	20 [3]	--	--	--	--	--	20	soil invertebrate
2,4,5-Trichlorophenol	4 [2]	9 [3]	--	--	--	--	--	4	plant
2,4,6-Trichlorophenol	--	10 [3]	--	--	--	--	--	10	soil invertebrate
4-Nitrophenol	--	7 [3]	--	--	--	--	--	7	soil invertebrate
Nitrobenzene	--	40 [3]	--	--	--	--	--	40	soil invertebrate
N-Nitrosodiphenylamine	--	20 [3]	--	--	--	--	--	20	soil invertebrate
Acenaphthene	20 [2]	--	--	--	--	--	--	20	plant
Diethylphthalate	100 [2]	--	--	--	--	--	--	100	plant
Di-n-butylphthalate	200 [2]	--	--	--	--	--	--	200	plant
Fluorene	--	30 [3]	--	--	--	--	--	30	soil invertebrate
Pentachlorophenol	5 [1]	31 [1]	2.1 [1]	16 [1]	2.8 [1]	1500 [1]	590 [1]	2.1	woodcock
Phenol	70 [2]	30 [3]	--	--	--	--	--	30	soil invertebrate
Total HMW PAHs	--	18 [1]	--	39 [1]	1.1 [1]	--	110 [1]	1.1	shrew
Total LMW PAHs	--	29 [1]	--	350 [1]	100 [1]	--	1200 [1]	29	soil invertebrate
1,4-Dichlorobenzene	--	20 [2]	--	--	--	--	--	20	soil invertebrate
VOCs									
Chlorobenzene	--	40 [3]	--	--	--	--	--	40	soil invertebrate
Styrene	300 [2]	--	--	--	--	--	--	300	plant
Toluene	200 [2]	--	--	--	--	--	--	200	plant

All units are mg/kg.
-- indicates no screening value available
Constituent only listed if at least one screening value was identified.
Lowest screening value was chosen as the Selected Soil Screening Value.
Lower of the chromium III and chromium VI screenng values selected if both were available.
Screening value sources
[1] - USEPA Ecological Soil Screening Levels (Eco-SSLs) available at http://www.epa.gov/ecotox/ecossl/
[2] - Phytoxicity-based soil screening value (Efroymson et al., 1997b)
[3] - Soil invertebrate-based soil screening value (Efroymson et al., 1997c)
[4] - Wildlife-based preliminary remediation goals (Efroymson et al., 1997a)

Table 3-2
Terrestrial Screening Update - Floodplain Surface Soils
Sauget Area 1

Constituent	Frequency of Detection (detects : samples)	Frequency of Detection (%)	Maximum Site Concentration	95% UCL	Maximum EPC	Twice Average Background Soil Concentration	Soil Screening Value	Comment
DIOXINS								
Dioxin TEQ	29 : 29	100	0.00010	0.000016	0.000016	0.00027	0.00000315	Maximum EPC exceeds screening value; below background
HERBICIDES								
2,4-D	1 : 65	1.5	0.0036	NA	0.0036	ND	--	FOD less than 5%
2,4-DB	4 : 65	6.2	0.065	NA	0.065	ND	--	No screening value; ND in background
Dicamba	15 : 65	23.1	0.0031	0.0023	0.0023	ND	--	No screening value; ND in background
MCPA	13 : 65	20.0	7.4	2.6	2.6	14.5	--	No screening value; maximum EPC below background
MCPP	10 : 65	15.4	7.7	3.9	3.9	10.0	--	No screening value; maximum EPC below background
METALS								
Aluminum	65 : 65	100	18000	10066	10066	25400	50	Maximum EPC exceeds screening value; below background
Antimony	28 : 65	43.1	2.6	1.3	1.3	3.8	0.27	Maximum EPC exceeds screening value; below background
Arsenic	65 : 65	100	34	8.2	8.2	19.1	18	Maximum EPC less than screening value
Barium	65 : 65	100	1200	216	216	363	283	Maximum EPC less than screening value
Beryllium	65 : 65	100	1.1	0.65	0.65	1.5	10	Maximum EPC less than screening value
Cadmium	65 : 65	100	8.4	2.7	2.7	8.6	0.36	Maximum EPC exceeds screening value; below background
Calcium	65 : 65	100	250000	60518	60518	33533	--	Low toxicity; Essential nutrient
Chromium	65 : 65	100	49	18.4	18.4	39.3	0.4	Maximum EPC exceeds screening value; below background
Cobalt	65 : 65	100	11	6.9	6.9	15.5	13	Maximum EPC less than screening value
Copper	65 : 65	100	230	79.3	79.3	209	28	Maximum EPC exceeds screening value; below background
Iron	65 : 65	100	25000	16115	16115	38000	--	No screening value; maximum EPC below background
Lead	65 : 65	100	260	79.0	79.0	185	11	Maximum EPC exceeds screening value; below background
Magnesium	65 : 65	100	21000	6716	6716	17233	--	Low toxicity; Essential nutrient
Manganese	65 : 65	100	1200	430	430	883	220	Maximum EPC exceeds screening value; below background
Mercury	65 : 65	100	0.57	0.091	0.091	0.18	0.00051	Maximum EPC exceeds screening value; below background
Molybdenum	65 : 65	100	3.2	0.83	0.83	2.0	2	Maximum EPC less than screening value
Nickel	65 : 65	100	55	20.4	20.4	42.7	38	Maximum EPC less than screening value
Potassium	65 : 65	100	3800	2133	2133	4733	--	Low toxicity; Essential nutrient
Selenium	16 : 65	24.6	3.2	0.82	0.82	ND	0.52	Maximum EPC exceeds screening value; ND in background
Silver	32 : 65	49.2	0.6	0.38	0.38	1.4	4.2	Maximum EPC less than screening value
Sodium	65 : 65	100	260	137	137	653	--	Low toxicity; Essential nutrient
Thallium	17 : 65	26.2	1.4	0.90	0.90	1.5	1	Maximum EPC less than screening value
Vanadium	65 : 65	100	120	31.1	31.1	69.0	2	Maximum EPC exceeds screening value; below background
Zinc	65 : 65	100	1400	414	414	808	46	Maximum EPC exceeds screening value; below background
PCBs								
Total PCBs	53 : 65	81.5	0.39	0.14	0.14	1.8	0.371	Maximum EPC less than screening value
PESTICIDES								
4,4'-DDD	6 : 65	9.2	0.036	0.0031	0.0031	ND	0.021	Maximum EPC less than screening value
4,4'-DDE	35 : 65	53.8	0.054	0.0086	0.0086	0.040	0.021	Maximum EPC less than screening value
4,4'-DDT	36 : 65	55.4	0.14	0.029	0.029	0.034	0.021	Maximum EPC exceeds screening value; below background
Aldrin	3 : 65	4.6	0.023	NA	0.023	ND	--	FOD less than 5%
alpha Chlordane	13 : 65	20.0	0.054	0.0038	0.0038	ND	--	No screening value; ND in background
alpha-BHC	1 : 65	1.5	0.00022	NA	0.00022	ND	--	FOD less than 5%
beta-BHC	7 : 65	10.8	0.0038	0.00041	0.00041	ND	--	No screening value; ND in background
delta-BHC	5 : 65	7.7	0.00024	NA	0.00024	ND	--	No screening value; ND in background
Dieldrin	24 : 65	36.9	0.12	0.0072	0.0072	ND	0.0049	Maximum EPC exceeds screening value; ND in background
Endosulfan II	1 : 65	1.5	0.0010	NA	0.0010	ND	--	FOD less than 5%
Endosulfan sulfate	12 : 65	18.5	0.0019	0.00072	0.00072	ND	--	No screening value; ND in background
Endrin	4 : 65	6.2	0.0061	NA	0.0061	ND	--	No screening value; ND in background
Endrin aldehyde	3 : 65	4.6	0.00075	NA	0.00075	ND	--	FOD less than 5%
Endrin ketone	24 : 65	36.9	0.0040	0.00091	0.00091	ND	--	No screening value; ND in background
Gamma Chlordane	16 : 65	24.6	0.078	0.0064	0.0064	ND	--	No screening value; ND in background
gamma-BHC (Lindane)	2 : 65	3.1	0.00013	NA	0.00013	ND	--	FOD less than 5%
Heptachlor	5 : 65	7.7	0.091	NA	0.091	ND	--	No screening value; ND in background
Heptachlor epoxide	16 : 65	24.6	0.030	0.0028	0.0028	ND	--	No screening value; ND in background
Methoxychlor	24 : 65	36.9	0.038	0.0054	0.0054	ND	--	No screening value; ND in background

Table 3-2
Terrestrial Screening Update - Floodplain Surface Soils
Sauget Area 1

Constituent	Frequency of Detection (detects : samples)	Frequency of Detection (%)	Maximum Site Concentration	95% UCL	Maximum EPC	Twice Average Background Soil Concentration	Soil Screening Value	Comment
SVOCs								
2-Methylnaphthalene	3 : 65	4.6	0.072	NA	0.072	ND	--	FOD less than 5%
Acenaphthene	9 : 65	13.8	1.2	0.14	0.14	ND	20	Maximum EPC less than screening value
Acenaphthylene	4 : 65	6.2	0.075	NA	0.075	ND	--	No screening value; ND in background
Anthracene	15 : 65	23.1	2.3	0.21	0.21	0.16	--	No screening value; maximum EPC higher than background
Benzo(a)anthracene	37 : 65	56.9	4.3	0.70	0.70	0.25	--	No screening value; maximum EPC higher than background
Benzo(a)pyrene	35 : 65	53.8	3.6	0.64	0.64	0.22	--	No screening value; maximum EPC higher than background
Benzo(b)fluoranthene	39 : 65	60.0	4.4	0.70	0.70	0.18	--	No screening value; maximum EPC higher than background
Benzo(g,h,i)perylene	35 : 65	53.8	2.2	0.40	0.40	0.13	--	No screening value; maximum EPC higher than background
Benzo(k)fluoranthene	36 : 65	55.4	3.4	0.63	0.63	0.2	--	No screening value; maximum EPC higher than background
bis(2-Ethylhexyl)phthalate	25 : 65	38.5	0.43	0.13	0.13	0.53	--	No screening value; maximum EPC below background
Butylbenzylphthalate	3 : 65	4.6	0.34	NA	0.34	ND	--	FOD less than 5%
Carbazole	11 : 65	16.9	1.0	0.16	0.16	0.064	--	No screening value; maximum EPC higher than background
Chrysene	41 : 65	63.1	4.9	0.80	0.80	0.30	--	No screening value; maximum EPC higher than background
Dibenzo(a,h)anthracene	17 : 65	26.2	0.81	0.13	0.13	ND	--	No screening value; ND in background
Dibenzofuran	5 : 65	7.7	0.77	NA	0.77	ND	--	No screening value; ND in background
Diethylphthalate	1 : 65	1.5	0.039	NA	0.039	0.19	100	FOD less than 5%
Di-n-butylphthalate	17 : 65	26.2	0.21	0.12	0.12	0.37	200	Maximum EPC less than screening value
Fluoranthene	39 : 65	60.0	10.0	1.6	1.6	0.64	--	No screening value; maximum EPC higher than background
Fluorene	7 : 65	10.8	1.4	0.16	0.16	ND	30	Maximum EPC less than screening value
Indeno(1,2,3-cd)pyrene	22 : 65	33.8	2.0	0.26	0.26	ND	--	No screening value; ND in background
Naphthalene	2 : 65	3.1	0.068	NA	0.068	ND	--	FOD less than 5%
Pentachlorophenol	40 : 65	61.5	0.040	0.0062	0.0062	0.066	2.1	Maximum EPC less than screening value
Phenanthrene	34 : 65	52.3	9.2	1.6	1.6	0.39	--	No screening value; maximum EPC higher than background
Phenol	1 : 65	1.5	0.21	NA	0.21	ND	30	FOD less than 5%
Pyrene	32 : 65	49.2	8.5	0.90	0.90	0.54	--	No screening value; maximum EPC higher than background
Total HMW PAHs	44 : 65	67.7	42.5	7.6	7.6	2.5	1.1	Maximum EPC exceeds screening value and background
Total LMW PAHs	34 : 65	52.3	14.3	2.0	2.0	0.68	29	Maximum EPC less than screening value
Total PAHs	44 : 65	67.7	56.8	7.4	7.4	3.1	--	No screening value; maximum EPC higher than background
VOCs								
2-Butanone (MEK)	31 : 65	47.7	0.056	0.027	0.027	ND	--	No screening value; ND in background
2-Hexanone	3 : 65	4.6	0.0069	NA	0.0069	0.036	--	FOD less than 5%
Acetone	35 : 65	53.8	0.67	0.23	0.23	ND	--	No screening value; ND in background
Benzene	5 : 65	7.7	0.0048	NA	0.0048	ND	--	No screening value; ND in background
Carbon disulfide	3 : 65	4.6	0.0043	NA	0.0043	ND	--	FOD less than 5%
Chlorobenzene	1 : 65	1.5	0.0040	NA	0.0040	ND	40	FOD less than 5%
Ethylbenzene	1 : 65	1.5	0.0030	NA	0.0030	ND	--	FOD less than 5%
Methylene chloride (Dichloromethane)	3 : 65	4.6	0.0021	NA	0.0021	0.014	--	FOD less than 5%
Toluene	13 : 65	20.0	0.012	0.0038	0.0038	ND	200	Maximum EPC less than screening value
Trichloroethene	4 : 65	6.2	0.0062	NA	0.0062	ND	--	No screening value; ND in background
Xylenes (total)	1 : 65	1.5	0.0042	NA	0.0042	ND	--	FOD less than 5%

All concentrations are in mg/kg.
Maximum exposure point concentration (EPC) is represented by the 95% upper confidence limit (UCL) on the mean or the maximum detected concentration if a UCL could not be calculated.
See Appendix A for UCL documentation.
NA - Not applicable. Not enough samples to calculate UCL.
ND - Not detected; detection limit not available.
Yellow shading indicates maximum EPC exceeds the soil screening value.
Green shading indicates no screening value available and maximum EPC exceeds twice average background or constituent was not detected in background soil.
Not highlighted if -
- the maximum EPC is less than the screening value;
- the maximum EPC is less than background and there is no screening value;
- frequency of detection is less than 5%; or
- the constituent is of low toxicity (i.e., essential nutrients).

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
	Screening Value [2]	*50*
	Background [3]	*25400*
	DAS-T1-S1-0-0.5FT	5800
	DAS-T1-S2-0-0.5FT	7800
	DAS-T1-S3-0-0.5FT	6000
	DAS-T2-S1-0-0.5FT	7200
	DAS-T2-S2-0-0.5FT	13000
	DAS-T2-S3-0-0.5FT	11000
	DAS-T3-S1-0-0.5FT	5500
	DAS-T3-S2-0-0.5FT	8500
	DAS-T3-S3-0-0.5FT	5900
	DAS-T4-S1-0-0.5FT	7250
	DAS-T4-S2-0-0.5FT	13000
	DAS-T4-S3-0-0.5FT	14000
	DAS-T5-S1-0-0.5FT	6200
	DAS-T5-S2-0-0.5FT	6100
	DAS-T5-S3-0-0.5FT	5300
	DAS-T6-S1-0-0.5FT	7100
	DAS-T6-S2-0-0.5FT	7500
	DAS-T6-S3-0-0.5FT	5200
	DAS-T7-S1-0-0.5FT	9000
	DAS-T7-S2-0-0.5FT	7200
	UAS-T1-S1-0-0.5FT	12000
	UAS-T1-S2-0-0.5FT	13000
	UAS-T1-S3-0-0.5FT	15000
	UAS-T1-S4-0-0.5FT	13000
	UAS-T1-S5-0-0.5FT	13000
	UAS-T1-S6-0-0.5FT	7000
	UAS-T1-S7-0-0.5FT	6250
	UAS-T2-S1-0-0.5FT	11000
	UAS-T2-S2-0-0.5FT	9800
	UAS-T2-S3-0-0.5FT	18000
	UAS-T2-S4-0-0.5FT	18000
Aluminum	UAS-T2-S5-0-0.5FT	11000
	UAS-T2-S6-0-0.5FT	9900
	UAS-T3-S1-0-0.5FT	11000
	UAS-T3-S2-0-0.5FT	16000
	UAS-T3-S3-0-0.5FT	9750
	UAS-T3-S4-0-0.5FT	17000
	UAS-T3-S5-0-0.5FT	9900
	UAS-T3-S6-0-0.5FT	7700
	UAS-T3-S7-0-0.5FT	3300
	UAS-T4-S1-0-0.5FT	8100
	UAS-T4-S2-0-0.5FT	7900
	UAS-T4-S3-0-0.5FT	9900
	UAS-T4-S4-0-0.5FT	5100
	UAS-T4-S5-0-0.5FT	8800
	UAS-T4-S6-0-0.5FT	10000
	UAS-T4-S7-0-0.5FT	9900
	UAS-T5-S1-0-0.5FT	11000
	UAS-T5-S2-0-0.5FT	11000
	UAS-T5-S3-0-0.5FT	8700
	UAS-T5-S4-0-0.5FT	9600
	UAS-T5-S5-0-0.5FT	9800
	UAS-T5-S6-0-0.5FT	7650
	UAS-T6-S1-0-0.5FT	8700
	UAS-T6-S2-0-0.5FT	7500
	UAS-T6-S3-0-0.5FT	9700
	UAS-T6-S4-0-0.5FT	9100
	UAS-T6-S5-0-0.5FT	9000
	UAS-T7-S1-0-0.5FT	10000
	UAS-T7-S2-0-0.5FT	8200
	UAS-T7-S3-0-0.5FT	12000
	UAS-T7-S4-0-0.5FT	7200
	UAS-T7-S5-0-0.5FT	7500
	UAS-T7-S6-0-0.5FT	7000
	UAS-T7-S7-0-0.5FT	6900

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Antimony	*Screening Value [2]*	*0.27*
	Background [3]	*3.8*
	DAS-T1-S1-0-0.5FT	0.70
	DAS-T4-S2-0-0.5FT	0.65
	DAS-T6-S1-0-0.5FT	0.59
	UAS-T1-S1-0-0.5FT	2.3
	UAS-T1-S2-0-0.5FT	2.6
	UAS-T1-S3-0-0.5FT	2.6
	UAS-T1-S4-0-0.5FT	1.8
	UAS-T1-S5-0-0.5FT	2.1
	UAS-T1-S6-0-0.5FT	1.5
	UAS-T1-S7-0-0.5FT	0.9
	UAS-T2-S1-0-0.5FT	1.4
	UAS-T2-S2-0-0.5FT	1.5
	UAS-T2-S3-0-0.5FT	1.3
	UAS-T2-S4-0-0.5FT	1.7
	UAS-T2-S5-0-0.5FT	1.1
	UAS-T2-S6-0-0.5FT	0.67
	UAS-T3-S2-0-0.5FT	1.9
	UAS-T3-S3-0-0.5FT	0.9
	UAS-T3-S4-0-0.5FT	1.1
	UAS-T3-S5-0-0.5FT	1.2
	UAS-T5-S4-0-0.5FT	0.63
	UAS-T5-S5-0-0.5FT	0.62
	UAS-T5-S6-0-0.5FT	0.905
	UAS-T6-S1-0-0.5FT	0.74
	UAS-T6-S3-0-0.5FT	0.77
	UAS-T6-S5-0-0.5FT	0.65
	UAS-T7-S2-0-0.5FT	0.63
	UAS-T7-S7-0-0.5FT	0.73

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Cadmium	*Screening Value [2]*	*0.36*
	Background [3]	*8.6*
	DAS-T1-S1-0-0.5FT	3.0
	DAS-T1-S2-0-0.5FT	1.9
	DAS-T1-S3-0-0.5FT	1.7
	DAS-T2-S1-0-0.5FT	2.6
	DAS-T2-S2-0-0.5FT	1.1
	DAS-T2-S3-0-0.5FT	2.4
	DAS-T3-S1-0-0.5FT	2.0
	DAS-T3-S2-0-0.5FT	2.2
	DAS-T3-S3-0-0.5FT	2.5
	DAS-T4-S1-0-0.5FT	2.6
	DAS-T4-S2-0-0.5FT	3.2
	DAS-T4-S3-0-0.5FT	1.7
	DAS-T5-S1-0-0.5FT	3.1
	DAS-T5-S2-0-0.5FT	1.4
	DAS-T5-S3-0-0.5FT	5.7
	DAS-T6-S1-0-0.5FT	4.0
	DAS-T6-S2-0-0.5FT	1.1
	DAS-T6-S3-0-0.5FT	1.8
	DAS-T7-S1-0-0.5FT	3.6
	DAS-T7-S2-0-0.5FT	2.2
	UAS-T1-S1-0-0.5FT	4.8
	UAS-T1-S2-0-0.5FT	3.5
	UAS-T1-S3-0-0.5FT	3.7
	UAS-T1-S4-0-0.5FT	2.4
	UAS-T1-S5-0-0.5FT	2.5
	UAS-T1-S6-0-0.5FT	1.7
	UAS-T1-S7-0-0.5FT	2.2
	UAS-T2-S1-0-0.5FT	2.8
	UAS-T2-S2-0-0.5FT	1.9
	UAS-T2-S3-0-0.5FT	2.1
	UAS-T2-S4-0-0.5FT	2.7
	UAS-T2-S5-0-0.5FT	2.1
	UAS-T2-S6-0-0.5FT	2.8
	UAS-T3-S1-0-0.5FT	1.5
	UAS-T3-S2-0-0.5FT	2.7
	UAS-T3-S3-0-0.5FT	1.6
	UAS-T3-S4-0-0.5FT	2.7
	UAS-T3-S5-0-0.5FT	2.2
	UAS-T3-S6-0-0.5FT	2.2
	UAS-T3-S7-0-0.5FT	3.8
	UAS-T4-S1-0-0.5FT	2.3
	UAS-T4-S2-0-0.5FT	1.5
	UAS-T4-S3-0-0.5FT	0.46
	UAS-T4-S4-0-0.5FT	0.83
	UAS-T4-S5-0-0.5FT	0.94
	UAS-T4-S6-0-0.5FT	0.98
	UAS-T4-S7-0-0.5FT	1.7
	UAS-T5-S1-0-0.5FT	2.6
	UAS-T5-S2-0-0.5FT	2.4
	UAS-T5-S3-0-0.5FT	2.5
	UAS-T5-S4-0-0.5FT	2.4
	UAS-T5-S5-0-0.5FT	2.3
	UAS-T5-S6-0-0.5FT	8.4
	UAS-T6-S1-0-0.5FT	1.6
	UAS-T6-S2-0-0.5FT	0.81
	UAS-T6-S3-0-0.5FT	0.85
	UAS-T6-S4-0-0.5FT	0.94
	UAS-T6-S5-0-0.5FT	0.92
	UAS-T7-S1-0-0.5FT	5.4
	UAS-T7-S2-0-0.5FT	1.8
	UAS-T7-S3-0-0.5FT	2.7
	UAS-T7-S4-0-0.5FT	1.5
	UAS-T7-S5-0-0.5FT	1.5
	UAS-T7-S6-0-0.5FT	3.3
	UAS-T7-S7-0-0.5FT	6.1

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Chromium	*Screening Value [2]*	*0.4*
	Background [3]	*39.3*
	DAS-T1-S1-0-0.5FT	11
	DAS-T1-S2-0-0.5FT	14
	DAS-T1-S3-0-0.5FT	12
	DAS-T2-S1-0-0.5FT	13
	DAS-T2-S2-0-0.5FT	48
	DAS-T2-S3-0-0.5FT	19
	DAS-T3-S1-0-0.5FT	20
	DAS-T3-S2-0-0.5FT	15
	DAS-T3-S3-0-0.5FT	12
	DAS-T4-S1-0-0.5FT	13
	DAS-T4-S2-0-0.5FT	20
	DAS-T4-S3-0-0.5FT	20
	DAS-T5-S1-0-0.5FT	13
	DAS-T5-S2-0-0.5FT	11
	DAS-T5-S3-0-0.5FT	12
	DAS-T6-S1-0-0.5FT	14
	DAS-T6-S2-0-0.5FT	13
	DAS-T6-S3-0-0.5FT	13
	DAS-T7-S1-0-0.5FT	20
	DAS-T7-S2-0-0.5FT	16
	UAS-T1-S1-0-0.5FT	49
	UAS-T1-S2-0-0.5FT	19
	UAS-T1-S3-0-0.5FT	22
	UAS-T1-S4-0-0.5FT	19
	UAS-T1-S5-0-0.5FT	19
	UAS-T1-S6-0-0.5FT	12
	UAS-T1-S7-0-0.5FT	12
	UAS-T2-S1-0-0.5FT	17
	UAS-T2-S2-0-0.5FT	15
	UAS-T2-S3-0-0.5FT	24
	UAS-T2-S4-0-0.5FT	25
	UAS-T2-S5-0-0.5FT	16
	UAS-T2-S6-0-0.5FT	15
	UAS-T3-S1-0-0.5FT	16
	UAS-T3-S2-0-0.5FT	22
	UAS-T3-S3-0-0.5FT	13
	UAS-T3-S4-0-0.5FT	23
	UAS-T3-S5-0-0.5FT	15
	UAS-T3-S6-0-0.5FT	12
	UAS-T3-S7-0-0.5FT	11
	UAS-T4-S1-0-0.5FT	13
	UAS-T4-S2-0-0.5FT	29
	UAS-T4-S3-0-0.5FT	14
	UAS-T4-S4-0-0.5FT	11
	UAS-T4-S5-0-0.5FT	22
	UAS-T4-S6-0-0.5FT	16
	UAS-T4-S7-0-0.5FT	18
	UAS-T5-S1-0-0.5FT	16
	UAS-T5-S2-0-0.5FT	16
	UAS-T5-S3-0-0.5FT	14
	UAS-T5-S4-0-0.5FT	15
	UAS-T5-S5-0-0.5FT	16
	UAS-T5-S6-0-0.5FT	19
	UAS-T6-S1-0-0.5FT	14
	UAS-T6-S2-0-0.5FT	13
	UAS-T6-S3-0-0.5FT	15
	UAS-T6-S4-0-0.5FT	15
	UAS-T6-S5-0-0.5FT	18
	UAS-T7-S1-0-0.5FT	17
	UAS-T7-S2-0-0.5FT	13
	UAS-T7-S3-0-0.5FT	18
	UAS-T7-S4-0-0.5FT	12
	UAS-T7-S5-0-0.5FT	14
	UAS-T7-S6-0-0.5FT	13
	UAS-T7-S7-0-0.5FT	15

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Copper	*Screening Value [2]*	*28*
	Background [3]	*209*
	DAS-T1-S1-0-0.5FT	97.5
	DAS-T1-S2-0-0.5FT	85
	DAS-T1-S3-0-0.5FT	73
	DAS-T2-S1-0-0.5FT	110
	DAS-T2-S2-0-0.5FT	53
	DAS-T2-S3-0-0.5FT	94
	DAS-T3-S1-0-0.5FT	70
	DAS-T3-S2-0-0.5FT	72
	DAS-T3-S3-0-0.5FT	63
	DAS-T4-S1-0-0.5FT	54
	DAS-T4-S2-0-0.5FT	79
	DAS-T4-S3-0-0.5FT	64
	DAS-T5-S1-0-0.5FT	75
	DAS-T5-S2-0-0.5FT	40
	DAS-T5-S3-0-0.5FT	70
	DAS-T6-S1-0-0.5FT	56
	DAS-T6-S3-0-0.5FT	36
	DAS-T7-S1-0-0.5FT	29
	DAS-T7-S2-0-0.5FT	33
	UAS-T1-S1-0-0.5FT	150
	UAS-T1-S2-0-0.5FT	230
	UAS-T1-S3-0-0.5FT	230
	UAS-T1-S4-0-0.5FT	160
	UAS-T1-S5-0-0.5FT	130
	UAS-T1-S6-0-0.5FT	86
	UAS-T1-S7-0-0.5FT	77
	UAS-T2-S1-0-0.5FT	140
	UAS-T2-S2-0-0.5FT	77
	UAS-T2-S3-0-0.5FT	87
	UAS-T2-S4-0-0.5FT	95
	UAS-T2-S5-0-0.5FT	69
	UAS-T2-S6-0-0.5FT	87
	UAS-T3-S1-0-0.5FT	55
	UAS-T3-S2-0-0.5FT	65
	UAS-T3-S3-0-0.5FT	52
	UAS-T3-S4-0-0.5FT	77
	UAS-T3-S5-0-0.5FT	79
	UAS-T3-S6-0-0.5FT	48
	UAS-T3-S7-0-0.5FT	75
	UAS-T4-S1-0-0.5FT	69
	UAS-T4-S2-0-0.5FT	180
	UAS-T4-S4-0-0.5FT	32
	UAS-T4-S5-0-0.5FT	48
	UAS-T4-S6-0-0.5FT	39
	UAS-T4-S7-0-0.5FT	60
	UAS-T5-S1-0-0.5FT	53
	UAS-T5-S2-0-0.5FT	42
	UAS-T5-S3-0-0.5FT	44
	UAS-T5-S4-0-0.5FT	38
	UAS-T5-S5-0-0.5FT	41
	UAS-T5-S6-0-0.5FT	85
	UAS-T6-S1-0-0.5FT	31
	UAS-T6-S5-0-0.5FT	29
	UAS-T7-S1-0-0.5FT	130
	UAS-T7-S3-0-0.5FT	35
	UAS-T7-S6-0-0.5FT	32
	UAS-T7-S7-0-0.5FT	57

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
	Screening Value [2]	*11*
	Background [3]	*185*
	DAS-T1-S1-0-0.5FT	95.5
	DAS-T1-S2-0-0.5FT	50
	DAS-T1-S3-0-0.5FT	50
	DAS-T2-S1-0-0.5FT	88
	DAS-T2-S2-0-0.5FT	24
	DAS-T2-S3-0-0.5FT	76
	DAS-T3-S1-0-0.5FT	53
	DAS-T3-S2-0-0.5FT	90
	DAS-T3-S3-0-0.5FT	53
	DAS-T4-S1-0-0.5FT	75
	DAS-T4-S2-0-0.5FT	96
	DAS-T4-S3-0-0.5FT	50
	DAS-T5-S1-0-0.5FT	130
	DAS-T5-S2-0-0.5FT	35
	DAS-T5-S3-0-0.5FT	130
	DAS-T6-S1-0-0.5FT	110
	DAS-T6-S2-0-0.5FT	29
	DAS-T6-S3-0-0.5FT	87
	DAS-T7-S1-0-0.5FT	39
	DAS-T7-S2-0-0.5FT	67
	UAS-T1-S1-0-0.5FT	93
	UAS-T1-S2-0-0.5FT	92
	UAS-T1-S3-0-0.5FT	120
	UAS-T1-S4-0-0.5FT	73
	UAS-T1-S5-0-0.5FT	69
	UAS-T1-S6-0-0.5FT	40
	UAS-T1-S7-0-0.5FT	46
	UAS-T2-S1-0-0.5FT	79
	UAS-T2-S2-0-0.5FT	50
	UAS-T2-S3-0-0.5FT	66
	UAS-T2-S4-0-0.5FT	72
Lead	UAS-T2-S5-0-0.5FT	48
	UAS-T2-S6-0-0.5FT	79
	UAS-T3-S1-0-0.5FT	40
	UAS-T3-S2-0-0.5FT	63
	UAS-T3-S3-0-0.5FT	36
	UAS-T3-S4-0-0.5FT	64
	UAS-T3-S5-0-0.5FT	56
	UAS-T3-S6-0-0.5FT	39
	UAS-T3-S7-0-0.5FT	51
	UAS-T4-S1-0-0.5FT	62
	UAS-T4-S2-0-0.5FT	190
	UAS-T4-S3-0-0.5FT	28
	UAS-T4-S4-0-0.5FT	29
	UAS-T4-S5-0-0.5FT	83
	UAS-T4-S6-0-0.5FT	130
	UAS-T4-S7-0-0.5FT	260
	UAS-T5-S1-0-0.5FT	59
	UAS-T5-S2-0-0.5FT	50
	UAS-T5-S3-0-0.5FT	54
	UAS-T5-S4-0-0.5FT	50
	UAS-T5-S5-0-0.5FT	45
	UAS-T5-S6-0-0.5FT	170
	UAS-T6-S1-0-0.5FT	39
	UAS-T6-S2-0-0.5FT	35
	UAS-T6-S3-0-0.5FT	29
	UAS-T6-S4-0-0.5FT	36
	UAS-T6-S5-0-0.5FT	78
	UAS-T7-S1-0-0.5FT	71
	UAS-T7-S2-0-0.5FT	41
	UAS-T7-S3-0-0.5FT	64
	UAS-T7-S4-0-0.5FT	36
	UAS-T7-S5-0-0.5FT	42
	UAS-T7-S6-0-0.5FT	72
	UAS-T7-S7-0-0.5FT	150

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Manganese	*Screening Value [2]*	*220*
	Background [3]	*883*
	DAS-T1-S1-0-0.5FT	305
	DAS-T1-S2-0-0.5FT	470
	DAS-T1-S3-0-0.5FT	320
	DAS-T2-S1-0-0.5FT	430
	DAS-T2-S2-0-0.5FT	1200
	DAS-T2-S3-0-0.5FT	560
	DAS-T3-S1-0-0.5FT	400
	DAS-T3-S2-0-0.5FT	420
	DAS-T3-S3-0-0.5FT	360
	DAS-T4-S1-0-0.5FT	395
	DAS-T4-S2-0-0.5FT	510
	DAS-T4-S3-0-0.5FT	610
	DAS-T5-S1-0-0.5FT	360
	DAS-T5-S2-0-0.5FT	400
	DAS-T5-S3-0-0.5FT	280
	DAS-T6-S1-0-0.5FT	350
	DAS-T6-S2-0-0.5FT	340
	DAS-T6-S3-0-0.5FT	280
	DAS-T7-S1-0-0.5FT	390
	DAS-T7-S2-0-0.5FT	380
	UAS-T1-S2-0-0.5FT	450
	UAS-T1-S3-0-0.5FT	460
	UAS-T1-S4-0-0.5FT	430
	UAS-T1-S5-0-0.5FT	550
	UAS-T1-S6-0-0.5FT	250
	UAS-T1-S7-0-0.5FT	225
	UAS-T2-S1-0-0.5FT	410
	UAS-T2-S2-0-0.5FT	390
	UAS-T2-S3-0-0.5FT	690
	UAS-T2-S4-0-0.5FT	630
	UAS-T2-S5-0-0.5FT	340
	UAS-T2-S6-0-0.5FT	350
	UAS-T3-S1-0-0.5FT	380
	UAS-T3-S2-0-0.5FT	610
	UAS-T3-S3-0-0.5FT	375
	UAS-T3-S4-0-0.5FT	510
	UAS-T3-S5-0-0.5FT	250
	UAS-T3-S6-0-0.5FT	360
	UAS-T4-S1-0-0.5FT	340
	UAS-T4-S2-0-0.5FT	430
	UAS-T4-S3-0-0.5FT	435
	UAS-T4-S5-0-0.5FT	400
	UAS-T4-S6-0-0.5FT	400
	UAS-T4-S7-0-0.5FT	440
	UAS-T5-S1-0-0.5FT	390
	UAS-T5-S2-0-0.5FT	370
	UAS-T5-S3-0-0.5FT	280
	UAS-T5-S4-0-0.5FT	350
	UAS-T5-S5-0-0.5FT	370
	UAS-T5-S6-0-0.5FT	330
	UAS-T6-S1-0-0.5FT	360
	UAS-T6-S2-0-0.5FT	310
	UAS-T6-S3-0-0.5FT	400
	UAS-T6-S4-0-0.5FT	380
	UAS-T6-S5-0-0.5FT	660
	UAS-T7-S1-0-0.5FT	330
	UAS-T7-S2-0-0.5FT	320
	UAS-T7-S3-0-0.5FT	435
	UAS-T7-S4-0-0.5FT	270
	UAS-T7-S5-0-0.5FT	420
	UAS-T7-S6-0-0.5FT	280
	UAS-T7-S7-0-0.5FT	280

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Mercury	*Screening Value [2]*	*0.00051*
	Background [3]	*0.18*
	DAS-T1-S1-0-0.5FT	0.082
	DAS-T1-S2-0-0.5FT	0.060
	DAS-T1-S3-0-0.5FT	0.054
	DAS-T2-S1-0-0.5FT	0.076
	DAS-T2-S2-0-0.5FT	0.094
	DAS-T2-S3-0-0.5FT	0.086
	DAS-T3-S1-0-0.5FT	0.050
	DAS-T3-S2-0-0.5FT	0.055
	DAS-T3-S3-0-0.5FT	0.068
	DAS-T4-S1-0-0.5FT	0.060
	DAS-T4-S2-0-0.5FT	0.11
	DAS-T4-S3-0-0.5FT	0.073
	DAS-T5-S1-0-0.5FT	0.097
	DAS-T5-S2-0-0.5FT	0.044
	DAS-T5-S3-0-0.5FT	0.089
	DAS-T6-S1-0-0.5FT	0.071
	DAS-T6-S2-0-0.5FT	0.049
	DAS-T6-S3-0-0.5FT	0.049
	DAS-T7-S1-0-0.5FT	0.066
	DAS-T7-S2-0-0.5FT	0.089
	UAS-T1-S1-0-0.5FT	0.099
	UAS-T1-S2-0-0.5FT	0.069
	UAS-T1-S3-0-0.5FT	0.088
	UAS-T1-S4-0-0.5FT	0.050
	UAS-T1-S5-0-0.5FT	0.053
	UAS-T1-S6-0-0.5FT	0.031
	UAS-T1-S7-0-0.5FT	0.039
	UAS-T2-S1-0-0.5FT	0.065
	UAS-T2-S2-0-0.5FT	0.047
	UAS-T2-S3-0-0.5FT	0.069
	UAS-T2-S4-0-0.5FT	0.077
	UAS-T2-S5-0-0.5FT	0.045
	UAS-T2-S6-0-0.5FT	0.063
	UAS-T3-S1-0-0.5FT	0.042
	UAS-T3-S2-0-0.5FT	0.055
	UAS-T3-S3-0-0.5FT	0.064
	UAS-T3-S4-0-0.5FT	0.072
	UAS-T3-S5-0-0.5FT	0.079
	UAS-T3-S6-0-0.5FT	0.049
	UAS-T3-S7-0-0.5FT	0.093
	UAS-T4-S1-0-0.5FT	0.066
	UAS-T4-S2-0-0.5FT	0.084
	UAS-T4-S3-0-0.5FT	0.046
	UAS-T4-S4-0-0.5FT	0.027
	UAS-T4-S5-0-0.5FT	0.096
	UAS-T4-S6-0-0.5FT	0.57
	UAS-T4-S7-0-0.5FT	0.087
	UAS-T5-S1-0-0.5FT	0.060
	UAS-T5-S2-0-0.5FT	0.054
	UAS-T5-S3-0-0.5FT	0.049
	UAS-T5-S4-0-0.5FT	0.056
	UAS-T5-S5-0-0.5FT	0.063
	UAS-T5-S6-0-0.5FT	0.12
	UAS-T6-S1-0-0.5FT	0.086
	UAS-T6-S2-0-0.5FT	0.043
	UAS-T6-S3-0-0.5FT	0.039
	UAS-T6-S4-0-0.5FT	0.044
	UAS-T6-S5-0-0.5FT	0.077
	UAS-T7-S1-0-0.5FT	0.14
	UAS-T7-S2-0-0.5FT	0.052
	UAS-T7-S3-0-0.5FT	0.081
	UAS-T7-S4-0-0.5FT	0.045
	UAS-T7-S5-0-0.5FT	0.044
	UAS-T7-S6-0-0.5FT	0.089
	UAS-T7-S7-0-0.5FT	0.16

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Selenium	*Screening Value [2]*	*0.52*
	Background [3]	*ND*
	DAS-T2-S3-0-0.5FT	0.55
	DAS-T4-S2-0-0.5FT	0.88
	UAS-T1-S1-0-0.5FT	0.81
	UAS-T1-S5-0-0.5FT	0.72
	UAS-T2-S4-0-0.5FT	0.61
	UAS-T2-S6-0-0.5FT	1.0
	UAS-T3-S5-0-0.5FT	0.60
	UAS-T3-S7-0-0.5FT	3.2
	UAS-T6-S5-0-0.5FT	0.68
	UAS-T7-S1-0-0.5FT	1.1
	UAS-T7-S3-0-0.5FT	0.89
	UAS-T7-S4-0-0.5FT	0.55
	UAS-T7-S6-0-0.5FT	1.1
	UAS-T7-S7-0-0.5FT	0.53

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Vanadium	*Screening Value [2]*	*2*
	Background [3]	*69*
	DAS-T1-S1-0-0.5FT	19
	DAS-T1-S2-0-0.5FT	25
	DAS-T1-S3-0-0.5FT	18
	DAS-T2-S1-0-0.5FT	24
	DAS-T2-S2-0-0.5FT	120
	DAS-T2-S3-0-0.5FT	34
	DAS-T3-S1-0-0.5FT	23
	DAS-T3-S2-0-0.5FT	25
	DAS-T3-S3-0-0.5FT	20
	DAS-T4-S1-0-0.5FT	21
	DAS-T4-S2-0-0.5FT	35
	DAS-T4-S3-0-0.5FT	34
	DAS-T5-S1-0-0.5FT	19
	DAS-T5-S2-0-0.5FT	19
	DAS-T5-S3-0-0.5FT	17
	DAS-T6-S1-0-0.5FT	22
	DAS-T6-S2-0-0.5FT	22
	DAS-T6-S3-0-0.5FT	17
	DAS-T7-S1-0-0.5FT	25
	DAS-T7-S2-0-0.5FT	22
	UAS-T1-S1-0-0.5FT	32
	UAS-T1-S2-0-0.5FT	35
	UAS-T1-S3-0-0.5FT	41
	UAS-T1-S4-0-0.5FT	36
	UAS-T1-S5-0-0.5FT	35
	UAS-T1-S6-0-0.5FT	22
	UAS-T1-S7-0-0.5FT	21
	UAS-T2-S1-0-0.5FT	30
	UAS-T2-S2-0-0.5FT	28
	UAS-T2-S3-0-0.5FT	40
	UAS-T2-S4-0-0.5FT	46
	UAS-T2-S5-0-0.5FT	30
	UAS-T2-S6-0-0.5FT	28
	UAS-T3-S1-0-0.5FT	30
	UAS-T3-S2-0-0.5FT	39
	UAS-T3-S3-0-0.5FT	26
	UAS-T3-S4-0-0.5FT	42
	UAS-T3-S5-0-0.5FT	27
	UAS-T3-S6-0-0.5FT	23
	UAS-T3-S7-0-0.5FT	13
	UAS-T4-S1-0-0.5FT	23
	UAS-T4-S2-0-0.5FT	22
	UAS-T4-S3-0-0.5FT	27
	UAS-T4-S4-0-0.5FT	15
	UAS-T4-S5-0-0.5FT	26
	UAS-T4-S6-0-0.5FT	29
	UAS-T4-S7-0-0.5FT	26
	UAS-T5-S1-0-0.5FT	29
	UAS-T5-S2-0-0.5FT	29
	UAS-T5-S3-0-0.5FT	25
	UAS-T5-S4-0-0.5FT	26
	UAS-T5-S5-0-0.5FT	28
	UAS-T5-S6-0-0.5FT	27
	UAS-T6-S1-0-0.5FT	25
	UAS-T6-S2-0-0.5FT	24
	UAS-T6-S3-0-0.5FT	30
	UAS-T6-S4-0-0.5FT	33
	UAS-T6-S5-0-0.5FT	30
	UAS-T7-S1-0-0.5FT	27
	UAS-T7-S2-0-0.5FT	25
	UAS-T7-S3-0-0.5FT	33
	UAS-T7-S4-0-0.5FT	22
	UAS-T7-S5-0-0.5FT	26
	UAS-T7-S6-0-0.5FT	22
	UAS-T7-S7-0-0.5FT	21

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
	Screening Value [2]	*46*
	Background [3]	*808*
	DAS-T1-S1-0-0.5FT	295
	DAS-T1-S2-0-0.5FT	230
	DAS-T1-S3-0-0.5FT	250
	DAS-T2-S1-0-0.5FT	290
	DAS-T2-S2-0-0.5FT	140
	DAS-T2-S3-0-0.5FT	260
	DAS-T3-S1-0-0.5FT	220
	DAS-T3-S2-0-0.5FT	240
	DAS-T3-S3-0-0.5FT	260
	DAS-T4-S1-0-0.5FT	235
	DAS-T4-S2-0-0.5FT	310
	DAS-T4-S3-0-0.5FT	180
	DAS-T5-S1-0-0.5FT	330
	DAS-T5-S2-0-0.5FT	140
	DAS-T5-S3-0-0.5FT	750
	DAS-T6-S1-0-0.5FT	350
	DAS-T6-S2-0-0.5FT	110
	DAS-T6-S3-0-0.5FT	240
	DAS-T7-S1-0-0.5FT	870
	DAS-T7-S2-0-0.5FT	260
	UAS-T1-S1-0-0.5FT	1400
	UAS-T1-S2-0-0.5FT	340
	UAS-T1-S3-0-0.5FT	390
	UAS-T1-S4-0-0.5FT	280
	UAS-T1-S5-0-0.5FT	270
	UAS-T1-S6-0-0.5FT	180
	UAS-T1-S7-0-0.5FT	245
	UAS-T2-S1-0-0.5FT	310
	UAS-T2-S2-0-0.5FT	190
	UAS-T2-S3-0-0.5FT	250
	UAS-T2-S4-0-0.5FT	270
Zinc	UAS-T2-S5-0-0.5FT	210
	UAS-T2-S6-0-0.5FT	290
	UAS-T3-S1-0-0.5FT	160
	UAS-T3-S2-0-0.5FT	240
	UAS-T3-S3-0-0.5FT	159
	UAS-T3-S4-0-0.5FT	300
	UAS-T3-S5-0-0.5FT	410
	UAS-T3-S6-0-0.5FT	250
	UAS-T3-S7-0-0.5FT	460
	UAS-T4-S1-0-0.5FT	240
	UAS-T4-S2-0-0.5FT	290
	UAS-T4-S3-0-0.5FT	76
	UAS-T4-S4-0-0.5FT	82
	UAS-T4-S5-0-0.5FT	120
	UAS-T4-S6-0-0.5FT	140
	UAS-T4-S7-0-0.5FT	550
	UAS-T5-S1-0-0.5FT	230
	UAS-T5-S2-0-0.5FT	230
	UAS-T5-S3-0-0.5FT	240
	UAS-T5-S4-0-0.5FT	230
	UAS-T5-S5-0-0.5FT	240
	UAS-T5-S6-0-0.5FT	980
	UAS-T6-S1-0-0.5FT	160
	UAS-T6-S2-0-0.5FT	82
	UAS-T6-S3-0-0.5FT	90
	UAS-T6-S4-0-0.5FT	99
	UAS-T6-S5-0-0.5FT	120
	UAS-T7-S1-0-0.5FT	610
	UAS-T7-S2-0-0.5FT	190
	UAS-T7-S3-0-0.5FT	265
	UAS-T7-S4-0-0.5FT	150
	UAS-T7-S5-0-0.5FT	160
	UAS-T7-S6-0-0.5FT	310
	UAS-T7-S7-0-0.5FT	640

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
4,4'-DDT	*Screening Value [2]*	*0.021*
	Background [3]	*0.034*
	DAS-T5-S1-0-0.5FT	0.024
	DAS-T5-S3-0-0.5FT	0.11
	UAS-T6-S2-0-0.5FT	0.13
	UAS-T6-S4-0-0.5FT	0.14
	UAS-T7-S7-0-0.5FT	0.029
Dieldrin	*Screening Value [2]*	*0.0049*
	Background [3]	*ND*
	DAS-T5-S3-0-0.5FT	0.12
	DAS-T6-S3-0-0.5FT	0.0074
	UAS-T4-S2-0-0.5FT	0.01
Dioxin TEQ	*Screening Value [2]*	*0.00000315*
	Background [3]	*0.00027*
	DAS-T1-S1-0-0.5FT	0.000021
	DAS-T1-S2-0-0.5FT	0.000013
	DAS-T1-S3-0-0.5FT	0.000011
	DAS-T2-S1-0-0.5FT	0.000018
	DAS-T2-S2-0-0.5FT	0.0000085
	DAS-T2-S3-0-0.5FT	0.000011
	DAS-T3-S1-0-0.5FT	0.000005
	DAS-T3-S2-0-0.5FT	0.0000059
	DAS-T3-S3-0-0.5FT	0.0000064
	DAS-T4-S1-0-0.5FT	0.000012
	DAS-T4-S2-0-0.5FT	0.0000053
	DAS-T4-S3-0-0.5FT	0.0000070
	DAS-T5-S1-0-0.5FT	0.0000041
	DAS-T5-S2-0-0.5FT	0.0000038
	DAS-T5-S3-0-0.5FT	0.000024
	DAS-T6-S1-0-0.5FT	0.0000093
	DAS-T6-S2-0-0.5FT	0.0000033
	DAS-T6-S3-0-0.5FT	0.0000064
	DAS-T7-S2-0-0.5FT	0.0000083
	UAS-T1-S1-0-0.5FT	0.000012
	UAS-T1-S6-0-0.5FT	0.0000082
	UAS-T2-S4-0-0.5FT	0.000015
	UAS-T3-S3-0-0.5FT	0.0000042
	UAS-T4-S1-0-0.5FT	0.0000079
	UAS-T4-S6-0-0.5FT	0.000101
	UAS-T5-S4-0-0.5FT	0.0000054
	UAS-T6-S3-0-0.5FT	0.000018
	UAS-T7-S3-0-0.5FT	0.0000059

Table 3-3
Floodplain Surface Soil Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Total HMW PAHs	*Screening Value [2]*	*1.1*
	Background [3]	*2.5*
	DAS-T1-S1-0-0.5FT	1.7
	DAS-T2-S3-0-0.5FT	1.6
	DAS-T3-S1-0-0.5FT	1.2
	DAS-T4-S1-0-0.5FT	1.6
	DAS-T4-S2-0-0.5FT	1.6
	DAS-T5-S1-0-0.5FT	6.1
	DAS-T5-S3-0-0.5FT	2.2
	DAS-T6-S3-0-0.5FT	41
	DAS-T7-S1-0-0.5FT	6.0
	DAS-T7-S2-0-0.5FT	23.0
	UAS-T1-S7-0-0.5FT	1.6
	UAS-T3-S1-0-0.5FT	1.7
	UAS-T3-S4-0-0.5FT	1.2
	UAS-T3-S6-0-0.5FT	1.6
	UAS-T3-S7-0-0.5FT	9.0
	UAS-T4-S1-0-0.5FT	1.3
	UAS-T4-S2-0-0.5FT	42.5
	UAS-T4-S3-0-0.5FT	11.6
	UAS-T4-S4-0-0.5FT	1.5
	UAS-T4-S5-0-0.5FT	6.5
	UAS-T4-S6-0-0.5FT	2.0
	UAS-T4-S7-0-0.5FT	3.2
	UAS-T5-S4-0-0.5FT	1.4
	UAS-T5-S5-0-0.5FT	1.3
	UAS-T5-S6-0-0.5FT	1.4
	UAS-T6-S1-0-0.5FT	1.1
	UAS-T6-S2-0-0.5FT	1.9
	UAS-T6-S4-0-0.5FT	1.4
	UAS-T6-S5-0-0.5FT	1.8
	UAS-T7-S6-0-0.5FT	1.2
	UAS-T7-S7-0-0.5FT	4.3

ND - Not detected.
Shading indicates concentrations in excess of soil screening value and background.
[1] - Constituent listed if maximum exposure point concentration exceeded soil screening value.
[2] - Soil screening values presented in Table 3-1.
[3] - Background concentration represents twice average concentration detected in three background samples.

Table 3-4
Terrestrial Screening Update - Dead Creek Segment C
Sauget Area 1

Constituent	Frequency of Detection (detects : samples)	Frequency of Detection (%)	Maximum Site Concentration	95% UCL	Maximum EPC	Twice Average Background Soil Concentration	Soil Screening Value	Comment
DIOXINS								
Dioxin TEQ	9 : 9	100	0.000047	NA	0.000047	0.00027	0.00000315	Maximum EPC exceeds screening value; below background
HERBICIDES								
Dicamba	1 : 9	11.1	0.0066	NA	0.0066	ND	--	No screening value; ND in background
Dichlorprop	1 : 9	11.1	0.0062	NA	0.0062	ND	--	No screening value; ND in background
INORGANICS								
Aluminum	9 : 9	100	13000	NA	13000	25400	50	Maximum EPC exceeds screening value; below background
Antimony	1 : 9	11.1	0.79	NA	0.79	3.8	0.27	Maximum EPC exceeds screening value; below background
Arsenic	9 : 9	100	14.0	NA	14.0	19.1	18	Maximum EPC less than screening value
Barium	9 : 9	100	330	NA	330	363	283	Maximum EPC exceeds screening value; below background
Beryllium	9 : 9	100	0.96	NA	0.96	1.5	10	Maximum EPC less than screening value
Cadmium	9 : 9	100	24	NA	24	8.6	0.36	Maximum EPC exceeds screening value and background
Calcium	9 : 9	100	14000	NA	14000	33533	--	Low toxicity; Essential nutrient
Chromium	9 : 9	100	110	NA	110	39.3	0.4	Maximum EPC exceeds screening value and background
Cobalt	9 : 9	100	14.0	NA	14.0	15.5	13	Maximum EPC exceeds screening value; below background
Copper	9 : 9	100	250	NA	250	209	28	Maximum EPC exceeds screening value and background
Iron	9 : 9	100	21000	NA	21000	38000	--	No screening value; maximum EPC below background
Lead	9 : 9	100	140	NA	140	185	11	Maximum EPC exceeds screening value; below background
Magnesium	9 : 9	100	6700	NA	6700	17233	--	Low toxicity; Essential nutrient
Manganese	9 : 9	100	390	NA	390	883	220	Maximum EPC exceeds screening value; below background
Mercury	9 : 9	100	0.31	NA	0.31	0.18	0.00051	Maximum EPC exceeds screening value and background
Nickel	9 : 9	100	570	NA	570	42.7	38	Maximum EPC exceeds screening value and background
Potassium	9 : 9	100	2300	NA	2300	4733	--	Low toxicity; Essential nutrient
Sodium	9 : 9	100	200	NA	200	653	--	Low toxicity; Essential nutrient
Tin	1 : 9	11.1	7.5	NA	7.5	ND	50	Maximum EPC less than screening value
Vanadium	9 : 9	100	37	NA	37	69	2	Maximum EPC exceeds screening value; below background
Zinc	9 : 9	100	3400	NA	3400	808	46	Maximum EPC exceeds screening value and background
PCBS								
Total PCBs	6 : 9	66.7	0.18	NA	0.18	1.8	0.371	Maximum EPC less than screening value
PESTICIDES								
Alpha Chlordane	1 : 9	11.1	0.00092	NA	0.00092	ND	--	No screening value; ND in background
delta-BHC	3 : 9	33.3	0.00099	NA	0.00099	ND	--	No screening value; ND in background
Dieldrin	8 : 9	88.9	0.011	NA	0.011	ND	0.0049	Maximum EPC exceeds screening value; ND in background
Endosulfan sulfate	3 : 9	33.3	0.0070	NA	0.0070	ND	--	No screening value; ND in background
Endrin ketone	1 : 9	11.1	0.010	NA	0.010	ND	--	No screening value; ND in background
gamma Chlordane	1 : 9	11.1	0.0011	NA	0.0011	ND	--	No screening value; ND in background
Methoxychlor	3 : 9	33.3	0.0071	NA	0.0071	ND	--	No screening value; ND in background
SVOCs								
Benzo(g,h,i)perylene	1 : 9	11.1	0.065	NA	0.065	0.13	--	No screening value; maximum EPC below background
Pentachlorophenol	7 : 9	77.8	0.014	NA	0.014	0.066	2.1	Maximum EPC less than screening value
Phenanthrene	1 : 9	11.1	0.025	NA	0.025	0.39	--	No screening value; maximum EPC below background
Total HMW PAHs	1 : 9	11.1	0.065	NA	0.065	2.5	1.1	Maximum EPC less than screening value
Total LMW PAHs	1 : 9	11.1	0.025	NA	0.025	0.68	29	Maximum EPC less than screening value

Table 3-4
Terrestrial Screening Update - Dead Creek Segment C
Sauget Area 1

Constituent	Frequency of Detection (detects : samples)	Frequency of Detection (%)	Maximum Site Concentration	95% UCL	Maximum EPC	Twice Average Background Soil Concentration	Soil Screening Value	Comment
VOCs								
2-Butanone (MEK)	3 : 9	33.3	0.0099	NA	0.0099	ND	--	No screening value; ND in background
Acetone	5 : 9	55.6	0.083	NA	0.083	ND	--	No screening value; ND in background
Benzene	1 : 9	11.1	0.0030	NA	0.0030	ND	--	No screening value; ND in background
Chlorobenzene	9 : 9	100	0.70	NA	0.70	ND	40	Maximum EPC less than screening value
Methylene chloride (Dichloromethane)	4 : 9	44.4	0.0048	NA	0.0048	0.014	--	No screening value; maximum EPC below background
Styrene	1 : 9	11.1	0.0027	NA	0.0027	ND	300	Maximum EPC less than screening value
Toluene	4 : 9	44.4	0.0075	NA	0.0075	ND	200	Maximum EPC less than screening value
Xylenes (total)	1 : 9	11.1	0.0043	NA	0.0043	ND	--	No screening value; ND in background

All concentrations are in mg/kg.
Maximum exposure point concentration (EPC) is represented by the 95% upper confidence limit (UCL) on the mean or the maximum detected concentration if a UCL could not be calculated.
See Appendix A for UCL documentation.
NA - Not applicable. Not enough samples to calculate UCL.
ND - Not detected; detection limit not available.
Yellow shading indicates maximum EPC exceeds the soil screening value.
Green shading indicates no screening value available and maximum EPC exceeds twice average background or constituent was not detected in background soil.
Not highlighted if -
- the maximum EPC is less than the screening value;
- the maximum EPC is less than background and there is no screening value;
- frequency of detection is less than 5%; or
- the constituent is of low toxicity (i.e., essential nutrients).

Table 3-5
Creek Bottom Segment C Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Aluminum	*Screening Value [2]*	*50*
	Background [3]	*25400*
	CBS-CSC-T1-1	10000
	CBS-CSC-T2-1	9200
	CBS-CSC-T3-1	13000
	CBS-CSC-T4-1	11000
	CBS-CSC-T5-1	13000
	CBS-CSC-T6-1	11000
	CBS-CSC-T7-1	11000
	CBS-CSC-T8-1	11000
	CBS-CSC-T9-1	8100
Antimony	*Screening Value [2]*	*0.27*
	Background [3]	*3.8*
	CBS-CSC-T5-1	0.79
Barium	*Screening Value [2]*	*283*
	Background [3]	*363*
	CBS-CSC-T6-1	330
Cadmium	*Screening Value [2]*	*0.36*
	Background [3]	*8.6*
	CBS-CSC-T1-1	14
	CBS-CSC-T2-1	11
	CBS-CSC-T3-1	18
	CBS-CSC-T4-1	5.0
	CBS-CSC-T5-1	1.6
	CBS-CSC-T6-1	14
	CBS-CSC-T7-1	24
	CBS-CSC-T8-1	17
	CBS-CSC-T9-1	15
Chromium	*Screening Value [2]*	*0.4*
	Background [3]	*39*
	CBS-CSC-T1-1	27
	CBS-CSC-T2-1	110
	CBS-CSC-T3-1	21
	CBS-CSC-T4-1	24
	CBS-CSC-T5-1	20
	CBS-CSC-T6-1	42
	CBS-CSC-T7-1	22
	CBS-CSC-T8-1	41
	CBS-CSC-T9-1	18
Cobalt	*Screening Value [2]*	*0.4*
	Background [3]	*39*
	CBS-CSC-T3-1	14
Copper	*Screening Value [2]*	*28*
	Background [3]	*209*
	CBS-CSC-T1-1	81
	CBS-CSC-T2-1	160
	CBS-CSC-T3-1	120
	CBS-CSC-T4-1	125
	CBS-CSC-T5-1	40
	CBS-CSC-T6-1	250
	CBS-CSC-T7-1	53
	CBS-CSC-T8-1	100
	CBS-CSC-T9-1	53
Lead	*Screening Value [2]*	*11*
	Background [3]	*185*
	CBS-CSC-T1-1	22
	CBS-CSC-T2-1	65
	CBS-CSC-T3-1	28
	CBS-CSC-T4-1	31
	CBS-CSC-T5-1	18
	CBS-CSC-T6-1	140
	CBS-CSC-T7-1	32
	CBS-CSC-T8-1	33
	CBS-CSC-T9-1	20
Manganese	*Screening Value [2]*	*220*
	Background [3]	*883*
	CBS-CSC-T4-1	270
	CBS-CSC-T5-1	390

Table 3-5
Creek Bottom Segment C Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Mercury	*Screening Value [2]*	*0.00051*
	Background [3]	*0.18*
	CBS-CSC-T1-1	0.046
	CBS-CSC-T2-1	0.06
	CBS-CSC-T3-1	0.048
	CBS-CSC-T4-1	0.1015
	CBS-CSC-T5-1	0.074
	CBS-CSC-T6-1	0.31
	CBS-CSC-T7-1	0.094
	CBS-CSC-T8-1	0.05
	CBS-CSC-T9-1	0.077
Nickel	*Screening Value [2]*	*38*
	Background [3]	*42.7*
	CBS-CSC-T1-1	200
	CBS-CSC-T2-1	260
	CBS-CSC-T3-1	570
	CBS-CSC-T4-1	128
	CBS-CSC-T5-1	60
	CBS-CSC-T6-1	170
	CBS-CSC-T7-1	400
	CBS-CSC-T8-1	330
	CBS-CSC-T9-1	250
Vanadium	*Screening Value [2]*	*2*
	Background [3]	*69*
	CBS-CSC-T1-1	30
	CBS-CSC-T2-1	27
	CBS-CSC-T3-1	37
	CBS-CSC-T4-1	28
	CBS-CSC-T5-1	34
	CBS-CSC-T6-1	32
	CBS-CSC-T7-1	36
	CBS-CSC-T8-1	32
	CBS-CSC-T9-1	23
Zinc	*Screening Value [2]*	*46*
	Background [3]	*808*
	CBS-CSC-T1-1	1800
	CBS-CSC-T2-1	1900
	CBS-CSC-T3-1	3200
	CBS-CSC-T4-1	890
	CBS-CSC-T5-1	340
	CBS-CSC-T6-1	3000
	CBS-CSC-T7-1	3400
	CBS-CSC-T8-1	2700
	CBS-CSC-T9-1	2000
Dieldrin	*Screening Value [2]*	*0.0049*
	Background [3]	*ND*
	CBS-CSC-T2-1	0.011
	CBS-CSC-T6-1	0.0078
	CBS-CSC-T8-1	0.0055
Dioxin TEQ	*Screening Value [2]*	*0.00000315*
	Background [3]	*0.00027*
	CBS-CSC-T3-1	0.0000054
	CBS-CSC-T4-1	0.000047
	CBS-CSC-T5-1	0.0000099
	CBS-CSC-T6-1	0.000024
	CBS-CSC-T7-1	0.0000088
	CBS-CSC-T8-1	0.000013
	CBS-CSC-T9-1	0.0000089

ND - Not detected.
Shading indicates concentrations in excess of soil screening value and background.
[1] - Constituent listed if maximum exposure point concentration exceeded soil screening value.
[2] - Soil screening values presented in Table 3-1.
[3] - Background concentration represents twice average concentration detected in three background samples.

Table 3-6
Terrestrial Screening Update - Dead Creek Segment D
Sauget Area 1

Constituent	Frequency of Detection (detects : samples)	Frequency of Detection (%)	Maximum Site Concentration	95% UCL	Maximum EPC	Twice Average Background Soil Concentration	Soil Screening Value	Comment
DIOXINS								
Dioxin TEQ	6 : 6	100	0.00096	NA	0.00096	0.00027	0.00000315	Maximum EPC exceeds screening value and background
HERBICIDES								
2,4,5-T	1 : 6	16.7	0.0054	NA	0.0054	ND	--	No screening value; ND in background
Dalapon	1 : 6	16.7	0.050	NA	0.050	ND	--	No screening value; ND in background
Dicamba	1 : 6	16.7	0.0018	NA	0.0018	ND	--	No screening value; ND in background
Dichlorprop	1 : 6	16.7	0.021	NA	0.021	ND	--	No screening value; ND in background
INORGANICS								
Aluminum	6 : 6	100	14000	NA	14000	25400	50	Maximum EPC exceeds screening value; below background
Arsenic	6 : 6	100	18	NA	18	19.1	18	Maximum EPC less than screening value
Barium	6 : 6	100	570	NA	570	363	283	Maximum EPC exceeds screening value and background
Beryllium	6 : 6	100	0.99	NA	0.99	1.5	10	Maximum EPC less than screening value
Cadmium	6 : 6	100	40	NA	40	8.6	0.36	Maximum EPC exceeds screening value and background
Calcium	6 : 6	100	25000	NA	25000	33533	--	Low toxicity; Essential nutrient
Chromium	6 : 6	100	57	NA	57	39.3	0.4	Maximum EPC exceeds screening value and background
Cobalt	6 : 6	100	12	NA	12	15.5	13	Maximum EPC less than screening value
Copper	6 : 6	100	1600	NA	1600	209	28	Maximum EPC exceeds screening value and background
Iron	6 : 6	100	20000	NA	20000	38000	--	No screening value; maximum EPC below background
Lead	6 : 6	100	280	NA	280	185	11	Maximum EPC exceeds screening value and background
Magnesium	6 : 6	100	5000	NA	5000	17233	--	Low toxicity; Essential nutrient
Manganese	6 : 6	100	190	NA	190	883	220	Maximum EPC less than screening value
Mercury	6 : 6	100	0.71	NA	0.71	0.18	0.00051	Maximum EPC exceeds screening value and background
Molybdenum	2 : 6	33.3	7	NA	7	2.0	2	Maximum EPC exceeds screening value and background
Nickel	6 : 6	100	530	NA	530	42.7	38	Maximum EPC exceeds screening value and background
Potassium	6 : 6	100	2100	NA	2100	4733	--	Low toxicity; Essential nutrient
Selenium	1 : 6	16.7	2.8	NA	2.8	ND	0.52	Maximum EPC exceeds screening value; ND in background
Silver	1 : 6	16.7	1.5	NA	1.5	1.4	4.2	Maximum EPC less than screening value
Sodium	6 : 6	100	330	NA	330	653	--	Low toxicity; Essential nutrient
Tin	2 : 6	33.3	11	NA	11	ND	50	Maximum EPC less than screening value
Vanadium	6 : 6	100	36	NA	36	69.0	2	Maximum EPC exceeds screening value; below background
Zinc	6 : 6	100	8200	NA	8200	808	46	Maximum EPC exceeds screening value and background
PCBS								
Total PCBs	5 : 6	83.3	2.442	NA	2.442	1.8	0.371	Maximum EPC exceeds screening value and background
PESTICIDES								
4,4'-DDD	1 : 6	16.7	0.0014	NA	0.0014	ND	0.021	Maximum EPC less than screening value
4,4'-DDT	1 : 6	16.7	0.24	NA	0.24	0.034	0.021	Maximum EPC exceeds screening value and background
Aldrin	2 : 6	33.3	0.0090	NA	0.0090	ND	--	No screening value; ND in background
Alpha Chlordane	1 : 6	16.7	0.012	NA	0.012	ND	--	No screening value; ND in background
delta-BHC	4 : 6	66.7	0.0019	NA	0.0019	ND	--	No screening value; ND in background
Dieldrin	5 : 6	83.3	0.69	NA	0.69	ND	0.0049	Maximum EPC exceeds screening value; ND in background
Endosulfan sulfate	1 : 6	16.7	0.0095	NA	0.0095	ND	--	No screening value; ND in background
gamma Chlordane	2 : 6	33.3	0.067	NA	0.067	ND	--	No screening value; ND in background
Methoxychlor	3 : 6	50.0	0.062	NA	0.062	ND	--	No screening value; ND in background

Table 3-6
Terrestrial Screening Update - Dead Creek Segment D
Sauget Area 1

Constituent	Frequency of Detection (detects : samples)	Frequency of Detection (%)	Maximum Site Concentration	95% UCL	Maximum EPC	Twice Average Background Soil Concentration	Soil Screening Value	Comment
SVOCs								
1,4-Dichlorobenzene	2 : 6	33.3	0.13	NA	0.13	ND	20	Maximum EPC less than screening value
Benzo(a)pyrene	3 : 6	50.0	0.14	NA	0.14	0.22	--	No screening value; maximum EPC below background
Benzo(b)fluoranthene	1 : 6	16.7	0.2	NA	0.2	0.18	--	No screening value; maximum EPC higher than background
Benzo(g,h,i)perylene	2 : 6	33.3	0.22	NA	0.22	0.13	--	No screening value; maximum EPC higher than background
Benzo(k)fluoranthene	1 : 6	16.7	0.21	NA	0.21	0.20	--	No screening value; maximum EPC higher than background
Fluoranthene	4 : 6	66.7	0.19	NA	0.19	0.64	--	No screening value; maximum EPC below background
Indeno(1,2,3-cd)pyrene	2 : 6	33.3	0.18	NA	0.18	ND	--	No screening value; ND in background
Pentachlorophenol	5 : 6	83.3	0.013	NA	0.013	0.066	2.1	Maximum EPC less than screening value
Phenanthrene	2 : 6	33.3	0.12	NA	0.12	0.39	--	No screening value; maximum EPC below background
Pyrene	3 : 6	50.0	0.16	NA	0.16	0.54	--	No screening value; maximum EPC below background
Total HMW PAHs	4 : 6	66.7	1.4	NA	1.4	2.5	1.1	Maximum EPC exceeds screening value; below background
Total LMW PAHs	2 : 6	33.3	0.12	NA	0.12	0.68	29	Maximum EPC less than screening value
VOCs								
2-Butanone (MEK)	3 : 6	50.0	0.010	NA	0.010	ND	--	No screening value; ND in background
Chlorobenzene	5 : 6	83.3	0.15	NA	0.15	ND	40	Maximum EPC less than screening value
Methylene chloride (Dichloromethane)	4 : 6	66.7	0.0032	NA	0.0032	0.014	--	No screening value; maximum EPC below background
Toluene	1 : 6	16.7	0.0029	NA	0.0029	ND	200	Maximum EPC less than screening value

All concentrations are in mg/kg.
Maximum exposure point concentration (EPC) is represented by the 95% upper confidence limit (UCL) on the mean or the maximum detected concentration if a UCL could not be calculated.
See Appendix A for UCL documentation.
NA - Not applicable. Not enough samples to calculate UCL.
ND - Not detected; detection limit not available.
Yellow shading indicates maximum EPC exceeds the soil screening value.
Green shading indicates no screening value available and maximum EPC exceeds twice average background or constituent was not detected in background soil.
Not highlighted if -
- the maximum EPC is less than the screening value;
- the maximum EPC is less than background and there is no screening value;
- frequency of detection is less than 5%; or
- the constituent is of low toxicity (i.e., essential nutrients).

Table 3-7
Creek Bottom Segment D Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Aluminum	*Screening Value [2]*	*50*
	Background [3]	*25400*
	CBS-CSD-T1-1	9300 [4]
	CBS-CSD-T2-1	8300 [4]
	CBS-CSD-T3-1	12000
	CBS-CSD-T4-1	14000
	CBS-CSD-T5-1	12000 [4]
	CBS-CSD-T6-1	9800 [4]
Barium	*Screening Value [2]*	*283*
	Background [3]	*363*
	CBS-CSD-T2-1	320 [4]
	CBS-CSD-T4-1	290
	CBS-CSD-T6-1	570 [4]
Cadmium	*Screening Value [2]*	*0.36*
	Background [3]	*8.6*
	CBS-CSD-T1-1	14 [4]
	CBS-CSD-T2-1	40 [4]
	CBS-CSD-T3-1	15
	CBS-CSD-T4-1	28
	CBS-CSD-T5-1	8.5 [4]
	CBS-CSD-T6-1	13 [4]
Chromium	*Screening Value [2]*	*0.4*
	Background [3]	*39.3*
	CBS-CSD-T1-1	44 [4]
	CBS-CSD-T2-1	55 [4]
	CBS-CSD-T3-1	57
	CBS-CSD-T4-1	46
	CBS-CSD-T5-1	41 [4]
	CBS-CSD-T6-1	53 [4]
Copper	*Screening Value [2]*	*28*
	Background [3]	*209*
	CBS-CSD-T1-1	79 [4]
	CBS-CSD-T2-1	130 [4]
	CBS-CSD-T3-1	84
	CBS-CSD-T4-1	230
	CBS-CSD-T5-1	190 [4]
	CBS-CSD-T6-1	1600 [4]
Lead	*Screening Value [2]*	*11*
	Background [3]	*185*
	CBS-CSD-T1-1	39 [4]
	CBS-CSD-T2-1	150 [4]
	CBS-CSD-T3-1	36
	CBS-CSD-T4-1	61
	CBS-CSD-T5-1	23 [4]
	CBS-CSD-T6-1	280 [4]
Mercury	*Screening Value [2]*	*0.00051*
	Background [3]	*0.18*
	CBS-CSD-T1-1	0.14 [4]
	CBS-CSD-T2-1	0.11 [4]
	CBS-CSD-T3-1	0.07
	CBS-CSD-T4-1	0.71
	CBS-CSD-T5-1	0.065 [4]
	CBS-CSD-T6-1	0.33 [4]
Molybdenum	*Screening Value [2]*	*2*
	Background [3]	*2.0*
	CBS-CSD-T2-1	4.7 [4]
	CBS-CSD-T6-1	7 [4]

Table 3-7
Creek Bottom Segment D Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Nickel	*Screening Value [2]*	*38*
	Background [3]	*42.7*
	CBS-CSD-T1-1	90 [4]
	CBS-CSD-T2-1	180 [4]
	CBS-CSD-T3-1	250
	CBS-CSD-T4-1	410
	CBS-CSD-T5-1	260 [4]
	CBS-CSD-T6-1	530 [4]
Selenium	*Screening Value [2]*	*0.52*
	Background [3]	*ND*
	CBS-CSD-T1-1	2.8 [4]
Vanadium	*Screening Value [2]*	*2*
	Background [3]	*69*
	CBS-CSD-T1-1	32 [4]
	CBS-CSD-T2-1	26 [4]
	CBS-CSD-T3-1	34
	CBS-CSD-T4-1	36
	CBS-CSD-T5-1	33 [4]
	CBS-CSD-T6-1	28 [4]
Zinc	*Screening Value [2]*	*46*
	Background [3]	*808*
	CBS-CSD-T1-1	6400 [4]
	CBS-CSD-T2-1	8200 [4]
	CBS-CSD-T3-1	2000
	CBS-CSD-T4-1	3100
	CBS-CSD-T5-1	1800 [4]
	CBS-CSD-T6-1	3100 [4]
4,4'-DDT	*Screening Value [2]*	*0.021*
	Background [3]	*0.034*
	CBS-CSD-T6-1	0.24 [4]
Dieldrin	*Screening Value [2]*	*0.0049*
	Background [3]	*ND*
	CBS-CSD-T2-1	0.014 [4]
	CBS-CSD-T6-1	0.69 [4]
Total HMW PAHs	*Screening Value [2]*	*1.1*
	Background [3]	*2.5*
	CBS-CSD-T1-1	1.4 [4]
	CBS-CSD-T2-1	1.4 [4]
	CBS-CSD-T4-1	1.1
	CBS-CSD-T6-1	1.3 [4]
Dioxin TEQ	*Screening Value [2]*	*0.00000315*
	Background [3]	*0.00027*
	CBS-CSD-T1-1	0.000023 [4]
	CBS-CSD-T2-1	0.000056 [4]
	CBS-CSD-T3-1	0.000023
	CBS-CSD-T4-1	0.000023
	CBS-CSD-T5-1	0.000025 [4]
	CBS-CSD-T6-1	0.00096 [4]
Total PCBs	*Screening Value [2]*	*0.371*
	Background [3]	*1.8*
	CBS-CSD-T6-1	2.4 [4]

Shading indicates concentrations in excess of soil screening value and background.
ND - Not detected.
[1] - Constituent listed if maximum exposure point concentration exceeded soil screening value.
[2] - Soil screening values presented in Table 3-1.
[3] - Background concentration represents twice average concentration detected in three background samples.
[4] - Transect was excavated. Concentration does not represent current conditions.

Table 3-8
Dead Creek Segment D Post-Excavation Results
Sauget Area 1

Sample ID	Zinc	Dieldrin	Total PCBs	Dioxin TEQ
Screening Value [1]	*46*	*0.0049*	*0.371*	*0.00000315*
Background [2]	*808*	*ND*	*1.8*	*0.00027*
CSD-T1-1	708	NS	NS	NS
CSD-T1-2	465	NS	NS	NS
CSD-T1-3	**1920**	NS	NS	NS
CSD-T1-4	**4330**	NS	NS	NS
CSD-T1-5	**1710**	NS	NS	NS
CSD-T1-6	63	NS	NS	NS
CSD-T1-7	410	NS	NS	NS
CSD-T1-8	60.8	NS	NS	NS
CSD-T1-9	112	NS	NS	NS
CSD-T1-10	72.9	NS	NS	NS
CSD-T1-11	86.2	NS	NS	NS
D1-1	NS	NS	ND	NS
D2-2	NS	NS	ND	NS
D3-2	NS	NS	0.0096	NS
D4-2	NS	NS	ND	NS
CSD-T6-2	NS	<0.00041	NS	ND
CSD-T6-3	NS	<0.00041	NS	ND
CSD-T6-4	NS	<0.00040	NS	ND
CSD-T6-5	NS	<0.00036	NS	0.0000017
CSD-T6-6	NS	<0.00038	NS	ND

Shading indicates concentrations in excess of soil screening value.
Boldface indicates concentration in excess of background.
ND - Not detected; detection limit not available.
NS - Not sampled.
Dioxin TEQ calculated by laboratory in 2006.
[1] - Soil screening values presented in Table 3-1.
[2] - Background concentration represents twice average concentration detected in three background samples.

Table 3-9
Terrestrial Screening Update - Dead Creek Segment E
Sauget Area 1

Constituent	Frequency of Detection (detects : samples)	Frequency of Detection (%)	Maximum Site Concentration	95% UCL	Maximum EPC	Twice Average Background Soil Concentration	Soil Screening Value	Comment
DIOXINS								
Dioxin TEQ	14 : 17	82.4	0.00016	0.000065	0.000065	0.00027	0.00000315	Maximum EPC exceeds screening value; below background
HERBICIDES								
2,4-D	2 : 17	11.8	0.035	NA	0.035	ND	--	No screening value; ND in background
Dicamba	1 : 17	5.9	0.0025	NA	0.0025	ND	--	No screening value; ND in background
INORGANICS								
Aluminum	17 : 17	100	14000	10908	10908	25400	50	Maximum EPC exceeds screening value; below background
Antimony	3 : 17	17.6	4.7	NA	4.7	3.8	0.27	Maximum EPC exceeds screening value and background
Arsenic	16 : 17	94.1	20	10.2	10.2	19.1	18	Maximum EPC less than screening value
Barium	17 : 17	100	640	300	300	363	283	Maximum EPC exceeds screening value; below background
Beryllium	17 : 17	100	1.1	0.828	0.828	1.5	10	Maximum EPC less than screening value
Cadmium	17 : 17	100	38	19.7	19.7	8.6	0.36	Maximum EPC exceeds screening value and background
Calcium	17 : 17	100	13000	9404	9404	33533	--	Low toxicity; Essential nutrient
Chromium	17 : 17	100	170	95.0	95.0	39.3	0.4	Maximum EPC exceeds screening value and background
Cobalt	17 : 17	100	13	9.1	9.1	15.5	13	Maximum EPC less than screening value
Copper	17 : 17	100	4300	865	865	209	28	Maximum EPC exceeds screening value and background
Cyanide	1 : 17	5.9	2.6	NA	2.6	ND	--	No screening value; ND in background
Iron	17 : 17	100	27000	19887	19887	38000	--	No screening value; maximum EPC below background
Lead	17 : 17	100	400	125	125	185	11	Maximum EPC exceeds screening value; below background
Magnesium	17 : 17	100	6900	5178	5178	17233	--	Low toxicity; Essential nutrient
Manganese	17 : 17	100	300	200	200	883	220	Maximum EPC less than screening value
Mercury	17 : 17	100	1.6	0.60	0.60	0.18	0.00051	Maximum EPC exceeds screening value and background
Molybdenum	2 : 17	11.8	1.5	NA	1.5	2.0	2	Maximum EPC less than screening value
Nickel	17 : 17	100	600	244	244	42.7	38	Maximum EPC exceeds screening value and background
Potassium	17 : 17	100	2900	2261	2261	4733	--	Low toxicity; Essential nutrient
Silver	3 : 17	17.6	9.8	NA	9.8	1.4	4.2	Maximum EPC exceeds screening value and background
Sodium	17 : 17	100	390	266	266	653	--	Low toxicity; Essential nutrient
Thallium	1 : 17	5.9	0.88	NA	0.88	1.5	1	Maximum EPC less than screening value
Tin	3 : 17	17.6	31	NA	31	ND	50	Maximum EPC less than screening value
Vanadium	17 : 17	100	39	32.0	32.0	69.0	2	Maximum EPC exceeds screening value; below background
Zinc	17 : 17	100	5900	2648	2648	808	46	Maximum EPC exceeds screening value and background
PCBS								
Total PCBs	10 : 17	58.8	1.3	0.37	0.37	1.8	0.371	Maximum EPC less than screening value
PESTICIDES								
4,4'-DDD	2 : 17	11.8	0.047	NA	0.047	ND	0.021	Maximum EPC exceeds screening value; ND in background
4,4'-DDE	6 : 17	35.3	0.0072	0.0018	0.0018	0.040	0.021	Maximum EPC less than screening value
4,4'-DDT	7 : 17	41.2	0.017	0.0047	0.0047	0.034	0.021	Maximum EPC less than screening value
alpha-BHC	1 : 17	5.9	0.0013	NA	0.0013	ND	--	No screening value; ND in background
Alpha Chlordane	1 : 17	5.9	0.0087	NA	0.0087	ND	--	No screening value; ND in background
Dieldrin	13 : 17	76.5	0.034	0.029	0.029	ND	0.0049	Maximum EPC exceeds screening value; ND in background
Endosulfan I	3 : 17	17.6	0.00017	NA	0.00017	ND	--	No screening value; ND in background
Endosulfan II	1 : 17	5.9	0.00066	NA	0.00066	ND	--	No screening value; ND in background
Endosulfan sulfate	2 : 17	11.8	0.016	NA	0.016	ND	--	No screening value; ND in background
gamma Chlordane	2 : 17	11.8	0.0055	NA	0.0055	ND	--	No screening value; ND in background
Heptachlor epoxide	5 : 17	29.4	0.00059	NA	0.00059	ND	--	No screening value; ND in background
Methoxychlor	3 : 17	17.6	0.00089	NA	0.00089	ND	--	No screening value; ND in background

Table 3-9
Terrestrial Screening Update - Dead Creek Segment E
Sauget Area 1

Constituent	Frequency of Detection (detects : samples)	Frequency of Detection (%)	Maximum Site Concentration	95% UCL	Maximum EPC	Twice Average Background Soil Concentration	Soil Screening Value	Comment
SVOCs								
1,4-Dichlorobenzene	1 : 17	5.9	0.23	NA	0.23	ND	20	Maximum EPC less than screening value
Anthracene	1 : 17	5.9	0.05	NA	0.05	0.16	--	No screening value; maximum EPC below background
Benzo(a)anthracene	3 : 17	17.6	0.26	NA	0.26	0.25	--	No screening value; maximum EPC higher than background
Benzo(a)pyrene	3 : 17	17.6	0.42	NA	0.42	0.22	--	No screening value; maximum EPC higher than background
Benzo(b)fluoranthene	4 : 17	23.5	0.51	NA	0.51	0.18	--	No screening value; maximum EPC higher than background
Benzo(g,h,i)perylene	3 : 17	17.6	0.35	NA	0.35	0.13	--	No screening value; maximum EPC higher than background
Benzo(k)fluoranthene	3 : 17	17.6	0.37	NA	0.37	0.20	--	No screening value; maximum EPC higher than background
Bis(2-ethylhexyl)phthalate	1 : 17	5.9	0.077	NA	0.077	0.53	--	No screening value; maximum EPC below background
Chrysene	4 : 17	23.5	0.37	NA	0.37	0.30	--	No screening value; maximum EPC higher than background
Dibenzo(a,h)anthracene	1 : 17	5.9	0.14	NA	0.14	ND	--	No screening value; ND in background
di-n-Butylphthalate	1 : 17	5.9	0.074	NA	0.074	0.37	200	Maximum EPC less than screening value
Fluoranthene	4 : 17	23.5	0.71	NA	0.71	0.64	--	No screening value; maximum EPC higher than background
Indeno(1,2,3-cd)pyrene	2 : 17	11.8	0.35	NA	0.35	ND	--	No screening value; ND in background
Pentachlorophenol	7 : 17	41.2	0.033	0.0123	0.0123	0.066	2.1	Maximum EPC less than screening value
Phenanthrene	4 : 17	23.5	0.29	NA	0.29	0.39	--	No screening value; maximum EPC below background
Pyrene	3 : 17	17.6	0.48	NA	0.48	0.54	--	No screening value; maximum EPC below background
Total HMW PAHs	4 : 17	23.5	4.0	NA	4.0	2.5	1.1	Maximum EPC exceeds screening value and background
Total LMW PAHs	4 : 17	23.5	0.43	NA	0.43	0.68	29	Maximum EPC less than screening value
VOCs								
2-Butanone (MEK)	5 : 17	29.4	0.014	NA	0.014	ND	--	No screening value; ND in background
Acetone	9 : 17	52.9	0.073	0.048	0.048	ND	--	No screening value; ND in background
Chlorobenzene	12 : 17	70.6	0.21	0.101	0.101	ND	40	Maximum EPC less than screening value
Ethylbenzene	1 : 17	5.9	0.0049	NA	0.0049	ND	--	No screening value; ND in background
Methylene chloride (Dichloromethane)	3 : 17	17.6	0.0033	NA	0.0033	0.014	--	No screening value; maximum EPC below background
Toluene	3 : 17	17.6	0.0057	NA	0.0057	ND	200	Maximum EPC less than screening value

All concentrations are in mg/kg.
Maximum exposure point concentration (EPC) is represented by the 95% upper confidence limit (UCL) on the mean or the maximum detected concentration if a UCL could not be calculated.
See Appendix A for UCL documentation.
NA - Not applicable. Not enough samples to calculate UCL.
ND - Not detected; detection limit not available.
Yellow shading indicates maximum EPC exceeds the soil screening value.
Green shading indicates no screening value available and maximum EPC exceeds twice average background or constituent was not detected in background soil.
Not highlighted if -
- the maximum EPC is less than the screening value;
- the maximum EPC is less than background and there is no screening value;
- frequency of detection is less than 5%; or
- the constituent is of low toxicity (i.e., essential nutrients).

Table 3-10
Creek Bottom Segment E Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Aluminum	*Screening Value [2]*	*50*
	Background [3]	*25400*
	CBS-CSE-T10-1	7300
	CBS-CSE-T11-1	11000
	CBS-CSE-T12-1	14000
	CBS-CSE-T13-2	10000
	CBS-CSE-T14-1	12000
	CBS-CSE-T15-1	7050
	CBS-CSE-T16-1	12000 [4]
	CBS-CSE-T17-1	10000
	CBS-CSE-T1-1	9800
	CBS-CSE-T2-1	7000
	CBS-CSE-T3-1	10100
	CBS-CSE-T4-1	8700
	CBS-CSE-T5-1	5500
	CBS-CSE-T6-1	11000
	CBS-CSE-T7-1	12000
	CBS-CSE-T8-1	11000
	CBS-CSE-T9-1	11000
Antimony	*Screening Value [2]*	*0.27*
	Background [3]	*3.8*
	CBS-CSE-T10-1	0.98
	CBS-CSE-T16-1	4.7 [4]
	CBS-CSE-T2-1	0.75
Barium	*Screening Value [2]*	*283*
	Background [3]	*363*
	CBS-CSE-T16-1	640 [4]
Cadmium	*Screening Value [2]*	*0.36*
	Background [3]	*8.6*
	CBS-CSE-T10-1	15
	CBS-CSE-T11-1	4.6
	CBS-CSE-T12-1	12
	CBS-CSE-T13-2	3.1
	CBS-CSE-T14-1	5.6
	CBS-CSE-T15-1	3.15
	CBS-CSE-T16-1	38 [4]
	CBS-CSE-T17-1	16
	CBS-CSE-T1-1	13
	CBS-CSE-T2-1	11
	CBS-CSE-T3-1	20
	CBS-CSE-T4-1	16
	CBS-CSE-T5-1	10
	CBS-CSE-T6-1	22
	CBS-CSE-T7-1	33
	CBS-CSE-T8-1	3.7
	CBS-CSE-T9-1	16
Chromium	*Screening Value [2]*	*0.4*
	Background [3]	*39.3*
	CBS-CSE-T10-1	19
	CBS-CSE-T11-1	19
	CBS-CSE-T12-1	21
	CBS-CSE-T13-2	18
	CBS-CSE-T14-1	19
	CBS-CSE-T15-1	14
	CBS-CSE-T16-1	56 [4]
	CBS-CSE-T17-1	37
	CBS-CSE-T1-1	57
	CBS-CSE-T2-1	120
	CBS-CSE-T3-1	110
	CBS-CSE-T4-1	29
	CBS-CSE-T5-1	170
	CBS-CSE-T6-1	60
	CBS-CSE-T7-1	19
	CBS-CSE-T8-1	18
	CBS-CSE-T9-1	18

Table 3-10
Creek Bottom Segment E Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Copper	*Screening Value [2]*	*28*
	Background [3]	*209*
	CBS-CSE-T10-1	300
	CBS-CSE-T11-1	88
	CBS-CSE-T12-1	33
	CBS-CSE-T13-2	94
	CBS-CSE-T14-1	40
	CBS-CSE-T16-1	4300 [4]
	CBS-CSE-T17-1	350
	CBS-CSE-T1-1	380
	CBS-CSE-T2-1	480
	CBS-CSE-T3-1	91
	CBS-CSE-T4-1	240
	CBS-CSE-T5-1	64
	CBS-CSE-T6-1	170
	CBS-CSE-T7-1	510
	CBS-CSE-T9-1	39
Lead	*Screening Value [2]*	*11*
	Background [3]	*185*
	CBS-CSE-T10-1	170
	CBS-CSE-T11-1	33
	CBS-CSE-T12-1	28
	CBS-CSE-T13-2	44
	CBS-CSE-T14-1	25
	CBS-CSE-T15-1	22
	CBS-CSE-T16-1	400 [4]
	CBS-CSE-T17-1	120
	CBS-CSE-T1-1	58
	CBS-CSE-T2-1	130
	CBS-CSE-T3-1	54.5
	CBS-CSE-T4-1	39
	CBS-CSE-T5-1	89
	CBS-CSE-T6-1	50
	CBS-CSE-T7-1	29
	CBS-CSE-T8-1	17
	CBS-CSE-T9-1	26
Mercury	*Screening Value [2]*	*0.00051*
	Background [3]	*0.18*
	CBS-CSE-T10-1	0.6
	CBS-CSE-T11-1	0.46
	CBS-CSE-T12-1	0.69
	CBS-CSE-T13-2	0.84
	CBS-CSE-T14-1	0.28
	CBS-CSE-T15-1	0.22
	CBS-CSE-T16-1	1.6 [4]
	CBS-CSE-T17-1	0.27
	CBS-CSE-T1-1	0.11
	CBS-CSE-T2-1	0.25
	CBS-CSE-T3-1	0.093
	CBS-CSE-T4-1	0.083
	CBS-CSE-T5-1	0.094
	CBS-CSE-T6-1	0.25
	CBS-CSE-T7-1	0.12
	CBS-CSE-T8-1	0.34
	CBS-CSE-T9-1	0.6
Nickel	*Screening Value [2]*	*38*
	Background [3]	*42.7*
	CBS-CSE-T10-1	170
	CBS-CSE-T11-1	67
	CBS-CSE-T12-1	120
	CBS-CSE-T13-2	52
	CBS-CSE-T14-1	140
	CBS-CSE-T15-1	58.5
	CBS-CSE-T16-1	600 [4]
	CBS-CSE-T17-1	200
	CBS-CSE-T1-1	260
	CBS-CSE-T2-1	190
	CBS-CSE-T3-1	200
	CBS-CSE-T4-1	220
	CBS-CSE-T5-1	120
	CBS-CSE-T6-1	170
	CBS-CSE-T7-1	310
	CBS-CSE-T8-1	44
	CBS-CSE-T9-1	160

Table 3-10
Creek Bottom Segment E Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Silver	*Screening Value [2]*	*4.2*
	Background [3]	*1.4*
	CBS-CSE-T16-1	9.8 [4]
Vanadium	*Screening Value [2]*	*2*
	Background [3]	*69*
	CBS-CSE-T10-1	25
	CBS-CSE-T11-1	31
	CBS-CSE-T12-1	37
	CBS-CSE-T13-2	31
	CBS-CSE-T14-1	34
	CBS-CSE-T15-1	22
	CBS-CSE-T16-1	39 [4]
	CBS-CSE-T17-1	31
	CBS-CSE-T1-1	29
	CBS-CSE-T2-1	18
	CBS-CSE-T3-1	31
	CBS-CSE-T4-1	27
	CBS-CSE-T5-1	18
	CBS-CSE-T6-1	31
	CBS-CSE-T7-1	35
	CBS-CSE-T8-1	30
	CBS-CSE-T9-1	32
Zinc	*Screening Value [2]*	*46*
	Background [3]	*808*
	CBS-CSE-T10-1	2500
	CBS-CSE-T11-1	690
	CBS-CSE-T12-1	1300
	CBS-CSE-T13-2	320
	CBS-CSE-T14-1	830
	CBS-CSE-T15-1	625
	CBS-CSE-T16-1	5900 [4]
	CBS-CSE-T17-1	2100
	CBS-CSE-T1-1	2900
	CBS-CSE-T2-1	1300
	CBS-CSE-T3-1	2150
	CBS-CSE-T4-1	2600
	CBS-CSE-T5-1	1600
	CBS-CSE-T6-1	2600
	CBS-CSE-T7-1	2900
	CBS-CSE-T8-1	490
	CBS-CSE-T9-1	1900
4,4'-DDD	*Screening Value [2]*	*0.021*
	Background [3]	*ND*
	CBS-CSE-T17-1	0.047 [4]
Dieldrin	*Screening Value [2]*	*0.0049*
	Background [3]	*ND*
	CBS-CSE-T13-2	0.027
	CBS-CSE-T16-1	0.034 [4]
	CBS-CSE-T17-1	0.0098
	CBS-CSE-T6-1	0.0064
Total HMW PAHs	*Screening Value [2]*	*1.1*
	Background [3]	*2.5*
	CBS-CSE-T11-1	1.6
	CBS-CSE-T16-1	4.0 [4]
	CBS-CSE-T17-1	1.7

Table 3-10
Creek Bottom Segment E Locations that Exceed Soil Screening Values
Sauget Area 1

Constituent [1]	Sample ID	Concentration (mg/kg)
Dioxin TEQ	*Screening Value [2]*	*0.00000315*
	Background [3]	*0.00027*
	CBS-CSE-T11-1	0.000057
	CBS-CSE-T13-2	0.000020
	CBS-CSE-T14-1	0.000019
	CBS-CSE-T15-1	0.000013
	CBS-CSE-T16-1	0.00011 [4]
	CBS-CSE-T17-1	0.00016
	CBS-CSE-T1-1	0.000040
	CBS-CSE-T2-1	0.000045
	CBS-CSE-T3-1	0.000038
	CBS-CSE-T4-1	0.000056
	CBS-CSE-T5-1	0.000070
	CBS-CSE-T6-1	0.000019
	CBS-CSE-T7-1	0.000050
	CBS-CSE-T8-1	0.000044

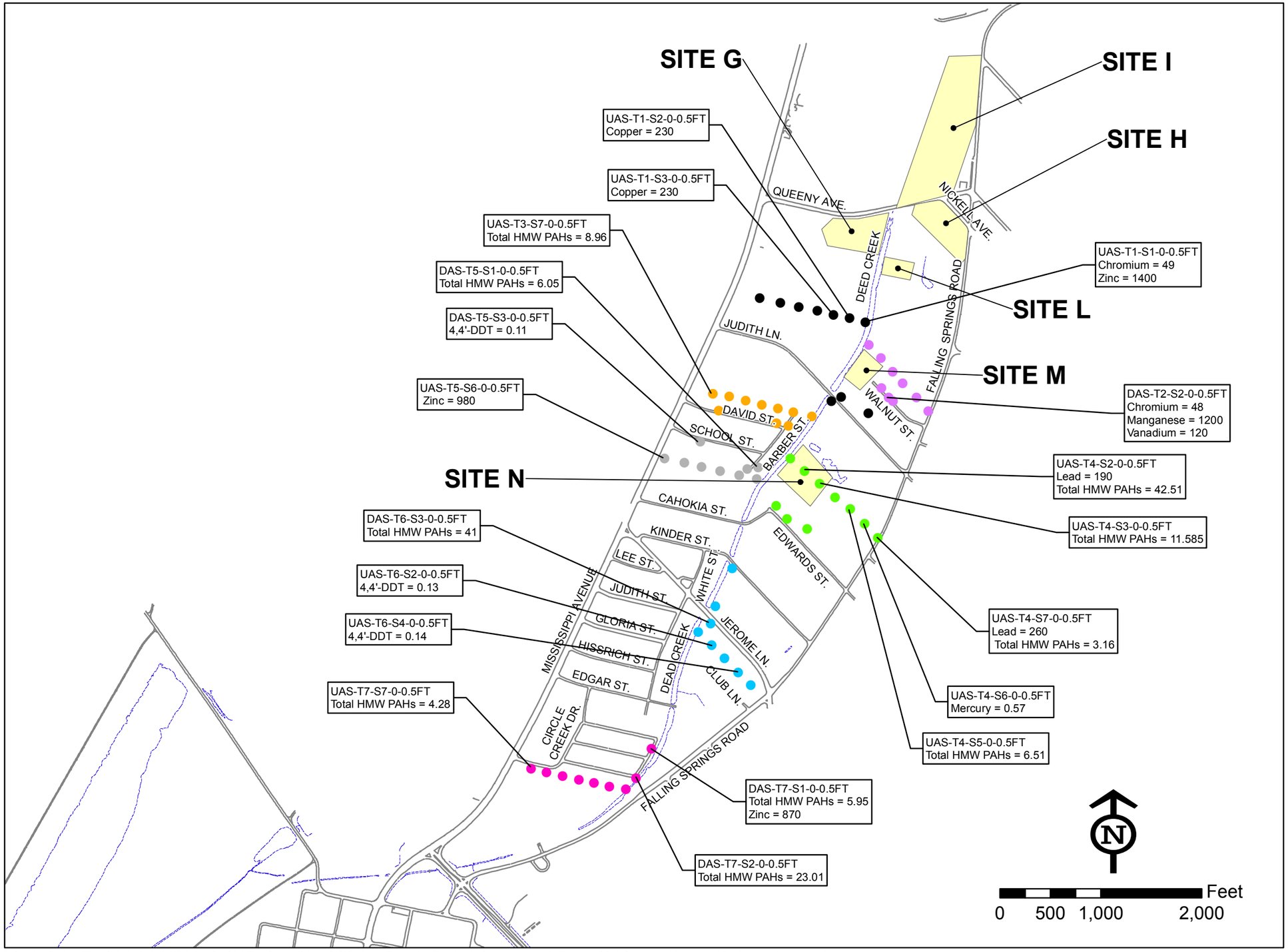
Shading indicates concentrations in excess of soil screening value and background.
ND - Not detected.
[1] - Constituent listed if maximum exposure point concentration exceeded soil screening value.
[2] - Soil screening values presented in Table 3-1.
[3] - Background concentration represents twice average concentration detected in three background samples.
[4] - Transect was excavated. Concentration does not represent current conditions.

Table 3-11
Dead Creek Segment E Post-Excavation Results
Sauget Area 1

Sample ID	Dieldrin
Benchmark [1]	*0.0049*
Background [2]	*ND*
CSET16-1	<0.00042
CSET16-2	<0.00039
CSET16-3	<0.00037
CSET16-4	<0.00036
CSET16-5	<0.00036
CSET16-6	<0.00037
CSET16-7	<0.00036
CSET16-8	<0.00036
CSET16-9	<0.00035
CSET16-10	<0.00038
CSET16-11	<0.00037
CSET16-12	<0.00037
CSET16-13	<0.00035

Shading indicates concentrations in excess of soil screening value.
Boldface indicates concentration in excess of background.
ND - Not detected; detection limit not available.

[1] - Soil screening values presented in Table 3-1.
[2] - Background concentration represents twice average concentration detected in three background samples.



LEGEND

- Site
- Water
- Roads
- Transect 1
- Transect 2
- Transect 3
- Transect 4
- Transect 5
- Transect 6
- Transect 7

Note:
Concentrations in mg/kg.

Constituent	Ecological Soil Screening Value	Background Level
Chromium	0.4	39.3
Copper	28	209
Lead	11	185
Manganese	220	883
Mercury	0.00051	0.18
Vanadium	2	69
Zinc	46	808
4,4'-DDT	0.021	0.034
Total HMW PAHs	1.1	2.5

Constituents without screening values or background levels are not presented.

FIGURE 3-1
Floodplain Concentrations in Excess of Soil Screening Values and Background Levels
Sauget Area 1
Ecological Risk Assessment
Addendum

Solutia, Inc.
Remediation Technology Group
St. Louis, Missouri

AECOM

March 2009

J:\Indl_Service\Project Files\Solutia-6105\HHRA AddOn\SA1 Eco Screen\Maps\GIS\Projects\Figure 3-1 Floodplain Concentrations in Excess of Soil Screening Values and Background Levels.mxd

Original Map Provided By URS Corp., Drawing "Dead Creek Segment D", 11/10/04.
Updated Map Provided by Golder Associates "Figure 4 Draft Dead Creek Segment D Sample Locations", 9/19/08.

Figure 3-2
Dead Creek Segment D Sample Locations
Sauget Area 1
Ecological Risk Assessment Addendum

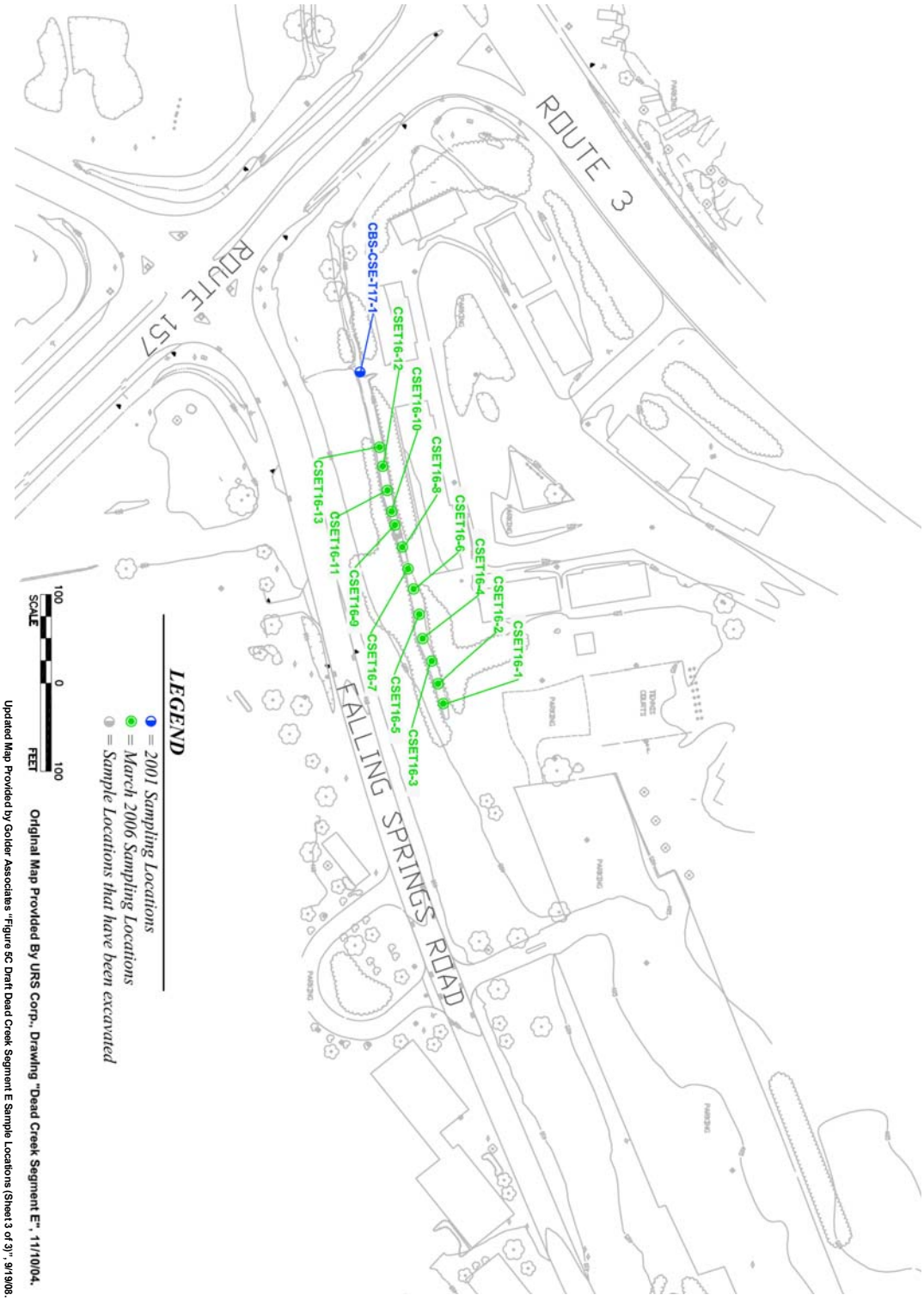


Figure 3-3
Dead Creek Segment E Sample Locations
Sauget Area 1
Ecological Risk Assessment Addendum

4.0 Risk Characterization

The ecological risk characterization integrates the results of the exposure and effects phases of work, and presents an estimate of actual or potential risks to ecological receptors. As described in Section 2.4, the two assessment endpoints for the terrestrial evaluation were the survival, growth, and reproduction of local populations of terrestrial wildlife along the floodplain of Dead Creek as well as within the de-watered Dead Creek channel. To measure the potential for adverse effects on terrestrial receptors, surface soil concentrations were compared against conservative soil screening values derived for the protection of plants, soil invertebrates, and birds and mammals that ingest plants or soil invertebrates.

Table 4-1 presents a summary of the potential for ecological risks and includes: (1) the results of the screening for each area evaluated; (2) whether the measure of effect provides evidence of potential ecological risk; (3) and the relative strength or magnitude of the observed effect (or lack of effect).

In Table 4-1, detected concentrations of COPCs above the conservative soil screening values was used as evidence of potential ecological risk. The evaluation of surface soil data relative to soil screening values was assigned a low magnitude of effect because this measure of effect consists of a conservative screening against soil screening values which are derived based on toxicity data available in the literature.

4.1 Floodplains

For the floodplain soils, the terrestrial screening indicated that only the maximum EPC of HMW PAHs exceeded both the soil screening value and the background concentration (Table 3-2). However, individual detected concentrations of COPCs in a few samples exceed both the screening value and background concentrations (Table 3-3). These individual samples represent locations scattered over the floodplain and do not necessarily represent a geographic pattern of COPC transport and deposition (Figure 3-1). Therefore, although a conservative analysis indicated that there may be the potential for some risks to terrestrial receptors, the widely-scattered nature of the exceedances over a large area indicates that potential exposure to these COPCs would be low and that actual ecological risks are unlikely.

4.2 De-Watered Portions of Dead Creek

Three segments of Dead Creek were evaluated in the terrestrial evaluation. These portions of Dead Creek, identified as Segments C, D, and E, represent areas that have been de-watered and currently constitute potential terrestrial habitat. Dead Creek Segments B and F were not evaluated in this terrestrial screening because exposure pathways of terrestrial exposures to soils or sediments are not complete. Segment B is being remediated such that contact with the soils will be prevented and Segment F remains aquatic habitat.

4.2.1 Segment C

Nine samples collected from within Segment C between 2001 and 2002 were available for the terrestrial screening. Additional sediment removal actions were not warranted in this area because concentrations were below the aquatic sediment-based RBCs. The maximum EPC for this data set represents the maximum detected concentration since not enough samples were available to calculate the UCLs.

Concentrations of most constituents were below screening values or below background concentrations or there was insufficient information available to evaluate toxicity (i.e., no screening value). Organic constituents such as Dioxin TEQ, total PCBs, and LMW and HMW PAHs, were either below the screening values or below the background concentrations, indicating minimal impacts due to these relatively persistent COPCs.

The maximum concentrations of six COPCs (cadmium, chromium, copper, mercury, nickel, and lead) exceeded both the screening value and background concentrations (Tables 3-5 and 3-6). This terrestrial

evaluation represents a very conservative assessment of the data set and does not necessarily indicate risk. These results indicate that additional evaluation may be warranted to further assess the potential for risks to ecological receptors due to the six inorganic COPCs identified above.

4.2.2 Segment D

Six samples collected from within Segment D between 2001 and 2002 were available for the terrestrial screening. The maximum EPC for this data set represents the maximum detected concentration since not enough samples were available to calculate the UCLs. Sediment removal actions were conducted in the vicinity of Transects 1, 2, 5, and 6 so post-excavation samples were also evaluated.

Concentrations of most constituents were below screening values or below background concentrations or there was insufficient information available to evaluate toxicity (i.e., no screening value). However, the maximum concentrations of 12 COPCs (Dioxin TEQ, barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, zinc, total PCBs, and 4,4'-DDT) exceeded both the screening value and background concentrations (Tables 3-7 and 3-8).

Sediment removal efforts within Segment D have removed soils represented by several of these samples. Therefore, current risks to receptors are likely much lower than indicated by the terrestrial evaluation of the 2001 and 2002 samples.

Post-excavation sampling indicated that levels of dieldrin, PCBs and Dioxin TEQ are below the screening levels and background. Although the post-excavations zinc concentrations were below the sediment RBC, several samples exceed the soil screening level and three samples also exceed background levels. Therefore, additional evaluation may be warranted to fully evaluate the potential for ecological risks within this segment.

4.2.3 Segment E

Seventeen samples collected from within Segment E between 2001 and 2002 were available for the terrestrial screening. Table 3-9 compares the maximum EPCs within this data set against the selected soil screening values and the representative background concentrations. Sediment removal actions were conducted in the vicinity of Transect 16 so post-excavation samples were also evaluated.

Concentrations of most constituents were below screening values or below background concentrations or there was insufficient information available to evaluate toxicity (i.e., no screening value). However, the maximum EPCs of nine COPCs (antimony, cadmium, chromium, copper, mercury, nickel, silver, zinc, and HMW PAHs) exceeded both the screening value and background concentrations (Tables 3-9). In addition, individual sample locations exceeded both the screening value and background concentrations for barium and lead (Table 3-10).

Sediment removal efforts within Segment E have removed soils represented the Transect 16 samples. Therefore, current risks to receptors are likely lower than indicated by the terrestrial evaluation of the 2001 and 2002 samples. Post-excavation sampling indicated that levels of dieldrin are below the soil screening levels. However, since data are not available for other constituents, it is unknown whether concentrations are below screening levels. Therefore, additional evaluation may be warranted to fully evaluate the potential for ecological risks within this segment.

4.3 Uncertainty Discussion

This section serves to identify and discuss potential sources of uncertainty in the terrestrial screening to ensure that the results of the evaluation lead to decisions that are environmentally protective. Every time an assumption is made, some level of uncertainty is introduced into the risk assessment. Although the uncertainties may potentially over or under-estimate risk for a site, the terrestrial screening has been designed

as a conservative assessment of the potential for ecological risk, and therefore deliberately over-estimates the potential for risk.

The emphasis of the uncertainty analysis is to discuss the assumptions and data gaps that may influence the conclusions of the assessment.

4.3.1 Uncertainties Associated with Natural System Variability

Numerous factors may influence the bioavailability of constituents in the environment. In soil, for example, factors such as pH and total organic carbon concentrations may affect constituent bioavailability. Although it is likely not the case, in accordance with USEPA guidance, constituents were conservatively assumed to be 100% bioavailable for the purposes of this evaluation of surface soil. This assumption over-estimates the potential for ecological risk.

Numerous factors that were not evaluated in this evaluation may also influence the population dynamics of the selected wildlife receptors. Factors such as habitat modification, off-site constituent migration/deposition, temporal and seasonal fluctuations, and natural population fluctuations may influence populations and communities of these ecological receptors. Land use within the floodplain and in the vicinity of Dead Creek may also influence the population dynamics and movement of wildlife receptors and the concentrations of constituents present in the soil.

This stretch of Dead Creek is an actively managed stormwater drainage ditch within a highly-developed residential and commercial area. The use of agricultural chemicals within the Dead Creek watershed or local non-point source runoff from roads in the vicinity of the floodplain or the creek may contribute non-site related constituents to the soil. This uncertainty is minimized by the comparison to background concentrations. However, the background data set is small and may not fully represent the surrounding watershed.

The use of Creek Segments C, D and E for stormwater conveyance results in variable water level conditions within the creek which limit the available terrestrial habitat. This may result in an over-estimate of risks to ecological receptors due the lack of habitat. Discharges from the drainage swales occur following rain events and the increased water flow may rapidly change conditions within the de-watered portions of the creek from dry to flooded until the water either drains or is pumped out. Water may remain in portions of the creek for several days at a time until it drains or is pumped out. This change in water regime (e.g., generally dry conditions with periods of standing water) is limits the available habitat for terrestrial organisms and the presence of ecological receptors in the creek.

The analytical results represent sampling conducted at one point in time and may not be representative of conditions across the seasons. This may result in an overestimation or underestimation of the risk. However, given the large number of samples available for evaluation, this uncertainty likely would not alter the conclusions of the terrestrial evaluation.

Seasonal changes may also impact the potential receptors that might be present within the creek (e.g., earthworms may not be present if creek is flooded). The conservative terrestrial organism screening levels used in the evaluation are often based on wildlife receptors that consume a diet of exclusively earthworms (i.e., the American woodcock and the short-tailed shrew). The evaluation conservatively assumes that these receptors feed entirely within the area under evaluation (i.e., the entire diet is from earthworms exposed to creek bottom soils). Earthworms prefer aerated moist soil, but the inundated conditions present during flooding are expected to provide too much moisture for an earthworm community to be continually present. The changes in conditions within the de-watered segments of the creek are expected to limit the availability of earthworms, thus reducing the ability of the woodcock or the shrew to forage within these areas. This may result in an over-estimate of risks to terrestrial receptors.

The surface soil samples were collected from a depth of 0 to 6 inches. However, it is possible that some ecological receptors, such as earthworms or burrowing mammals, could be exposed to deeper soils. This results in some uncertainty in the evaluation.

4.3.2 Uncertainties Associated with Comparison of Data against Soil Screening Values

The terrestrial screening approach used in this evaluation provides a conservative estimate of risk based on a "snapshot" of site conditions by considering maximum EPCs and conservative screening values. However, soil screening values were not available for several constituents detected in the surface soil and it was not possible to estimate potential risks from exposure to these constituents. Therefore, there is uncertainty regarding the potential for adverse effects related to these constituents.

Several pesticides and some VOCs and individual PAHs lack both screening values and background levels so there are some uncertainties associated with these constituents. However, VOCs are expected to dissipate into the air and are not likely to result in significant adverse impacts for ecological receptors and the potential impacts of the individual PAHs is addressed by evaluating Total HMW and LMW PAHs.

A review of the pesticide data indicates that pesticides are detected far less frequently in the floodplain and creek bottom soils than metals and PAHs. The most frequently detected pesticides were those with screening values identified in Section 3.3 (dieldrin, DDD, DDE, and DDT) so these constituents have been adequately evaluated against toxicity based benchmarks. The frequency of detection for the remaining pesticides ranged from 1:97 for 2,4,5-T and dalapon to 33:97 for methoxychlor. A review of alternative screening values was conducted for the remaining pesticides. Table 4-2 presents the comparison of the pesticide concentrations against alternative soil screening values and shows that only four pesticides (aldrin, heptachlor, methoxychlor, and 2,4-D) exceeded these alternative values. No exceedances were noted in Segment C.

A hazard index (HI) was calculated within each area to further evaluate the detected pesticides. In Table 4-2, the maximum HI represents the sum of the maximum hazard quotients (HQs; HQ = maximum EPC/alternative soil screening value). The HI provides a way to assess the potential impacts of mixtures within each area. An HI of less than 1 indicates that adverse effects are unlikely and an HI above 1 indicates that additional consideration is warranted.

The maximum HIs ranged from 1.6 in Segment C to 23.5 in the floodplain soils. These results indicate that the data should be reviewed further within these areas. These HIs represent the worst-case scenario in each area since the calculation assumes exposure to the highest concentration of all detected pesticides. In reality, pesticides were not detected in the majority of the samples. Therefore, exposure within each area would be much lower than is represented by the maximum concentration.

To further evaluate the pesticides that dominated the HIs, the individual pesticide concentrations in excess of the alternative soil screening values were reviewed to determine if levels were elevated throughout an area. As indicated in Table 4-3, the detected concentrations above the alternative soil screening values are limited to a single exceedance per pesticide. This indicates that pesticide levels are not elevated above screening values over a wide area and that ecological exposures to pesticides are likely to be limited. In addition, the exceedances for aldrin and methoxychlor within Segment D are likely to have been removed during the sediment excavation effort.

Therefore, impacts to ecological receptors due to exposure to pesticides are expected to be minimal. Although HIs above 1 were observed, these values represent the worst case scenario and were often dominated by an elevated concentration of one or two pesticides. Ecological receptors may be exposed to low levels of pesticides within the floodplains and the creek. However, it is expected that the detections of pesticides in the soil are related to the residential and agricultural nature of the surrounding properties, and are not necessarily Site-related. It is expected that the pesticides detected within the creek bottom soils are the result of overland transport from these surrounding properties.

In addition, it is possible that some constituents are present in soil at concentrations below detection limits. For example, the detection limit for selenium was often above the soil screening value so it is unknown whether selenium is likely to pose a risk to terrestrial receptors. These factors are likely to result in an under-estimate of potential risks.

The risk screening is based on the assumption that all constituents are 100% bioavailable and that the most sensitive life stages of all organisms are present. The screening values are very conservative and often based on toxicity tests performed with very sensitive test organisms or food web modeling that assumes maximum exposure. Wildlife Eco-SSLs are derived based on toxicity values associated with lack of any adverse effects. These factors are likely to overestimate the actual risk to terrestrial receptors.

The soil screening values do not generally account for possible synergistic, antagonistic, or additive effects of contaminant mixtures. This may result in an underestimate or overestimate of potential risks.

For the purposes of the terrestrial screening, it was assumed that terrestrial receptors would be exposed to a maximum EPC. However, in reality it is unlikely any receptor would be exposed continuously to maximum concentrations of constituents. With the exception of vegetative communities and certain invertebrate receptors, ecological receptors are generally not sessile, but move in space and time creating an exposure that is typically integrated or averaged over an entire exposure area (on- and off-site). Therefore, comparison of maxima to screening values provides a conservative and “worst case” screening scenario. This results in an overestimate of potential exposure and risks.

Table 4-1
Summary of Potential for Ecological Risks
Sauget Area 1

Assessment Endpoint

Survival, growth, and reproduction of local populations of terrestrial wildlife exposed to floodplain and creek bottom soils associated with de-watered sections of Dead Creek

Area	Results of Terrestrial Screening	Evidence of Potential Ecological Risk	Magnitude of Effect or Non-Effect
Floodplain Soils	Concentrations of some COPCs above soil screening values. These exceedances are widely distributed and do not indicate significant impacts.	Yes	Low
De-watered Portions of Dead Creek			
Segment C	Concentrations of some inorganic COPCs above soil screening values and background	Yes	Low
Segment D	Concentrations of some inorganic and organic COPCs above soil screening values and background. Sediment removal efforts have excavated many of these locations so current risks are lower than indicated in the screening. Concentrations of zinc in post excavation samples exceed screening values and background.	Yes	Low
Segment E	Concentrations of some inorganic COPCs above soil screening values and background. Sediment removal efforts have excavated some of these locations so current risks are lower than indicated in the screening. Concentrations of dieldrin in post excavation samples are below screening values.	Yes	Low

Table 4-2
Additional Evaluation of Pesticide Concentrations
Sauget Area 1

Area	Constituent	Frequency of Detection (detects : samples)	Frequency of Detection (%)	Maximum Site Concentration	95% UCL	Maximum EPC	Twice Average Background Soil Concentration	Alternative Soil Screening Value		Maximum Hazard Quotient	Comment
Floodplain	2,4-D	1 : 65	1.5	0.0036	NA	0.0036	ND	0.0272	[a]	0.13	FOD less than 5%
Floodplain	2,4-DB	4 : 65	6.2	0.065	NA	0.06500	ND	NV		NV	No screening value; ND in background
Floodplain	Aldrin	3 : 65	4.6	0.023	NA	0.023	ND	0.00332	[a]	6.9	FOD less than 5%
Floodplain	alpha Chlordane	13 : 65	20.0	0.054	0.00378	0.00378	ND	0.224	[a]	0.017	Maximum EPC less than screening value
Floodplain	alpha-BHC	1 : 65	1.5	0.00022	NA	0.00022	ND	0.0994	[a]	0.0022	FOD less than 5%
Floodplain	beta-BHC	7 : 65	10.8	0.0038	0.00040984	0.00040984	ND	0.00398	[a]	0.10	Maximum EPC less than screening value
Floodplain	delta-BHC	5 : 65	7.7	0.00024	NA	0.00024	ND	9.94	[a]	0.000024	Maximum EPC less than screening value
Floodplain	Dicamba	15 : 65	23.1	0.0031	0.00226	0.00226	ND	NV		NV	No screening value; ND in background
Floodplain	Endosulfan II	1 : 65	1.5	0.0010	NA	0.0010	ND	0.119	[a]	0.0084	FOD less than 5%
Floodplain	Endosulfan sulfate	12 : 65	18.5	0.0019	0.00072	0.0007	ND	0.0358	[a]	0.020	Maximum EPC less than screening value
Floodplain	Endrin	4 : 65	6.2	0.0061	NA	0.00610	ND	0.0101	[a]	0.60	Maximum EPC less than screening value
Floodplain	Endrin aldehyde	3 : 65	4.6	0.00075	NA	0.00075	ND	0.0105	[a]	0.071	FOD less than 5%
Floodplain	Endrin ketone	24 : 65	36.9	0.0040	0.00091	0.00091	ND	0.0101	[a,b]	0.090	Maximum EPC less than screening value
Floodplain	Gamma Chlordane	16 : 65	24.6	0.0780	0.0	0.0	ND	0.224	[a]	0.029	Maximum EPC less than screening value
Floodplain	gamma-BHC (Lindane)	2 : 65	3.1	0.00013	NA	0.00013	ND	0.005	[a]	0.026	FOD less than 5%
Floodplain	Heptachlor	5 : 65	7.7	0.091	NA	0.091	ND	0.00598	[a]	15.2	Maximum EPC exceeds screening value; ND in background
Floodplain	Heptachlor epoxide	16 : 65	24.6	0.030	0.0028	0.0028	ND	0.152	[a]	0.018	Maximum EPC less than screening value
Floodplain	Methoxychlor	24 : 65	36.9	0.038	0.0054	0.0054	ND	0.0199	[a]	0.27	Maximum EPC less than screening value
							Maximum Hazard Index			**23.5**	
Creek Segment C	Alpha Chlordane	1 : 9	11.1	0.00092	NA	0.00092	ND	0.224	[a]	0.0041	Maximum EPC less than screening value
Creek Segment C	delta-BHC	3 : 9	33.3	0.00099	NA	0.00099	ND	9.94	[a]	0.00010	Maximum EPC less than screening value
Creek Segment C	Dicamba	1 : 9	11.1	0.0066	NA	0.0066	ND	NV		NV	No screening value; ND in background
Creek Segment C	Dichlorprop	1 : 9	11.1	0.0062	NA	0.0062	ND	NV		NV	No screening value; ND in background
Creek Segment C	Endosulfan sulfate	3 : 9	33.3	0.0070	NA	0.0070	ND	0.0358	[a]	0.20	Maximum EPC less than screening value
Creek Segment C	Endrin ketone	1 : 9	11.1	0.010	NA	0.010	ND	0.0101	[a,b]	0.99	Maximum EPC less than screening value
Creek Segment C	gamma Chlordane	1 : 9	11.1	0.0011	NA	0.0011	ND	0.224	[a]	0.0049	Maximum EPC less than screening value
Creek Segment C	Methoxychlor	3 : 9	33.3	0.0071	NA	0.0071	ND	0.0199	[a]	0.36	Maximum EPC less than screening value
							Maximum Hazard Index			**1.6**	
Creek Segment D	2,4,5-T	1 : 6	16.7	0.0054	NA	0.0054	ND	NV		NV	No screening value; ND in background
Creek Segment D	Aldrin	2 : 6	33.3	0.0090	NA	0.0090	ND	0.00332	[a]	2.7	Maximum EPC exceeds screening value; ND in background
Creek Segment D	Alpha Chlordane	1 : 6	16.7	0.012	NA	0.012	ND	0.224	[a]	0.054	Maximum EPC less than screening value
Creek Segment D	Dalapon	1 : 6	16.7	0.050	NA	0.050	ND	NV		NV	No screening value; ND in background
Creek Segment D	delta-BHC	4 : 6	66.7	0.0019	NA	0.0019	ND	9.94	[a]	0.00019	Maximum EPC less than screening value
Creek Segment D	Dicamba	1 : 6	16.7	0.0018	NA	0.0018	ND	NV		NV	No screening value; ND in background
Creek Segment D	Dichlorprop	1 : 6	16.7	0.021	NA	0.021	ND	NV		NV	No screening value; ND in background
Creek Segment D	Endosulfan sulfate	1 : 6	16.7	0.0095	NA	0.0095	ND	0.0358	[a]	0.27	Maximum EPC less than screening value
Creek Segment D	gamma Chlordane	2 : 6	33.3	0.067	NA	0.067	ND	0.224	[a]	0.30	Maximum EPC less than screening value
Creek Segment D	Methoxychlor	3 : 6	50.0	0.062	NA	0.062	ND	0.0199	[a]	3.1	Maximum EPC exceeds screening value; ND in background
							Maximum Hazard Index			**6.4**	
Creek Segment E	2,4-D	2 : 17	11.8	0.035	NA	0.035	ND	0.0272	[a]	1.3	Maximum EPC exceeds screening value; ND in background
Creek Segment E	Alpha Chlordane	1 : 17	5.9	0.0087	NA	0.0087	ND	0.224	[a]	0.039	Maximum EPC less than screening value
Creek Segment E	alpha-BHC	1 : 17	5.9	0.0013	NA	0.0013	ND	0.0994	[a]	0.013	Maximum EPC less than screening value
Creek Segment E	Dicamba	1 : 17	5.9	0.0025	NA	0.0025	ND	NV		NV	No screening value; ND in background
Creek Segment E	Endosulfan I	3 : 17	17.6	0.00017	NA	0.00017	ND	0.119	[a]	0.0014	Maximum EPC less than screening value
Creek Segment E	Endosulfan II	1 : 17	5.9	0.00066	NA	0.00066	ND	0.119	[a]	0.0055	Maximum EPC less than screening value
Creek Segment E	Endosulfan sulfate	2 : 17	11.8	0.016	NA	0.016	ND	0.0358	[a]	0.45	Maximum EPC less than screening value
Creek Segment E	gamma Chlordane	2 : 17	11.8	0.0055	NA	0.0055	ND	0.224	[a]	0.025	Maximum EPC less than screening value
Creek Segment E	Heptachlor epoxide	5 : 17	29.4	0.00059	NA	0.00059	ND	0.152	[a]	0.0039	Maximum EPC less than screening value
Creek Segment E	Methoxychlor	3 : 17	17.6	0.00089	NA	0.00089	ND	0.0199	[a]	0.045	Maximum EPC less than screening value
							Maximum Hazard Index			**1.9**	

All concentrations are in mg/kg.
Maximum exposure point concentration (EPC) is represented by the 95% upper confidence limit (UCL) on the mean or the maximum detected concentration if a UCL could not be calculated.
See Appendix A for UCL documentation.
[a] USEPA Region 5 Ecological Screening Levels for soils (USEPA, 2003).
[b] Endrin used as a surrogate.
NA - Not applicable. Not enough samples to calculate UCL.
NV - No screenning value identified.
Hazard quotient = Maximum EPC/Alternative soil screening value.
Hazard index = Sum of hazard quotients.
Yellow shading indicates maximum EPC exceeds the soil screening value.
Green shading indicates no screening value available and maximum EPC exceeds twice average background or constituent was not detected in background soil.
Not highlighted if -
- the maximum EPC is less than the screening value;
- the maximum EPC is less than background and there is no screening value; or
- frequency of detection is less than 5%.

Table 4-3
Pesticide Concentrations that Exceed Alternative Soil Screening Values
Sauget Area 1

Area	Pesticide [1]	Sample ID	Concentration (mg/kg)
Floodplains	Heptachlor	*Screening Value* [2]	*0.00598*
		DAS-T5-S3-0-0.5FT	0.091
Segment D	Aldrin	*Screening Value* [2]	*0.00332*
		CBS-CSD-T6-1 [3]	0.009
	Methoxychlor	*Screening Value* [2]	*0.0199*
		CBS-CSD-T6-1 [3]	0.062
Segment E	2,4-D	*Screening Value* [2]	*0.0272*
		CBS-CSE-T5-1	0.035

[1] - Constituent listed if maximum exposure point concentration exceeded alternative soil screening value and frequency of detection was >5%.
[2] - Alternative soil screening values for pesticides presented in Table 4-2
[3] - Transect was excavated. Concentration does not represent current conditions.

5.0 Summary and Conclusions

To measure the potential for adverse effects on terrestrial receptors associated with the floodplain and the de-watered channel of Dead Creek, surface soil concentrations were compared against conservative soil screening values derived for the protection of plants, soil invertebrates, and birds and mammals that ingest plants or soil invertebrates. This approach provides a conservative estimate of risk based on a "snapshot" of site conditions by considering maximum EPCs and conservative screening values.

The results of these comparisons were evaluated in a weight-of evidence evaluation presented in Table 4-1. A low relative weight and low magnitude of effect was assigned to the soil evaluation because this measure of effect consists of a conservative screening against soil screening values which are derived based on toxicity data available in the literature.

As indicated in Table 4-1, potential for risks to terrestrial receptors exists within the floodplain soils and the creek bottom soils of Dead Creek Segments C, D and E. However, this is based on a highly conservative assessment of the soil data sets and does not indicate that impacts to terrestrial receptors are occurring.

Within the floodplains, few COPCs exceed screening values and most concentrations are consistent with background concentrations. Therefore, although there are selected exceedances of the screening values and background levels, the scattered nature of the exceedances (Figure 3-1) is unlikely to result in significant risk to terrestrial receptors.

Within Creek Segment C, concentrations of six inorganic COPCs are elevated above soil screening values and background. Since constituent concentrations within this segment were not elevated relative to the aquatic sediment RBCs, excavation was not conducted. Therefore, the 2001 and 2002 samples evaluated in the terrestrial screening must be assumed to be representative of current conditions.

Within Creek Segments D and E, concentrations of selected COPCs in the 2001 and 2002 data set exceed screening values and background. However, sediment excavation efforts have removed many of these samples, thus reducing the potential for risk to terrestrial receptors. Post-excavation results are only available for a sub-set of COPCs so there is some uncertainty regarding current concentrations of some constituents.

Creek bottom soil concentrations are greater than terrestrial organism screening levels and background levels at various locations within Creek Segments C, D and E. However, the extent of these areas is more limited than the data suggest because sediment excavation efforts have removed many samples with exceedances, thus reducing the potential for risk to terrestrial receptors. Nevertheless, there is some uncertainty regarding current soil concentrations since post-excavation results are only available for a sub-set of transects and constituents.

Due to the on-going discharge of surface runoff from surrounding properties into the creek and the lack of significant suitable terrestrial habitat within Creek Segments C, D, and E, further evaluation of the creek bottom soils is not recommended. This stretch of Dead Creek is an actively managed stormwater drainage ditch within a highly-developed residential and commercial area. In several locations along the creek, drainage swales discharge runoff from a variety of developed properties including residential areas, a car wash, a junkyard, a restaurant, and several roadways. These discharges occur following rain events and the resulting increase in water flow may rapidly change conditions within the de-watered portions of the creek from dry to flooded until the water either drains or is pumped out. Depending on the duration of the rain event, water may remain in portions of the creek for several days at a time. This change in water regime (e.g., generally dry conditions with periods of standing water) limits the available habitat for terrestrial organisms and the presence of ecological receptors in the creek.

Therefore, the terrestrial screening evaluation is overly conservative since it is based on the lowest of the available soil screening values and any potential terrestrial receptors will have limited exposure to the creek bottom soils. Several of the conservative terrestrial organism screening levels used in the evaluation are based on wildlife receptors that consume a diet of exclusively earthworms (i.e., the American woodcock and the short-tailed shrew). The screening comparison assumes that these receptors feed entirely within the area under evaluation (i.e., the entire diet is from earthworms exposed to creek bottom soils). Earthworms prefer aerated moist soil, but the inundated conditions present during flooding are expected to provide too much moisture for an earthworm community to be continually present. The changes in conditions within the de-watered segments of the creek are expected to limit the availability of earthworms, thus reducing the ability of the woodcock or the shrew to forage within these areas. Other wildlife receptors will also have limited access to food items (i.e., plants, small mammals) from the de-watered portions of the creek due to the changing hydrology, further limiting exposure of ecological receptors to the creek bottom soils.

The use of Creek Segments C, D and E for stormwater conveyance from a variety of upland sources and the variable water level conditions within the creek result in an area that does not provide significant suitable habitat for terrestrial organisms. Since these conditions limit the available habitat and represent substantial stressors for ecological receptors, additional evaluation of the creek bottom soils is not recommended.

6.0 References

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Appendix A

Summary Statistics and 95% Upper Confidence Limit Calculations

TABLE A-1
SUMMARY STATISTICS FOR FLOODPLAIN SOILS
SAUGET AREA 1

Site	Constituent	FOD (a)	FOD % (a)	Min (b) (mg/kg)	Max (c) (mg/kg)	Mean (d) (mg/kg)	Location of Max	UCL Selected (e)	UCL (f) (mg/kg)	EPC (g) (mg/kg)	EPC Type
Floodplain Soils	2,4-D	1 : 65	2	3.60E-03	3.60E-03	3.60E-03	NA	NA	NA	3.60E-03	MAX
Floodplain Soils	2,4-DB	4 : 65	6	1.80E-02	6.50E-02	3.68E-02	NA	NA	NA	6.50E-02	MAX
Floodplain Soils	2-Butanone (MEK)	31 : 65	48	9.10E-03	5.60E-02	2.40E-02	NA	95% KM (t) UCL	2.65E-02	2.65E-02	UCL
Floodplain Soils	2-Hexanone	3 : 65	5	4.80E-03	6.90E-03	6.10E-03	NA	NA	NA	6.90E-03	MAX
Floodplain Soils	2-Methylnaphthalene	3 : 65	5	3.30E-02	7.20E-02	5.67E-02	NA	NA	NA	7.20E-02	MAX
Floodplain Soils	4,4'-DDD	6 : 65	9	5.60E-04	3.60E-02	1.94E-03	NA	95% KM (t) UCL	3.06E-03	3.06E-03	UCL
Floodplain Soils	4,4'-DDE	35 : 65	54	8.60E-05	5.40E-02	2.59E-03	NA	97.5% KM (Chebyshev) UCL	8.57E-03	8.57E-03	UCL
Floodplain Soils	4,4'-DDT	36 : 65	55	6.50E-05	1.40E-01	8.49E-03	NA	97.5% KM (Chebyshev) UCL	2.94E-02	2.94E-02	UCL
Floodplain Soils	Acenaphthene	9 : 65	14	1.60E-02	1.20E+00	9.14E-02	NA	95% KM (t) UCL	1.36E-01	1.36E-01	UCL
Floodplain Soils	Acenaphthylene	4 : 65	6	2.40E-02	7.50E-02	4.55E-02	NA	NA	NA	7.50E-02	MAX
Floodplain Soils	Acetone	35 : 65	54	4.80E-02	6.70E-01	1.91E-01	NA	Bootstrap) UCL	2.28E-01	2.28E-01	UCL
Floodplain Soils	Aldrin	3 : 65	5	2.10E-03	2.30E-02	9.60E-03	NA	NA	NA	2.30E-02	MAX
Floodplain Soils	Alpha Chlordane	13 : 65	20	1.60E-04	5.40E-02	2.25E-03	NA	95% KM (t) UCL	3.78E-03	3.78E-03	UCL
Floodplain Soils	alpha-BHC	1 : 65	2	2.20E-04	2.20E-04	2.20E-04	NA	NA	NA	2.20E-04	MAX
Floodplain Soils	Aluminum	65 : 65	100	3.30E+03	1.80E+04	9.39E+03	NA	95% Approximate Gamma UCL	1.01E+04	1.01E+04	UCL
Floodplain Soils	Anthracene	15 : 65	23	2.60E-02	2.30E+00	1.30E-01	NA	95% KM (BCA) UCL	2.11E-01	2.11E-01	UCL
Floodplain Soils	Antimony	28 : 65	43	5.90E-01	2.60E+00	1.12E+00	NA	95% KM (t) UCL	1.27E+00	1.27E+00	UCL
Floodplain Soils	Arsenic	65 : 65	100	2.60E+00	3.40E+01	7.41E+00	NA	95% Modified-t UCL	8.23E+00	8.23E+00	UCL
Floodplain Soils	Barium	65 : 65	100	4.00E+01	1.20E+03	1.87E+02	NA	95% Modified-t UCL	2.16E+02	2.16E+02	UCL
Floodplain Soils	Benzene	5 : 65	8	1.80E-03	4.80E-03	2.76E-03	NA	NA	NA	4.80E-03	MAX
Floodplain Soils	Benzo(a)anthracene	37 : 65	57	2.30E-02	4.30E+00	2.81E-01	NA	95% KM (Chebyshev) UCL	6.99E-01	6.99E-01	UCL
Floodplain Soils	Benzo(a)pyrene	35 : 65	54	4.30E-02	3.60E+00	2.80E-01	NA	95% KM (Chebyshev) UCL	6.41E-01	6.41E-01	UCL
Floodplain Soils	Benzo(b)fluoranthene	39 : 65	60	2.70E-02	4.40E+00	3.01E-01	NA	95% KM (Chebyshev) UCL	7.01E-01	7.01E-01	UCL
Floodplain Soils	Benzo(g,h,i)perylene	35 : 65	54	3.80E-02	2.20E+00	2.13E-01	NA	95% KM (Chebyshev) UCL	4.01E-01	4.01E-01	UCL
Floodplain Soils	Benzo(k)fluoranthene	36 : 65	55	3.70E-02	3.40E+00	2.87E-01	NA	95% KM (Chebyshev) UCL	6.29E-01	6.29E-01	UCL
Floodplain Soils	Beryllium	65 : 65	100	1.80E-01	1.10E+00	6.13E-01	NA	95% Student's-t UCL	6.51E-01	6.51E-01	UCL
Floodplain Soils	beta-BHC	7 : 65	11	1.00E-04	3.80E-03	1.04E-03	NA	95% KM (t) UCL	4.10E-04	4.10E-04	UCL
Floodplain Soils	bis(2-Ethylhexyl)phthalate	25 : 65	38	2.90E-02	4.30E-01	1.12E-01	NA	95% KM (t) UCL	1.32E-01	1.32E-01	UCL
Floodplain Soils	Butylbenzylphthalate	3 : 65	5	5.70E-02	3.40E-01	1.52E-01	NA	NA	NA	3.40E-01	MAX
Floodplain Soils	Cadmium	65 : 65	100	4.60E-01	8.40E+00	2.44E+00	NA	95% Approximate Gamma UCL	2.72E+00	2.72E+00	UCL
Floodplain Soils	Calcium	65 : 65	100	3.50E+03	2.50E+05	2.61E+04	NA	97.5% Chebyshev (Mean, Sd) UCL	6.05E+04	6.05E+04	UCL
Floodplain Soils	Carbazole	11 : 65	17	4.50E-02	1.00E+00	1.15E-01	NA	95% KM (BCA) UCL	1.59E-01	1.59E-01	UCL
Floodplain Soils	Carbon disulfide	3 : 65	5	2.60E-03	4.30E-03	3.20E-03	NA	NA	NA	4.30E-03	MAX
Floodplain Soils	Chlorobenzene	1 : 65	2	4.00E-03	4.00E-03	4.00E-03	NA	NA	NA	4.00E-03	MAX
Floodplain Soils	Chromium	65 : 65	100	1.10E+01	4.90E+01	1.69E+01	NA	95% Modified-t UCL	1.84E+01	1.84E+01	UCL
Floodplain Soils	Chrysene	41 : 65	63	2.80E-02	4.90E+00	3.34E-01	NA	95% KM (Chebyshev) UCL	8.03E-01	8.03E-01	UCL
Floodplain Soils	Cobalt	65 : 65	100	2.30E+00	1.10E+01	6.62E+00	NA	95% Modified-t UCL	6.95E+00	6.95E+00	UCL
Floodplain Soils	Copper	65 : 65	100	1.80E+01	2.30E+02	6.99E+01	NA	95% Approximate Gamma UCL	7.93E+01	7.93E+01	UCL
Floodplain Soils	delta-BHC	5 : 65	8	8.20E-05	2.40E-04	1.58E-04	NA	NA	NA	2.40E-04	MAX
Floodplain Soils	Dibenzo(a,h)anthracene	17 : 65	26	2.60E-02	8.10E-01	1.03E-01	NA	95% KM (t) UCL	1.34E-01	1.34E-01	UCL
Floodplain Soils	Dibenzofuran	5 : 65	8	4.50E-02	7.70E-01	2.44E-01	NA	NA	NA	7.70E-01	MAX
Floodplain Soils	Dicamba	15 : 65	23	1.20E-03	3.10E-03	1.98E-03	NA	95% KM (t) UCL	2.26E-03	2.26E-03	UCL
Floodplain Soils	Dieldrin	24 : 65	37	8.90E-05	1.20E-01	3.58E-03	NA	95% KM (BCA) UCL	7.23E-03	7.23E-03	UCL
Floodplain Soils	Diethylphthalate	1 : 65	2	3.90E-02	3.90E-02	3.90E-02	NA	NA	NA	3.90E-02	MAX
Floodplain Soils	Di-n-butylphthalate	17 : 65	26	3.20E-02	2.10E-01	9.64E-02	NA	95% KM (% Bootstrap) UCL	1.20E-01	1.20E-01	UCL
Floodplain Soils	Dioxin TEQ	29 : 29	100	2.16E-06	1.01E-04	1.25E-05	NA	95% H-UCL	1.56E-05	1.56E-05	UCL
Floodplain Soils	Endosulfan II	1 : 65	2	1.00E-03	1.00E-03	1.00E-03	NA	NA	NA	1.00E-03	MAX
Floodplain Soils	Endosulfan sulfate	12 : 65	18	9.30E-05	1.90E-03	4.75E-04	NA	95% KM (t) UCL	7.25E-04	7.25E-04	UCL
Floodplain Soils	Endrin	4 : 65	6	1.00E-04	6.10E-03	2.20E-03	NA	NA	NA	6.10E-03	MAX
Floodplain Soils	Endrin aldehyde	3 : 65	5	2.40E-04	7.50E-04	5.33E-04	NA	NA	NA	7.50E-04	MAX
Floodplain Soils	Endrin ketone	24 : 65	37	1.20E-04	4.00E-03	6.80E-04	NA	95% KM (BCA) UCL	9.07E-04	9.07E-04	UCL
Floodplain Soils	Ethylbenzene	1 : 65	2	3.00E-03	3.00E-03	3.00E-03	NA	NA	NA	3.00E-03	MAX
Floodplain Soils	Fluoranthene	39 : 65	60	3.70E-02	1.00E+01	6.46E-01	NA	95% KM (Chebyshev) UCL	1.65E+00	1.65E+00	UCL
Floodplain Soils	Fluorene	7 : 65	11	4.40E-02	1.40E+00	1.05E-01	NA	95% KM (t) UCL	1.56E-01	1.56E-01	UCL
Floodplain Soils	Gamma Chlordane	16 : 65	25	1.00E-04	7.80E-02	3.65E-03	NA	95% KM (t) UCL	6.42E-03	6.42E-03	UCL
Floodplain Soils	gamma-BHC (Lindane)	2 : 65	3	8.70E-05	1.30E-04	1.09E-04	NA	NA	NA	1.30E-04	MAX

TABLE A-1
SUMMARY STATISTICS FOR FLOODPLAIN SOILS
SAUGET AREA 1

Site	Constituent	FOD (a)	FOD % (a)	Min (b) (mg/kg)	Max (c) (mg/kg)	Mean (d) (mg/kg)	Location of Max	UCL Selected (e)	UCL (f) (mg/kg)	EPC (g) (mg/kg)	EPC Type
Floodplain Soils	Heptachlor	5 : 65	8	3.40E-04	9.10E-02	1.96E-02	NA	NA	NA	9.10E-02	MAX
Floodplain Soils	Heptachlor epoxide	16 : 65	25	6.40E-05	3.00E-02	7.46E-04	NA	95% KM (Chebyshev) UCL	2.81E-03	2.81E-03	UCL
Floodplain Soils	Indeno(1,2,3-cd)pyrene	22 : 65	34	5.10E-02	2.00E+00	1.97E-01	NA	95% KM (t) UCL	2.62E-01	2.62E-01	UCL
Floodplain Soils	Iron	65 : 65	100	4.10E+03	2.50E+04	1.53E+04	NA	95% Modified-t UCL	1.61E+04	1.61E+04	UCL
Floodplain Soils	Lead	65 : 65	100	2.40E+01	2.60E+02	7.09E+01	NA	95% Approximate Gamma UCL	7.90E+01	7.90E+01	UCL
Floodplain Soils	Magnesium	65 : 65	100	2.80E+03	2.10E+04	5.95E+03	NA	95% Modified-t UCL	6.72E+03	6.72E+03	UCL
Floodplain Soils	Manganese	65 : 65	100	1.20E+02	1.20E+03	3.98E+02	NA	95% Modified-t UCL	4.30E+02	4.30E+02	UCL
Floodplain Soils	MCPA	13 : 65	20	1.80E+00	7.40E+00	2.26E+00	NA	95% KM (Percentile Bootstrap) UCL	2.65E+00	2.65E+00	UCL
Floodplain Soils	MCPP	10 : 65	15	2.20E+00	7.70E+00	2.61E+00	NA	95% KM (Percentile Bootstrap) UCL	3.95E+00	3.95E+00	UCL
Floodplain Soils	Mercury	65 : 65	100	2.70E-02	5.70E-01	7.60E-02	NA	95% Modified-t UCL	9.10E-02	9.10E-02	UCL
Floodplain Soils	Methoxychlor	24 : 65	37	9.30E-04	3.80E-02	4.07E-03	NA	95% KM (t) UCL	5.41E-03	5.41E-03	UCL
Floodplain Soils	Methylene chloride (Dichloromethane)	3 : 65	5	1.80E-03	2.10E-03	1.97E-03	NA	NA	NA	2.10E-03	MAX
Floodplain Soils	Molybdenum	65 : 65	100	2.20E-01	3.20E+00	7.37E-01	NA	95% Approximate Gamma UCL	8.25E-01	8.25E-01	UCL
Floodplain Soils	Naphthalene	2 : 65	3	4.10E-02	6.80E-02	5.45E-02	NA	NA	NA	6.80E-02	MAX
Floodplain Soils	Nickel	65 : 65	100	1.20E+01	5.50E+01	1.91E+01	NA	95% Modified-t UCL	2.04E+01	2.04E+01	UCL
Floodplain Soils	Pentachlorophenol	40 : 65	62	1.30E-03	4.00E-02	4.70E-03	NA	95% KM (BCA) UCL	6.24E-03	6.24E-03	UCL
Floodplain Soils	Phenanthrene	34 : 65	52	2.20E-02	9.20E+00	4.49E-01	NA	97.5% KM (Chebyshev) UCL	1.60E+00	1.60E+00	UCL
Floodplain Soils	Phenol	1 : 65	2	2.10E-01	2.10E-01	2.10E-01	NA	NA	NA	2.10E-01	MAX
Floodplain Soils	Potassium	65 : 65	100	1.20E+03	3.80E+03	2.02E+03	NA	95% Approximate Gamma UCL	2.13E+03	2.13E+03	UCL
Floodplain Soils	Pyrene	32 : 65	49	7.20E-02	8.50E+00	5.46E-01	NA	95% KM (BCA) UCL	8.98E-01	8.98E-01	UCL
Floodplain Soils	Selenium	16 : 65	25	4.80E-01	3.20E+00	7.21E-01	NA	95% KM (t) UCL	8.18E-01	8.18E-01	UCL
Floodplain Soils	Silver	32 : 65	49	2.00E-01	6.00E-01	3.41E-01	NA	95% KM (% Bootstrap) UCL	3.76E-01	3.76E-01	UCL
Floodplain Soils	Sodium	65 : 65	100	7.00E+01	2.60E+02	1.30E+02	NA	95% Modified-t UCL	1.37E+02	1.37E+02	UCL
Floodplain Soils	Thallium	17 : 65	26	7.10E-01	1.40E+00	8.57E-01	NA	95% KM (t) UCL	9.01E-01	9.01E-01	UCL
Floodplain Soils	Toluene	13 : 65	20	2.20E-03	1.20E-02	3.34E-03	NA	95% KM (t) UCL	3.83E-03	3.83E-03	UCL
Floodplain Soils	Total HMW PAHs	44 : 65	68	6.78E-01	4.25E+01	3.42E+00	NA	95% KM (Chebyshev) UCL	7.56E+00	7.56E+00	UCL
Floodplain Soils	Total LMW PAHs	34 : 65	52	9.48E-01	1.43E+01	1.63E+00	NA	95% KM (% Bootstrap) UCL	2.05E+00	2.05E+00	UCL
Floodplain Soils	Total PCBs	53 : 65	82	5.39E-02	3.93E-01	1.09E-01	NA	95% KM (Chebyshev) UCL	1.41E-01	1.41E-01	UCL
Floodplain Soils	Trichloroethene	4 : 65	6	2.60E-03	6.20E-03	4.15E-03	NA	NA	NA	6.20E-03	MAX
Floodplain Soils	Vanadium	65 : 65	100	1.30E+01	1.20E+02	2.82E+01	NA	95% Modified-t UCL	3.11E+01	3.11E+01	UCL
Floodplain Soils	Xylenes, Total	1 : 65	2	4.20E-03	4.20E-03	4.20E-03	NA	NA	NA	4.20E-03	MAX
Floodplain Soils	Zinc	65 : 65	100	7.60E+01	1.40E+03	2.94E+02	NA	95% Chebyshev (Mean, Sd) UCL	4.14E+02	4.14E+02	UCL

Notes:
Dioxin TEQ - 2,3,7,8-Tetrachlorodibenzo-p-dioxin toxic equivalents concentration for mammals. Calculated using TEFs from (Van den Berg et al., 2006).
EPC - Exposure point concentration.
FOD - Frequency of detection.
KM - Kaplan Meier.
PCB - Polychlorinated Biphenyl.
SVOCs - Semivolatile Organic Compounds.
UCL - Upper confidence limit.
VOCs - Volatile Organic Compounds.

(a) Number of valid results (i.e., not rejected): Total number of samples.
(b) Minimum detected concentration for each constituent after results for duplicate samples have been averaged.
(c) Maximum detected concentration for each constituent after results for duplicate samples have been averaged.
(d) When FOD = 100% and when too few samples and detects were available to calculate reliable UCLs (g), the mean was calculated using detected results only. When FOD was less than 100%, the nonparametric mean given by ProUCL (see attached output) was used. All means calculated after results from duplicate samples have been averaged.
(e) UCL recommended for use by ProUCL Version 4.00.02 (U.S. EPA, 2007). If more than one UCL was recommended, the higher UCL was used. See attached output from ProUCL.
(f) UCL on the arithmetic mean for each constituent, after duplicates have been averaged. Confidence level listed with UCL selected. ProUCL selects the appropriate substitution method for non-detects.
(g) UCLs calculated where at least 10 samples and at least 6 detects are available. Where too few samples or detects are available, the maximum detected concentration is used. ProUCL 4.00.02 recommends 10-15 or more distinct results for the most accurate and reliable UCL calculation. When fewer than 10 detects were present in the dataset, the calculations were reviewed individually to determine appropriate UCLs.

TABLE A-2
SUMMARY STATISTICS FOR FOR DEAD CREEK SOILS
SAUGET AREA 1

Site	Constituent	CAS	FOD (a)	FOD % (a)	Min (b) (mg/kg)	Max (c) (mg/kg)	Mean (d) (mg/kg)	Location of Max	UCL Selected (e)	UCL (f) (mg/kg)	EPC (g) (mg/kg)	EPC Type
C	2-Butanone (MEK)	78-93-3	3 : 9	33	5.70E-03	9.90E-03	7.60E-03	CBS-CSC-T6-C	NA	NA	9.90E-03	MAX
C	Acetone	67-64-1	5 : 9	56	9.60E-03	8.30E-02	3.22E-02	CBS-CSC-T6-C	NA	NA	8.30E-02	MAX
C	alpha-Chlordane	5103-71-9	1 : 9	11	9.20E-04	9.20E-04	9.20E-04	CBS-CSC-T4-C	NA	NA	9.20E-04	MAX
C	Aluminum	7429-90-5	9 : 9	100	8.10E+03	1.30E+04	1.08E+04	CBS-CSC-T3-C, CBS-CSC-T5-C	NA	NA	1.30E+04	MAX
C	Antimony	7440-36-0	1 : 9	11	7.90E-01	7.90E-01	7.90E-01	CBS-CSC-T5-C	NA	NA	7.90E-01	MAX
C	Arsenic	7440-38-2	9 : 9	100	3.00E+00	1.40E+01	9.70E+00	CBS-CSC-T1-C, CBS-CSC-T3-C	NA	NA	1.40E+01	MAX
C	Barium	7440-39-3	9 : 9	100	2.00E+02	3.30E+02	2.49E+02	CBS-CSC-T6-C	NA	NA	3.30E+02	MAX
C	Benzene	71-43-2	1 : 9	11	3.00E-03	3.00E-03	3.00E-03	CBS-CSC-T6-C	NA	NA	3.00E-03	MAX
C	Benzo(g,h,i)perylene	191-24-2	1 : 9	11	6.50E-02	6.50E-02	6.50E-02	CBS-CSC-T6-C	NA	NA	6.50E-02	MAX
C	Beryllium	7440-41-7	9 : 9	100	6.80E-01	9.60E-01	8.28E-01	CBS-CSC-T9-C	NA	NA	9.60E-01	MAX
C	Cadmium	7440-43-9	9 : 9	100	1.60E+00	2.40E+01	1.33E+01	CBS-CSC-T7-C	NA	NA	2.40E+01	MAX
C	Calcium	7440-70-2	9 : 9	100	3.60E+03	1.40E+04	7.81E+03	CBS-CSC-T5-C	NA	NA	1.40E+04	MAX
C	Chlorobenzene	108-90-7	9 : 9	100	2.30E-03	7.00E-01	1.30E-01	CBS-CSC-T6-C	NA	NA	7.00E-01	MAX
C	Chromium	7440-47-3	9 : 9	100	1.80E+01	1.10E+02	3.61E+01	CBS-CSC-T2-C	NA	NA	1.10E+02	MAX
C	Cobalt	7440-48-4	9 : 9	100	5.00E+00	1.40E+01	9.41E+00	CBS-CSC-T3-C	NA	NA	1.40E+01	MAX
C	Copper	7440-50-8	9 : 9	100	4.00E+01	2.50E+02	1.09E+02	CBS-CSC-T6-C	NA	NA	2.50E+02	MAX
C	delta-BHC	319-86-8	3 : 9	33	3.70E-04	9.90E-04	5.80E-04	CBS-CSC-T2-C	NA	NA	9.90E-04	MAX
C	Dicamba	1918-00-9	1 : 9	11	6.60E-03	6.60E-03	6.60E-03	CBS-CSC-T8-C	NA	NA	6.60E-03	MAX
C	Dichlorprop	120-36-5	1 : 9	11	6.20E-03	6.20E-03	6.20E-03	CBS-CSC-T1-C	NA	NA	6.20E-03	MAX
C	Dieldrin	60-57-1	8 : 9	89	4.60E-04	1.10E-02	3.98E-03	CBS-CSC-T2-C	NA	NA	1.10E-02	MAX
C	Dioxin TEQ-HH	Dioxin TEQ-HH	9 : 9	100	5.40E-06	4.67E-05	1.57E-05	CBS-CSC-T4-C	NA	NA	4.67E-05	MAX
C	Endosulfan sulfate	1031-07-8	3 : 9	33	7.20E-04	7.00E-03	3.24E-03	CBS-CSC-T2-C	NA	NA	7.00E-03	MAX
C	Endrin ketone	53494-70-5	1 : 9	11	1.00E-02	1.00E-02	1.00E-02	CBS-CSC-T2-C	NA	NA	1.00E-02	MAX
C	gamma-Chlordane	5103-74-2	1 : 9	11	1.10E-03	1.10E-03	1.10E-03	CBS-CSC-T1-C	NA	NA	1.10E-03	MAX
C	Iron	7439-89-6	9 : 9	100	1.20E+04	2.10E+04	1.76E+04	CBS-CSC-T5-C	NA	NA	2.10E+04	MAX
C	Lead	7439-92-1	9 : 9	100	1.80E+01	1.40E+02	4.32E+01	CBS-CSC-T6-C	NA	NA	1.40E+02	MAX
C	Magnesium	7439-95-4	9 : 9	100	2.80E+03	6.70E+03	4.43E+03	CBS-CSC-T5-C	NA	NA	6.70E+03	MAX
C	Manganese	7439-96-5	9 : 9	100	7.90E+01	3.90E+02	1.89E+02	CBS-CSC-T5-C	NA	NA	3.90E+02	MAX
C	Mercury	7439-97-6	9 : 9	100	4.60E-02	3.10E-01	9.56E-02	CBS-CSC-T6-C	NA	NA	3.10E-01	MAX
C	Methoxychlor	72-43-5	3 : 9	33	2.50E-03	7.10E-03	4.15E-03	CBS-CSC-T2-C	NA	NA	7.10E-03	MAX
C	Methylene chloride	75-09-2	4 : 9	44	2.30E-03	4.80E-03	3.00E-03	CBS-CSC-T6-C	NA	NA	4.80E-03	MAX
C	Nickel	7440-02-0	9 : 9	100	6.00E+01	5.70E+02	2.63E+02	CBS-CSC-T3-C	NA	NA	5.70E+02	MAX
C	Pentachlorophenol	87-86-5	7 : 9	78	1.60E-03	1.40E-02	4.29E-03	CBS-CSC-T6-C	NA	NA	1.40E-02	MAX
C	Phenanthrene	85-01-8	1 : 9	11	2.50E-02	2.50E-02	2.50E-02	CBS-CSC-T2-C	NA	NA	2.50E-02	MAX
C	Potassium	7440-09-7	9 : 9	100	1.40E+03	2.30E+03	1.87E+03	CBS-CSC-T5-C	NA	NA	2.30E+03	MAX
C	Sodium	7440-23-5	9 : 9	100	9.00E+01	2.00E+02	1.24E+02	CBS-CSC-T5-C	NA	NA	2.00E+02	MAX
C	Styrene	100-42-5	1 : 9	11	2.70E-03	2.70E-03	2.70E-03	CBS-CSC-T2-C	NA	NA	2.70E-03	MAX
C	Tin	7440-31-5	1 : 9	11	7.50E+00	7.50E+00	7.50E+00	CBS-CSC-T6-C	NA	NA	7.50E+00	MAX
C	Toluene	108-88-3	4 : 9	44	3.30E-03	7.50E-03	4.83E-03	CBS-CSC-T6-C	NA	NA	7.50E-03	MAX
C	Total HMW PAHs	Total HMW PAHs	1 : 9	11	6.50E-02	6.50E-02	6.50E-02	CBS-CSC-T6-C	NA	NA	6.50E-02	MAX
C	Total LMW PAHs	Total LMW PAHs	1 : 9	11	2.50E-02	2.50E-02	2.50E-02	CBS-CSC-T2-C	NA	NA	2.50E-02	MAX
C	Total PCBs	Total PCBs	6 : 9	67	1.02E-01	1.78E-01	1.24E-01	CBS-CSC-T2-C	NA	NA	1.78E-01	MAX
C	Vanadium	7440-62-2	9 : 9	100	2.30E+01	3.70E+01	3.10E+01	CBS-CSC-T3-C	NA	NA	3.70E+01	MAX
C	Xylenes (total)	1330-20-7	1 : 9	11	4.30E-03	4.30E-03	4.30E-03	CBS-CSC-T6-C	NA	NA	4.30E-03	MAX
C	Zinc	7440-66-6	9 : 9	100	3.40E+02	3.40E+03	2.14E+03	CBS-CSC-T7-C	NA	NA	3.40E+03	MAX

TABLE A-2
SUMMARY STATISTICS FOR FOR DEAD CREEK SOILS
SAUGET AREA 1

Site	Constituent	CAS	FOD (a)	FOD % (a)	Min (b) (mg/kg)	Max (c) (mg/kg)	Mean (d) (mg/kg)	Location of Max	UCL Selected (e)	UCL (f) (mg/kg)	EPC (g) (mg/kg)	EPC Type
D	1,4-Dichlorobenzene	106-46-7	2 : 6	33	5.30E-02	1.30E-01	9.15E-02	CBS-CSD-T1-C	NA	NA	1.30E-01	MAX
D	2,4,5-T	93-76-5	1 : 6	17	5.40E-03	5.40E-03	5.40E-03	CBS-CSD-T1-C	NA	NA	5.40E-03	MAX
D	2-Butanone (MEK)	78-93-3	3 : 6	50	6.30E-03	1.00E-02	8.07E-03	CBS-CSD-T1-C	NA	NA	1.00E-02	MAX
D	4,4'-DDD	72-54-8	1 : 6	17	1.40E-03	1.40E-03	1.40E-03	CBS-CSD-T1-C	NA	NA	1.40E-03	MAX
D	4,4'-DDT	50-29-3	1 : 6	17	2.40E-01	2.40E-01	2.40E-01	CBS-CSD-T6-C	NA	NA	2.40E-01	MAX
D	Aldrin	309-00-2	2 : 6	33	7.50E-04	9.00E-03	4.88E-03	CBS-CSD-T6-C	NA	NA	9.00E-03	MAX
D	alpha-Chlordane	5103-71-9	1 : 6	17	1.20E-02	1.20E-02	1.20E-02	CBS-CSD-T6-C	NA	NA	1.20E-02	MAX
D	Aluminum	7429-90-5	6 : 6	100	8.30E+03	1.40E+04	1.09E+04	CBS-CSD-T4-C	NA	NA	1.40E+04	MAX
D	Arsenic	7440-38-2	6 : 6	100	5.70E+00	1.80E+01	1.14E+01	CBS-CSD-T2-C	NA	NA	1.80E+01	MAX
D	Barium	7440-39-3	6 : 6	100	2.00E+02	5.70E+02	3.12E+02	CBS-CSD-T6-C	NA	NA	5.70E+02	MAX
D	Benzo(a)pyrene	50-32-8	3 : 6	50	4.90E-02	1.40E-01	1.06E-01	CBS-CSD-T6-C	NA	NA	1.40E-01	MAX
D	Benzo(b)fluoranthene	205-99-2	1 : 6	17	2.00E-01	2.00E-01	2.00E-01	CBS-CSD-T6-C	NA	NA	2.00E-01	MAX
D	Benzo(g,h,i)perylene	191-24-2	2 : 6	33	1.30E-01	2.20E-01	1.75E-01	CBS-CSD-T6-C	NA	NA	2.20E-01	MAX
D	Benzo(k)fluoranthene	207-08-9	1 : 6	17	2.10E-01	2.10E-01	2.10E-01	CBS-CSD-T6-C	NA	NA	2.10E-01	MAX
D	Beryllium	7440-41-7	6 : 6	100	6.50E-01	9.90E-01	8.38E-01	CBS-CSD-T4-C	NA	NA	9.90E-01	MAX
D	Cadmium	7440-43-9	6 : 6	100	8.50E+00	4.00E+01	1.98E+01	CBS-CSD-T2-C	NA	NA	4.00E+01	MAX
D	Calcium	7440-70-2	6 : 6	100	4.00E+03	2.50E+04	8.53E+03	CBS-CSD-T6-C	NA	NA	2.50E+04	MAX
D	Chlorobenzene	108-90-7	5 : 6	83	2.00E-03	1.50E-01	3.68E-02	CBS-CSD-T1-C	NA	NA	1.50E-01	MAX
D	Chromium	7440-47-3	6 : 6	100	4.10E+01	5.70E+01	4.93E+01	CBS-CSD-T3-C	NA	NA	5.70E+01	MAX
D	Cobalt	7440-48-4	6 : 6	100	6.00E+00	1.20E+01	9.47E+00	CBS-CSD-T1-C	NA	NA	1.20E+01	MAX
D	Copper	7440-50-8	6 : 6	100	7.90E+01	1.60E+03	3.86E+02	CBS-CSD-T6-C	NA	NA	1.60E+03	MAX
D	Dalapon	75-99-0	1 : 6	17	5.00E-02	5.00E-02	5.00E-02	CBS-CSD-T2-C	NA	NA	5.00E-02	MAX
D	delta-BHC	319-86-8	4 : 6	67	4.30E-04	1.90E-03	8.55E-04	CBS-CSD-T6-C	NA	NA	1.90E-03	MAX
D	Dicamba	1918-00-9	1 : 6	17	1.80E-03	1.80E-03	1.80E-03	CBS-CSD-T3-C	NA	NA	1.80E-03	MAX
D	Dichlorprop	120-36-5	1 : 6	17	2.10E-02	2.10E-02	2.10E-02	CBS-CSD-T2-C	NA	NA	2.10E-02	MAX
D	Dieldrin	60-57-1	5 : 6	83	1.30E-03	6.90E-01	1.42E-01	CBS-CSD-T6-C	NA	NA	6.90E-01	MAX
D	Dioxin TEQ-HH	Dioxin TEQ-HH	6 : 6	100	2.26E-05	9.57E-04	1.84E-04	CBS-CSD-T6-C	NA	NA	9.57E-04	MAX
D	Endosulfan sulfate	1031-07-8	1 : 6	17	9.50E-03	9.50E-03	9.50E-03	CBS-CSD-T6-C	NA	NA	9.50E-03	MAX
D	Fluoranthene	206-44-0	4 : 6	67	6.90E-02	1.90E-01	1.37E-01	CBS-CSD-T6-C	NA	NA	1.90E-01	MAX
D	gamma-Chlordane	5103-74-2	2 : 6	33	4.00E-03	6.70E-02	3.55E-02	CBS-CSD-T6-C	NA	NA	6.70E-02	MAX
D	Indeno(1,2,3-cd)pyrene	193-39-5	2 : 6	33	1.10E-01	1.80E-01	1.45E-01	CBS-CSD-T6-C	NA	NA	1.80E-01	MAX
D	Iron	7439-89-6	6 : 6	100	1.40E+04	2.00E+04	1.72E+04	CBS-CSD-T4-C	NA	NA	2.00E+04	MAX
D	Lead	7439-92-1	6 : 6	100	2.30E+01	2.80E+02	9.82E+01	CBS-CSD-T6-C	NA	NA	2.80E+02	MAX
D	Magnesium	7439-95-4	6 : 6	100	2.90E+03	5.00E+03	3.77E+03	CBS-CSD-T6-C	NA	NA	5.00E+03	MAX
D	Manganese	7439-96-5	6 : 6	100	1.00E+02	1.90E+02	1.37E+02	CBS-CSD-T3-C	NA	NA	1.90E+02	MAX
D	Mercury	7439-97-6	6 : 6	100	6.50E-02	7.10E-01	2.38E-01	CBS-CSD-T4-C	NA	NA	7.10E-01	MAX
D	Methoxychlor	72-43-5	3 : 6	50	4.00E-03	6.20E-02	2.49E-02	CBS-CSD-T6-C	NA	NA	6.20E-02	MAX
D	Methylene chloride	75-09-2	4 : 6	67	2.30E-03	3.20E-03	2.68E-03	CBS-CSD-T6-C	NA	NA	3.20E-03	MAX
D	Molybdenum	7439-98-7	2 : 6	33	4.70E+00	7.00E+00	5.85E+00	CBS-CSD-T6-C	NA	NA	7.00E+00	MAX
D	Nickel	7440-02-0	6 : 6	100	9.00E+01	5.30E+02	2.87E+02	CBS-CSD-T6-C	NA	NA	5.30E+02	MAX
D	Pentachlorophenol	87-86-5	5 : 6	83	2.40E-03	1.30E-02	5.98E-03	CBS-CSD-T2-C	NA	NA	1.30E-02	MAX
D	Phenanthrene	85-01-8	2 : 6	33	4.70E-02	1.20E-01	8.35E-02	CBS-CSD-T6-C	NA	NA	1.20E-01	MAX
D	Potassium	7440-09-7	6 : 6	100	1.60E+03	2.10E+03	1.80E+03	CBS-CSD-T3-C, CBS-CSD-T4-C	NA	NA	2.10E+03	MAX
D	Pyrene	129-00-0	3 : 6	50	1.20E-01	1.60E-01	1.43E-01	CBS-CSD-T6-C	NA	NA	1.60E-01	MAX
D	Selenium	7782-49-2	1 : 6	17	2.80E+00	2.80E+00	2.80E+00	CBS-CSD-T1-C	NA	NA	2.80E+00	MAX
D	Silver	7440-22-4	1 : 6	17	1.50E+00	1.50E+00	1.50E+00	CBS-CSD-T6-C	NA	NA	1.50E+00	MAX
D	Sodium	7440-23-5	6 : 6	100	1.20E+02	3.30E+02	1.75E+02	CBS-CSD-T6-C	NA	NA	3.30E+02	MAX
D	Tin	7440-31-5	2 : 6	33	6.60E+00	1.10E+01	8.80E+00	CBS-CSD-T6-C	NA	NA	1.10E+01	MAX
D	Toluene	108-88-3	1 : 6	17	2.90E-03	2.90E-03	2.90E-03	CBS-CSD-T6-C	NA	NA	2.90E-03	MAX
D	Total HMW PAHs	Total HMW PAHs	4 : 6	67	1.11E+00	1.45E+00	1.32E+00	CBS-CSD-T1-C	NA	NA	1.45E+00	MAX
D	Total LMW PAHs	Total LMW PAHs	2 : 6	33	4.70E-02	1.20E-01	8.35E-02	CBS-CSD-T6-C	NA	NA	1.20E-01	MAX
D	Total PCBs	Total PCBs	5 : 6	83	8.09E-02	2.44E+00	6.05E-01	CBS-CSD-T6-C	NA	NA	2.44E+00	MAX
D	Vanadium	7440-62-2	6 : 6	100	2.60E+01	3.60E+01	3.15E+01	CBS-CSD-T4-C	NA	NA	3.60E+01	MAX
D	Zinc	7440-66-6	6 : 6	100	1.80E+03	8.20E+03	4.10E+03	CBS-CSD-T2-C	NA	NA	8.20E+03	MAX

TABLE A-2
SUMMARY STATISTICS FOR FOR DEAD CREEK SOILS
SAUGET AREA 1

Site	Constituent	CAS	FOD (a)	FOD % (a)	Min (b) (mg/kg)	Max (c) (mg/kg)	Mean (d) (mg/kg)	Location of Max	UCL Selected (e)	UCL (f) (mg/kg)	EPC (g) (mg/kg)	EPC Type
E	1,4-Dichlorobenzene	106-46-7	1 : 17	6	2.30E-01	2.30E-01	2.30E-01	CBS-CSE-T16-C	NA	NA	2.30E-01	MAX
E	2,4-D	94-75-7	2 : 17	12	1.60E-02	3.50E-02	2.55E-02	CBS-CSE-T5-C	NA	NA	3.50E-02	MAX
E	2-Butanone (MEK)	78-93-3	5 : 17	29	7.30E-03	1.40E-02	1.06E-02	CBS-CSE-T1-C	NA	NA	1.40E-02	MAX
E	4,4'-DDD	72-54-8	2 : 17	12	5.90E-04	4.70E-02	2.38E-02	CBS-CSE-T17-C	NA	NA	4.70E-02	MAX
E	4,4'-DDE	72-55-9	6 : 17	35	2.40E-04	7.20E-03	9.28E-04	CBS-CSE-T17-C	95% KM (BCA) UCL	1.82E-03	1.82E-03	UCL
E	4,4'-DDT	50-29-3	7 : 17	41	5.60E-04	1.70E-02	2.51E-03	CBS-CSE-T6-C	95% KM (t) UCL	4.66E-03	4.66E-03	UCL
E	Acetone	67-64-1	9 : 17	53	1.80E-02	7.30E-02	3.78E-02	CBS-CSE-T1-C	95% KM (t) UCL	4.82E-02	4.82E-02	UCL
E	alpha-BHC	319-84-6	1 : 17	6	1.30E-03	1.30E-03	1.30E-03	CBS-CSE-T16-C	NA	NA	1.30E-03	MAX
E	alpha-Chlordane	5103-71-9	1 : 17	6	8.70E-03	8.70E-03	8.70E-03	CBS-CSE-T17-C	NA	NA	8.70E-03	MAX
E	Aluminum	7429-90-5	17 : 17	100	5.50E+03	1.40E+04	9.97E+03	CBS-CSE-T12-C	95% Student's-t UCL	1.09E+04	1.09E+04	UCL
E	Anthracene	120-12-7	1 : 17	6	5.00E-02	5.00E-02	5.00E-02	CBS-CSE-T16-C	NA	NA	5.00E-02	MAX
E	Antimony	7440-36-0	3 : 17	18	7.50E-01	4.70E+00	2.14E+00	CBS-CSE-T16-C	NA	NA	4.70E+00	MAX
E	Arsenic	7440-38-2	16 : 17	94	2.80E+00	2.00E+01	8.15E+00	CBS-CSE-T16-C	95% KM (BCA) UCL	1.02E+01	1.02E+01	UCL
E	Barium	7440-39-3	17 : 17	100	1.50E+02	6.40E+02	2.52E+02	CBS-CSE-T16-C	95% Modified-t UCL	3.00E+02	3.00E+02	UCL
E	Benzo(a)anthracene	56-55-3	3 : 17	18	5.80E-02	2.60E-01	1.43E-01	CBS-CSE-T16-C	NA	NA	2.60E-01	MAX
E	Benzo(a)pyrene	50-32-8	3 : 17	18	7.20E-02	4.20E-01	2.11E-01	CBS-CSE-T16-C	NA	NA	4.20E-01	MAX
E	Benzo(b)fluoranthene	205-99-2	4 : 17	24	3.70E-02	5.10E-01	2.02E-01	CBS-CSE-T16-C	NA	NA	5.10E-01	MAX
E	Benzo(g,h,i)perylene	191-24-2	3 : 17	18	6.90E-02	3.50E-01	1.96E-01	CBS-CSE-T16-C	NA	NA	3.50E-01	MAX
E	Benzo(k)fluoranthene	207-08-9	3 : 17	18	8.30E-02	3.70E-01	1.98E-01	CBS-CSE-T16-C	NA	NA	3.70E-01	MAX
E	Beryllium	7440-41-7	17 : 17	100	3.10E-01	1.10E+00	7.44E-01	CBS-CSE-T12-C	95% Student's-t UCL	8.28E-01	8.28E-01	UCL
E	Bis(2-ethylhexyl)phthalate	117-81-7	1 : 17	6	7.70E-02	7.70E-02	7.70E-02	CBS-CSE-T11-C	NA	NA	7.70E-02	MAX
E	Cadmium	7440-43-9	17 : 17	100	3.10E+00	3.80E+01	1.42E+01	CBS-CSE-T16-C	95% Approximate Gamma UCL	1.97E+01	1.97E+01	UCL
E	Calcium	7440-70-2	17 : 17	100	3.30E+03	1.30E+04	8.02E+03	CBS-CSE-T17-C, CBS-CSE-T8-C	95% Student's-t UCL	9.40E+03	9.40E+03	UCL
E	Chlorobenzene	108-90-7	12 : 17	71	2.00E-03	2.10E-01	2.33E-02	CBS-CSE-T16-C	97.5% KM (Chebyshev) UCL	1.01E-01	1.01E-01	UCL
E	Chromium	7440-47-3	17 : 17	100	1.40E+01	1.70E+02	4.73E+01	CBS-CSE-T5-C	95% Chebyshev (Mean, Sd) UCL	9.50E+01	9.50E+01	UCL
E	Chrysene	218-01-9	4 : 17	24	3.70E-02	3.70E-01	1.63E-01	CBS-CSE-T16-C	NA	NA	3.70E-01	MAX
E	Cobalt	7440-48-4	17 : 17	100	3.20E+00	1.30E+01	8.08E+00	CBS-CSE-T14-C	95% Student's-t UCL	9.10E+00	9.10E+00	UCL
E	Copper	7440-50-8	17 : 17	100	2.45E+01	4.30E+03	4.25E+02	CBS-CSE-T16-C	95% Chebyshev (MVUE) UCL	8.65E+02	8.65E+02	UCL
E	Cyanide	57-12-5	1 : 17	6	2.60E+00	2.60E+00	2.60E+00	CBS-CSE-T7-C	NA	NA	2.60E+00	MAX
E	Dibenzo(a,h)anthracene	53-70-3	1 : 17	6	1.40E-01	1.40E-01	1.40E-01	CBS-CSE-T16-C	NA	NA	1.40E-01	MAX
E	Dicamba	1918-00-9	1 : 17	6	2.50E-03	2.50E-03	2.50E-03	CBS-CSE-T10-C	NA	NA	2.50E-03	MAX
E	Dieldrin	60-57-1	13 : 17	76	1.90E-04	3.40E-02	5.02E-03	CBS-CSE-T16-C	99% KM (Chebyshev) UCL	2.94E-02	2.94E-02	UCL
E	di-n-Butylphthalate	84-74-2	1 : 17	6	7.40E-02	7.40E-02	7.40E-02	CBS-CSE-T15-C	NA	NA	7.40E-02	MAX
E	Dioxin TEQ-HH	Dioxin TEQ-HH	14 : 17	82	1.26E-05	1.63E-04	4.85E-05	CBS-CSE-T17-C	95% KM (BCA) UCL	6.50E-05	6.50E-05	UCL
E	Endosulfan I	959-98-8	3 : 17	18	1.10E-04	1.70E-04	1.43E-04	CBS-CSE-T12-C	NA	NA	1.70E-04	MAX
E	Endosulfan II	33213-65-9	1 : 17	6	6.60E-04	6.60E-04	6.60E-04	CBS-CSE-T2-C	NA	NA	6.60E-04	MAX
E	Endosulfan sulfate	1031-07-8	2 : 17	12	1.50E-03	1.60E-02	8.75E-03	CBS-CSE-T16-C	NA	NA	1.60E-02	MAX
E	Ethylbenzene	100-41-4	1 : 17	6	4.90E-03	4.90E-03	4.90E-03	CBS-CSE-T16-C	NA	NA	4.90E-03	MAX
E	Fluoranthene	206-44-0	4 : 17	24	5.90E-02	7.10E-01	2.97E-01	CBS-CSE-T16-C	NA	NA	7.10E-01	MAX
E	gamma-Chlordane	5103-74-2	2 : 17	12	2.40E-04	5.50E-03	2.87E-03	CBS-CSE-T17-C	NA	NA	5.50E-03	MAX
E	Heptachlor epoxide	1024-57-3	5 : 17	29	1.80E-04	5.90E-04	4.34E-04	CBS-CSE-T9-C	NA	NA	5.90E-04	MAX
E	Indeno(1,2,3-cd)pyrene	193-39-5	2 : 17	12	1.60E-01	3.50E-01	2.55E-01	CBS-CSE-T16-C	NA	NA	3.50E-01	MAX
E	Iron	7439-89-6	17 : 17	100	7.50E+03	2.70E+04	1.78E+04	CBS-CSE-T16-C	95% Student's-t UCL	1.99E+04	1.99E+04	UCL
E	Lead	7439-92-1	17 : 17	100	1.70E+01	4.00E+02	7.85E+01	CBS-CSE-T16-C	95% H-UCL	1.25E+02	1.25E+02	UCL
E	Magnesium	7439-95-4	17 : 17	100	1.50E+03	6.90E+03	4.51E+03	CBS-CSE-T8-C	95% Student's-t UCL	5.18E+03	5.18E+03	UCL
E	Manganese	7439-96-5	17 : 17	100	6.10E+01	3.00E+02	1.73E+02	CBS-CSE-T17-C	95% Student's-t UCL	2.00E+02	2.00E+02	UCL
E	Mercury	7439-97-6	17 : 17	100	8.30E-02	1.60E+00	4.06E-01	CBS-CSE-T16-C	95% Approximate Gamma UCL	5.97E-01	5.97E-01	UCL
E	Methoxychlor	72-43-5	3 : 17	18	4.90E-04	8.90E-04	7.20E-04	CBS-CSE-T9-C	NA	NA	8.90E-04	MAX
E	Methylene chloride	75-09-2	3 : 17	18	1.80E-03	3.30E-03	2.47E-03	CBS-CSE-T15-C	NA	NA	3.30E-03	MAX
E	Molybdenum	7439-98-7	2 : 17	12	4.60E-01	1.50E+00	9.80E-01	CBS-CSE-T16-C	NA	NA	1.50E+00	MAX
E	Nickel	7440-02-0	17 : 17	100	4.40E+01	6.00E+02	1.81E+02	CBS-CSE-T16-C	95% Approximate Gamma UCL	2.44E+02	2.44E+02	UCL
E	Pentachlorophenol	87-86-5	7 : 17	41	1.60E-03	3.30E-02	7.45E-03	CBS-CSE-T16-C	95% KM (t) UCL	1.23E-02	1.23E-02	UCL
E	Phenanthrene	85-01-8	4 : 17	24	2.30E-02	2.90E-01	1.24E-01	CBS-CSE-T16-C	NA	NA	2.90E-01	MAX
E	Potassium	7440-09-7	17 : 17	100	1.30E+03	2.90E+03	2.07E+03	CBS-CSE-T12-C	95% Student's-t UCL	2.26E+03	2.26E+03	UCL
E	Pyrene	129-00-0	3 : 17	18	1.00E-01	4.80E-01	2.67E-01	CBS-CSE-T16-C	NA	NA	4.80E-01	MAX
E	Silver	7440-22-4	3 : 17	18	6.10E-01	9.80E+00	3.68E+00	CBS-CSE-T16-C	NA	NA	9.80E+00	MAX
E	Sodium	7440-23-5	17 : 17	100	1.60E+02	3.90E+02	2.41E+02	CBS-CSE-T16-C	95% Student's-t UCL	2.66E+02	2.66E+02	UCL

TABLE A-2
SUMMARY STATISTICS FOR FOR DEAD CREEK SOILS
SAUGET AREA 1

Site	Constituent	CAS	FOD (a)	FOD % (a)	Min (b) (mg/kg)	Max (c) (mg/kg)	Mean (d) (mg/kg)	Location of Max	UCL Selected (e)	UCL (f) (mg/kg)	EPC (g) (mg/kg)	EPC Type
E	Thallium	7440-28-0	1 : 17	6	8.80E-01	8.80E-01	8.80E-01	CBS-CSE-T13-C	NA	NA	8.80E-01	MAX
E	Tin	7440-31-5	3 : 17	18	6.70E+00	3.10E+01	1.62E+01	CBS-CSE-T16-C	NA	NA	3.10E+01	MAX
E	Toluene	108-88-3	3 : 17	18	2.60E-03	5.70E-03	4.00E-03	CBS-CSE-T15-C	NA	NA	5.70E-03	MAX
E	Total HMW PAHs	Total HMW PAHs	4 : 17	24	1.06E+00	3.96E+00	2.10E+00	CBS-CSE-T16-C	NA	NA	3.96E+00	MAX
E	Total LMW PAHs	Total LMW PAHs	4 : 17	24	2.43E-01	4.30E-01	3.29E-01	CBS-CSE-T17-C	NA	NA	4.30E-01	MAX
E	Total PCBs	Total PCBs	10 : 17	59	8.97E-02	1.25E+00	2.23E-01	CBS-CSE-T16-C	95% KM (t) UCL	3.66E-01	3.66E-01	UCL
E	Vanadium	7440-62-2	17 : 17	100	1.80E+01	3.90E+01	2.95E+01	CBS-CSE-T16-C	95% Student's-t UCL	3.20E+01	3.20E+01	UCL
E	Zinc	7440-66-6	17 : 17	100	3.20E+02	5.90E+03	1.92E+03	CBS-CSE-T16-C	95% Approximate Gamma UCL	2.65E+03	2.65E+03	UCL

Notes:
Dioxin TEQ - 2,3,7,8-Tetrachlorodibenzo-p-dioxin toxic equivalents concentration for mammals. Calculated using TEFs from (Van den Berg et al., 2006).
EPC - Exposure point concentration.
FOD - Frequency of detection.
KM - Kaplan Meier.
PCB - Polychlorinated Biphenyl.
SVOCs - Semivolatile Organic Compounds.
UCL - Upper confidence limit.
VOCs - Volatile Organic Compounds.

(a) Number of valid results (i.e., not rejected): Total number of samples.
(b) Minimum detected concentration for each constituent after results for duplicate samples have been averaged.
(c) Maximum detected concentration for each constituent after results for duplicate samples have been averaged.
(d) When FOD = 100% and when too few samples and detects were available to calculate reliable UCLs (g), the mean was calculated using detected results only. When FOD was less than 100%, the nonparametric mean given by ProUCL (see attached output) was used. All means calculated after results from duplicate samples have been averaged.
(e) UCL recommended for use by ProUCL Version 4.00.02 (U.S. EPA, 2007). If more than one UCL was recommended, the higher UCL was used. See attached output from ProUCL.
(f) UCL on the arithmetic mean for each constituent, after duplicates have been averaged. Confidence level listed with UCL selected. ProUCL selects the appropriate substitution method for non-detects.
(g) UCLs calculated where at least 10 samples and at least 6 detects are available. Where too few samples or detects are available, the maximum detected concentration is used. ProUCL 4.00.02 recommends 10-15 or more distinct results for the most accurate and reliable UCL calculation. When fewer than 10 detects were present in the dataset, the calculations were reviewed individually to determine appropriate UCLs.

General UCL Statistics for Full Data Sets

User Selected Options

From File	J:\Indl_Service\Project Files\Solutia-6105\HHRA AddOn\SA1 Eco Screen\Data\Floodplain_ProUCLinput.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Aluminum (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	42

Raw Statistics

Minimum	3300
Maximum	18000
Mean	9391
Median	9000
SD	3163
Coefficient of Variation	0.337
Skewness	0.868

Log-transformed Statistics

Minimum of Log Data	8.102
Maximum of Log Data	9.798
Mean of log Data	9.093
SD of log Data	0.333

Relevant UCL Statistics

Normal Distribution Test

Lilliefors Test Statistic	0.131
Lilliefors Critical Value	0.11

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Lilliefors Test Statistic	0.0704
Lilliefors Critical Value	0.11

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	10046

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	10081
95% Modified-t UCL	10053

Assuming Lognormal Distribution

95% H-UCL	10120
95% Chebyshev (MVUE) UCL	11126
97.5% Chebyshev (MVUE) UCL	11875
99% Chebyshev (MVUE) UCL	13347

Gamma Distribution Test

k star (bias corrected)	8.991
Theta Star	1044
nu star	1169
Approximate Chi Square Value (.05)	1091
Adjusted Level of Significance	0.0463
Adjusted Chi Square Value	1089
Anderson-Darling Test Statistic	0.38
Anderson-Darling 5% Critical Value	0.751
Kolmogorov-Smirnov Test Statistic	0.0885
Kolmogorov-Smirnov 5% Critical Value	0.111

Data appear Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	10066
95% Adjusted Gamma UCL	10081

Nonparametric Statistics

95% CLT UCL	10036
95% Jackknife UCL	10046
95% Standard Bootstrap UCL	10027
95% Bootstrap-t UCL	10114
95% Hall's Bootstrap UCL	10118
95% Percentile Bootstrap UCL	10060
95% BCA Bootstrap UCL	10076
95% Chebyshev(Mean, Sd) UCL	11101
97.5% Chebyshev(Mean, Sd) UCL	11841
99% Chebyshev(Mean, Sd) UCL	13295

Potential UCL to Use

Use 95% Approximate Gamma UCL 10066

Arsenic (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	43

Raw Statistics		Log-transformed Statistics	
Minimum	2.6	Minimum of Log Data	0.956
Maximum	34	Maximum of Log Data	3.526
Mean	7.405	Mean of log Data	1.938
Median	6.8	SD of log Data	0.328
SD	3.735		
Coefficient of Variation	0.504		
Skewness	5.743		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.228	Lilliefors Test Statistic	0.118
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	8.179	95% H-UCL	7.878
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8.651
95% Adjusted-CLT UCL	8.52	97.5% Chebyshev (MVUE) UCL	9.226
95% Modified-t UCL	8.234	99% Chebyshev (MVUE) UCL	10.36

Gamma Distribution Test		Data Distribution
k star (bias corrected)	7.598	Data do not follow a Discernable Distribution (0.05)
Theta Star	0.975	
nu star	987.8	
Approximate Chi Square Value (.05)	915.8	Nonparametric Statistics
Adjusted Level of Significance	0.0463	95% CLT UCL 8.167
Adjusted Chi Square Value	914.3	95% Jackknife UCL 8.179
		95% Standard Bootstrap UCL 8.194
Anderson-Darling Test Statistic	2.426	95% Bootstrap-t UCL 8.816
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL 11.49
Kolmogorov-Smirnov Test Statistic	0.142	95% Percentile Bootstrap UCL 8.304
Kolmogorov-Smirnov 5% Critical Value	0.111	95% BCA Bootstrap UCL 8.624
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 9.425
		97.5% Chebyshev(Mean, Sd) UCL 10.3
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 12.01
95% Approximate Gamma UCL	7.987	
95% Adjusted Gamma UCL	8.001	

Potential UCL to Use	
Use 95% Student's-t UCL	8.179
or 95% Modified-t UCL	8.234

Barium (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	23

Raw Statistics

Minimum	40
Maximum	1200
Mean	186.5
Median	180
SD	132.9
Coefficient of Variation	0.713
Skewness	7.104

Log-transformed Statistics

Minimum of Log Data	3.689
Maximum of Log Data	7.09
Mean of log Data	5.138
SD of log Data	0.372

Relevant UCL Statistics

Normal Distribution Test

Lilliefors Test Statistic	0.353
Lilliefors Critical Value	0.11

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Lilliefors Test Statistic	0.21
Lilliefors Critical Value	0.11

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	214

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	229.1
95% Modified-t UCL	216.4

Assuming Lognormal Distribution

95% H-UCL	198.4
95% Chebyshev (MVUE) UCL	220.2
97.5% Chebyshev (MVUE) UCL	236.6
99% Chebyshev (MVUE) UCL	268.7

Gamma Distribution Test

k star (bias corrected)	5.455
Theta Star	34.18
nu star	709.2
Approximate Chi Square Value (.05)	648.4
Adjusted Level of Significance	0.0463
Adjusted Chi Square Value	647.1

Anderson-Darling Test Statistic	6.062
Anderson-Darling 5% Critical Value	0.753
Kolmogorov-Smirnov Test Statistic	0.257
Kolmogorov-Smirnov 5% Critical Value	0.111

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	203.9
95% Adjusted Gamma UCL	204.3

Data Distribution

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

95% CLT UCL	213.6
95% Jackknife UCL	214
95% Standard Bootstrap UCL	213.8
95% Bootstrap-t UCL	260.2
95% Hall's Bootstrap UCL	329.3
95% Percentile Bootstrap UCL	217.3
95% BCA Bootstrap UCL	237.2
95% Chebyshev(Mean, Sd) UCL	258.3
97.5% Chebyshev(Mean, Sd) UCL	289.4
99% Chebyshev(Mean, Sd) UCL	350.4

Potential UCL to Use

Use 95% Student's-t UCL	214
or 95% Modified-t UCL	216.4

Beryllium (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	40

Raw Statistics		Log-transformed Statistics	
Minimum	0.18	Minimum of Log Data	-1.715
Maximum	1.1	Maximum of Log Data	0.0953
Mean	0.613	Mean of log Data	-0.537
Median	0.59	SD of log Data	0.32
SD	0.185		
Coefficient of Variation	0.302		
Skewness	0.555		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.0942	Lilliefors Test Statistic	0.0881
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.651	95% H-UCL	0.66
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.724
95% Adjusted-CLT UCL	0.652	97.5% Chebyshev (MVUE) UCL	0.771
95% Modified-t UCL	0.652	99% Chebyshev (MVUE) UCL	0.863

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	10.27	Data appear Normal at 5% Significance Level	
Theta Star	0.0597		
nu star	1335		
Approximate Chi Square Value (.05)	1251	Nonparametric Statistics	
Adjusted Level of Significance	0.0463	95% CLT UCL	0.651
Adjusted Chi Square Value	1249	95% Jackknife UCL	0.651
		95% Standard Bootstrap UCL	0.65
Anderson-Darling Test Statistic	0.361	95% Bootstrap-t UCL	0.655
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	0.654
Kolmogorov-Smirnov Test Statistic	0.075	95% Percentile Bootstrap UCL	0.651
Kolmogorov-Smirnov 5% Critical Value	0.111	95% BCA Bootstrap UCL	0.652
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.713
		97.5% Chebyshev(Mean, Sd) UCL	0.756
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.841
95% Approximate Gamma UCL	0.654		
95% Adjusted Gamma UCL	0.655		

Potential UCL to Use		
	Use 95% Student's-t UCL	0.651

Cadmium (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	39

Raw Statistics		Log-transformed Statistics	
Minimum	0.46	Minimum of Log Data	-0.777
Maximum	8.4	Maximum of Log Data	2.128
Mean	2.436	Mean of log Data	0.755
Median	2.2	SD of log Data	0.53
SD	1.367		
Coefficient of Variation	0.561		
Skewness	1.905		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.18	Lilliefors Test Statistic	0.09
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.719	95% H-UCL	2.773
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.184
95% Adjusted-CLT UCL	2.758	97.5% Chebyshev (MVUE) UCL	3.504
95% Modified-t UCL	2.726	99% Chebyshev (MVUE) UCL	4.134

Gamma Distribution Test		Data Distribution
k star (bias corrected)	3.687	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	0.661	
nu star	479.4	
Approximate Chi Square Value (.05)	429.6	Nonparametric Statistics
Adjusted Level of Significance	0.0463	95% CLT UCL 2.715
Adjusted Chi Square Value	428.5	95% Jackknife UCL 2.719
		95% Standard Bootstrap UCL 2.704
Anderson-Darling Test Statistic	0.66	95% Bootstrap-t UCL 2.779
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL 2.805
Kolmogorov-Smirnov Test Statistic	0.112	95% Percentile Bootstrap UCL 2.714
Kolmogorov-Smirnov 5% Critical Value	0.111	95% BCA Bootstrap UCL 2.762
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 3.175
		97.5% Chebyshev(Mean, Sd) UCL 3.495
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 4.123
95% Approximate Gamma UCL	2.719	
95% Adjusted Gamma UCL	2.725	

Potential UCL to Use	Use 95% Approximate Gamma UCL 2.719

Calcium (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	50

Raw Statistics

Minimum	3500
Maximum	250000
Mean	26070
Median	8900
SD	44472
Coefficient of Variation	1.706
Skewness	3.126

Log-transformed Statistics

Minimum of Log Data	8.161
Maximum of Log Data	12.43
Mean of log Data	9.399
SD of log Data	1.093

Relevant UCL Statistics

Normal Distribution Test

Lilliefors Test Statistic	0.334
Lilliefors Critical Value	0.11

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Lilliefors Test Statistic	0.18
Lilliefors Critical Value	0.11

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	35276

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	37428
95% Modified-t UCL	35633

Assuming Lognormal Distribution

95% H-UCL	60025
95% Chebyshev (MVUE) UCL	37188
97.5% Chebyshev (MVUE) UCL	43917
99% Chebyshev (MVUE) UCL	57135

Gamma Distribution Test

k star (bias corrected)	0.749
Theta Star	34789
nu star	97.42
Approximate Chi Square Value (.05)	75.65
Adjusted Level of Significance	0.0463
Adjusted Chi Square Value	75.22

Anderson-Darling Test Statistic	5.901
Anderson-Darling 5% Critical Value	0.791
Kolmogorov-Smirnov Test Statistic	0.25
Kolmogorov-Smirnov 5% Critical Value	0.115

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	33571
95% Adjusted Gamma UCL	33765

Data Distribution

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

95% CLT UCL	35143
95% Jackknife UCL	35276
95% Standard Bootstrap UCL	35289
95% Bootstrap-t UCL	38878
95% Hall's Bootstrap UCL	38749
95% Percentile Bootstrap UCL	36101
95% BCA Bootstrap UCL	38410
95% Chebyshev(Mean, Sd) UCL	50114
97.5% Chebyshev(Mean, Sd) UCL	60518
99% Chebyshev(Mean, Sd) UCL	80954

Potential UCL to Use

Use 97.5% Chebyshev (Mean, Sd) UCL 60518

Chromium (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	21

Raw Statistics		Log-transformed Statistics	
Minimum	11	Minimum of Log Data	2.398
Maximum	49	Maximum of Log Data	3.892
Mean	16.92	Mean of log Data	2.776
Median	15	SD of log Data	0.299
SD	6.828		
Coefficient of Variation	0.404		
Skewness	3.239		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.2	Lilliefors Test Statistic	0.151
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	18.33	95% H-UCL	17.93
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	19.54
95% Adjusted-CLT UCL	18.68	97.5% Chebyshev (MVUE) UCL	20.74
95% Modified-t UCL	18.39	99% Chebyshev (MVUE) UCL	23.09

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	9.27	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.825		
nu star	1205		
Approximate Chi Square Value (.05)	1126	Nonparametric Statistics	
Adjusted Level of Significance	0.0463	95% CLT UCL	18.31
Adjusted Chi Square Value	1124	95% Jackknife UCL	18.33
		95% Standard Bootstrap UCL	18.33
Anderson-Darling Test Statistic	2.692	95% Bootstrap-t UCL	18.94
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	20.4
Kolmogorov-Smirnov Test Statistic	0.172	95% Percentile Bootstrap UCL	18.45
Kolmogorov-Smirnov 5% Critical Value	0.111	95% BCA Bootstrap UCL	18.82
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	20.61
		97.5% Chebyshev(Mean, Sd) UCL	22.21
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	25.35
95% Approximate Gamma UCL	18.12		
95% Adjusted Gamma UCL	18.15		

Potential UCL to Use	
Use 95% Student's-t UCL	18.33
or 95% Modified-t UCL	18.39

Cobalt (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	35

Raw Statistics		Log-transformed Statistics	
Minimum	2.3	Minimum of Log Data	0.833
Maximum	11	Maximum of Log Data	2.398
Mean	6.618	Mean of log Data	1.86
Median	6.3	SD of log Data	0.254
SD	1.576		
Coefficient of Variation	0.238		
Skewness	0.436		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.152	Lilliefors Test Statistic	0.143
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	6.944	95% H-UCL	7.008
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7.553
95% Adjusted-CLT UCL	6.95	97.5% Chebyshev (MVUE) UCL	7.952
95% Modified-t UCL	6.946	99% Chebyshev (MVUE) UCL	8.736

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	16.25	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.407		
nu star	2112		
Approximate Chi Square Value (.05)	2006	Nonparametric Statistics	
Adjusted Level of Significance	0.0463	95% CLT UCL	6.939
Adjusted Chi Square Value	2004	95% Jackknife UCL	6.944
		95% Standard Bootstrap UCL	6.931
Anderson-Darling Test Statistic	1.535	95% Bootstrap-t UCL	6.958
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	6.983
Kolmogorov-Smirnov Test Statistic	0.126	95% Percentile Bootstrap UCL	6.934
Kolmogorov-Smirnov 5% Critical Value	0.11	95% BCA Bootstrap UCL	6.937
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	7.47
		97.5% Chebyshev(Mean, Sd) UCL	7.838
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	8.562
95% Approximate Gamma UCL	6.967		
95% Adjusted Gamma UCL	6.975		

Potential UCL to Use		
	Use 95% Student's-t UCL	6.944
	or 95% Modified-t UCL	6.946

Copper (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	51

Raw Statistics

Minimum	18
Maximum	230
Mean	69.91
Median	63
SD	45.59
Coefficient of Variation	0.652
Skewness	1.733

Log-transformed Statistics

Minimum of Log Data	2.89
Maximum of Log Data	5.438
Mean of log Data	4.068
SD of log Data	0.601

Relevant UCL Statistics

Normal Distribution Test

Lilliefors Test Statistic	0.169
Lilliefors Critical Value	0.11

Data not Normal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	79.35

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	80.51
95% Modified-t UCL	79.55

Lognormal Distribution Test

Lilliefors Test Statistic	0.0706
Lilliefors Critical Value	0.11

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

95% H-UCL	80.89
95% Chebyshev (MVUE) UCL	94.15
97.5% Chebyshev (MVUE) UCL	104.7
99% Chebyshev (MVUE) UCL	125.4

Gamma Distribution Test

k star (bias corrected)	2.814
Theta Star	24.84
nu star	365.8
Approximate Chi Square Value (.05)	322.5
Adjusted Level of Significance	0.0463
Adjusted Chi Square Value	321.6
Anderson-Darling Test Statistic	0.572
Anderson-Darling 5% Critical Value	0.758
Kolmogorov-Smirnov Test Statistic	0.0959
Kolmogorov-Smirnov 5% Critical Value	0.111

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	79.3
95% Adjusted Gamma UCL	79.53

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	79.21
95% Jackknife UCL	79.35
95% Standard Bootstrap UCL	79.16
95% Bootstrap-t UCL	81.04
95% Hall's Bootstrap UCL	81.77
95% Percentile Bootstrap UCL	79.01
95% BCA Bootstrap UCL	80.46
95% Chebyshev(Mean, Sd) UCL	94.56
97.5% Chebyshev(Mean, Sd) UCL	105.2
99% Chebyshev(Mean, Sd) UCL	126.2

Potential UCL to Use

Use 95% Approximate Gamma UCL 79.3

Dioxin TEQ (floodplain)

General Statistics

Number of Valid Observations	29	Number of Distinct Observations	29
Number of Missing Values	36		

Raw Statistics

Minimum	0.000002155
Maximum	0.00010137
Mean	0.000012541
Median	0.000008173
SD	0.000017946
Coefficient of Variation	N/A
Skewness	4.626

Log-transformed Statistics

Minimum of Log Data	-13.05
Maximum of Log Data	-9.197
Mean of log Data	-11.65
SD of log Data	0.747

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.448
Shapiro Wilk Critical Value	0.926

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.939
Shapiro Wilk Critical Value	0.926

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	0.00001821

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	0.000021082
95% Modified-t UCL	0.000018687

Assuming Lognormal Distribution

95% H-UCL	0.000015566
95% Chebyshev (MVUE) UCL	0.000018806
97.5% Chebyshev (MVUE) UCL	0.000022037
99% Chebyshev (MVUE) UCL	0.000028385

Gamma Distribution Test

k star (bias corrected)	1.372
Theta Star	9.1388E-06
nu star	79.59
Approximate Chi Square Value (.05)	60.04
Adjusted Level of Significance	0.0407
Adjusted Chi Square Value	59.02
Anderson-Darling Test Statistic	1.53
Anderson-Darling 5% Critical Value	0.763
Kolmogorov-Smirnov Test Statistic	0.183
Kolmogorov-Smirnov 5% Critical Value	0.166

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.000016626
95% Adjusted Gamma UCL	0.000016912

Data Distribution

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	0.000018023
95% Jackknife UCL	0.00001821
95% Standard Bootstrap UCL	0.000017975
95% Bootstrap-t UCL	0.000029139
95% Hall's Bootstrap UCL	0.000038671
95% Percentile Bootstrap UCL	0.000018413
95% BCA Bootstrap UCL	0.00002313
95% Chebyshev(Mean, Sd) UCL	0.000027067
97.5% Chebyshev(Mean, Sd) UCL	0.000033353
99% Chebyshev(Mean, Sd) UCL	0.000045699

Potential UCL to Use

Use 95% H-UCL	0.000015566

Iron (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	22

Raw Statistics		Log-transformed Statistics	
Minimum	4100	Minimum of Log Data	8.319
Maximum	25000	Maximum of Log Data	10.13
Mean	15327	Mean of log Data	9.604
Median	15000	SD of log Data	0.276
SD	3793		
Coefficient of Variation	0.247		
Skewness	0.312		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.165	Lilliefors Test Statistic	0.164
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	16112	95% H-UCL	16345
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	17717
95% Adjusted-CLT UCL	16120	97.5% Chebyshev (MVUE) UCL	18726
95% Modified-t UCL	16115	99% Chebyshev (MVUE) UCL	20709

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	14.34	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1069		
nu star	1864		
Approximate Chi Square Value (.05)	1765	Nonparametric Statistics	
Adjusted Level of Significance	0.0463	95% CLT UCL	16101
Adjusted Chi Square Value	1763	95% Jackknife UCL	16112
		95% Standard Bootstrap UCL	16102
Anderson-Darling Test Statistic	1.406	95% Bootstrap-t UCL	16160
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	16144
Kolmogorov-Smirnov Test Statistic	0.143	95% Percentile Bootstrap UCL	16086
Kolmogorov-Smirnov 5% Critical Value	0.11	95% BCA Bootstrap UCL	16068
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	17377
		97.5% Chebyshev(Mean, Sd) UCL	18265
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	20007
95% Approximate Gamma UCL	16189		
95% Adjusted Gamma UCL	16209		

Potential UCL to Use		
	Use 95% Student's-t UCL	16112
	or 95% Modified-t UCL	16115

Lead (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	48

Raw Statistics		Log-transformed Statistics	
Minimum	24	Minimum of Log Data	3.178
Maximum	260	Maximum of Log Data	5.561
Mean	70.85	Mean of log Data	4.129
Median	62	SD of log Data	0.498
SD	41.94		
Coefficient of Variation	0.592		
Skewness	2.15		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.161	Lilliefors Test Statistic	0.072
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	79.54	95% H-UCL	78.89
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	90
95% Adjusted-CLT UCL	80.89	97.5% Chebyshev (MVUE) UCL	98.6
95% Modified-t UCL	79.77	99% Chebyshev (MVUE) UCL	115.5

Gamma Distribution Test		Data Distribution
k star (bias corrected)	3.777	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	18.76	
nu star	491	
Approximate Chi Square Value (.05)	440.6	Nonparametric Statistics
Adjusted Level of Significance	0.0463	95% CLT UCL 79.41
Adjusted Chi Square Value	439.6	95% Jackknife UCL 79.54
		95% Standard Bootstrap UCL 79.41
Anderson-Darling Test Statistic	0.94	95% Bootstrap-t UCL 82.09
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL 82.29
Kolmogorov-Smirnov Test Statistic	0.0962	95% Percentile Bootstrap UCL 79.32
Kolmogorov-Smirnov 5% Critical Value	0.111	95% BCA Bootstrap UCL 80.8
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 93.53
		97.5% Chebyshev(Mean, Sd) UCL 103.3
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 122.6
95% Approximate Gamma UCL	78.96	
95% Adjusted Gamma UCL	79.15	

Potential UCL to Use	Use 95% Approximate Gamma UCL 78.96

Magnesium (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	42

Raw Statistics		Log-transformed Statistics	
Minimum	2800	Minimum of Log Data	7.937
Maximum	21000	Maximum of Log Data	9.952
Mean	5953	Mean of log Data	8.58
Median	4900	SD of log Data	0.432
SD	3567		
Coefficient of Variation	0.599		
Skewness	2.626		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.278	Lilliefors Test Statistic	0.195
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	6692	95% H-UCL	6446
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7250
95% Adjusted-CLT UCL	6835	97.5% Chebyshev (MVUE) UCL	7863
95% Modified-t UCL	6716	99% Chebyshev (MVUE) UCL	9066

Gamma Distribution Test		Data Distribution
k star (bias corrected)	4.434	Data do not follow a Discernable Distribution (0.05)
Theta Star	1342	
nu star	576.5	
Approximate Chi Square Value (.05)	521.8	Nonparametric Statistics
Adjusted Level of Significance	0.0463	95% CLT UCL 6681
Adjusted Chi Square Value	520.6	95% Jackknife UCL 6692
		95% Standard Bootstrap UCL 6694
Anderson-Darling Test Statistic	4.212	95% Bootstrap-t UCL 6876
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL 6862
Kolmogorov-Smirnov Test Statistic	0.228	95% Percentile Bootstrap UCL 6742
Kolmogorov-Smirnov 5% Critical Value	0.111	95% BCA Bootstrap UCL 6795
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 7882
		97.5% Chebyshev(Mean, Sd) UCL 8716
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 10356
95% Approximate Gamma UCL	6577	
95% Adjusted Gamma UCL	6592	

Potential UCL to Use	
Use 95% Student's-t UCL	6692
or 95% Modified-t UCL	6716

Manganese (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	36

Raw Statistics		Log-transformed Statistics	
Minimum	120	Minimum of Log Data	4.787
Maximum	1200	Maximum of Log Data	7.09
Mean	398.3	Mean of log Data	5.93
Median	380	SD of log Data	0.336
SD	149.3		
Coefficient of Variation	0.375		
Skewness	2.582		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.19	Lilliefors Test Statistic	0.121
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	429.2	95% H-UCL	428.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	471.9
95% Adjusted-CLT UCL	435.1	97.5% Chebyshev (MVUE) UCL	504
95% Modified-t UCL	430.2	99% Chebyshev (MVUE) UCL	566.9

Gamma Distribution Test		Data Distribution
k star (bias corrected)	8.572	Data do not follow a Discernable Distribution (0.05)
Theta Star	46.47	
nu star	1114	
Approximate Chi Square Value (.05)	1038	Nonparametric Statistics
Adjusted Level of Significance	0.0463	95% CLT UCL 428.8
Adjusted Chi Square Value	1036	95% Jackknife UCL 429.2
		95% Standard Bootstrap UCL 428.1
Anderson-Darling Test Statistic	1.366	95% Bootstrap-t UCL 437.8
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL 452.4
Kolmogorov-Smirnov Test Statistic	0.139	95% Percentile Bootstrap UCL 430.9
Kolmogorov-Smirnov 5% Critical Value	0.111	95% BCA Bootstrap UCL 434.9
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 479
		97.5% Chebyshev(Mean, Sd) UCL 514
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 582.6
95% Approximate Gamma UCL	427.7	
95% Adjusted Gamma UCL	428.4	

Potential UCL to Use	
Use 95% Student's-t UCL	429.2
or 95% Modified-t UCL	430.2

Mercury (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	47

Raw Statistics		Log-transformed Statistics	
Minimum	0.027	Minimum of Log Data	-3.612
Maximum	0.57	Maximum of Log Data	-0.562
Mean	0.076	Mean of log Data	-2.71
Median	0.065	SD of log Data	0.438
SD	0.0669		
Coefficient of Variation	0.88		
Skewness	6.495		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.289	Lilliefors Test Statistic	0.105
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0899	95% H-UCL	0.0809
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0912
95% Adjusted-CLT UCL	0.0968	97.5% Chebyshev (MVUE) UCL	0.099
95% Modified-t UCL	0.091	99% Chebyshev (MVUE) UCL	0.114

Gamma Distribution Test		Data Distribution
k star (bias corrected)	3.736	Data appear Lognormal at 5% Significance Level
Theta Star	0.0204	
nu star	485.6	
Approximate Chi Square Value (.05)	435.5	Nonparametric Statistics
Adjusted Level of Significance	0.0463	95% CLT UCL 0.0897
Adjusted Chi Square Value	434.5	95% Jackknife UCL 0.0899
		95% Standard Bootstrap UCL 0.0901
Anderson-Darling Test Statistic	2.959	95% Bootstrap-t UCL 0.11
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL 0.145
Kolmogorov-Smirnov Test Statistic	0.162	95% Percentile Bootstrap UCL 0.091
Kolmogorov-Smirnov 5% Critical Value	0.111	95% BCA Bootstrap UCL 0.102
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 0.112
		97.5% Chebyshev(Mean, Sd) UCL 0.128
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 0.159
95% Approximate Gamma UCL	0.0848	
95% Adjusted Gamma UCL	0.085	

Potential UCL to Use	
Use 95% Student's-t UCL	0.0899
or 95% Modified-t UCL	0.091
or 95% H-UCL	0.0809

Molybdenum (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	50

Raw Statistics		Log-transformed Statistics	
Minimum	0.22	Minimum of Log Data	-1.514
Maximum	3.2	Maximum of Log Data	1.163
Mean	0.737	Mean of log Data	-0.449
Median	0.62	SD of log Data	0.51
SD	0.483		
Coefficient of Variation	0.655		
Skewness	2.848		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.176	Lilliefors Test Statistic	0.0702
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.837	95% H-UCL	0.819
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.937
95% Adjusted-CLT UCL	0.858	97.5% Chebyshev (MVUE) UCL	1.028
95% Modified-t UCL	0.84	99% Chebyshev (MVUE) UCL	1.207

Gamma Distribution Test		Data Distribution
k star (bias corrected)	3.489	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	0.211	
nu star	453.6	
Approximate Chi Square Value (.05)	405.2	Nonparametric Statistics
Adjusted Level of Significance	0.0463	95% CLT UCL 0.835
Adjusted Chi Square Value	404.2	95% Jackknife UCL 0.837
		95% Standard Bootstrap UCL 0.836
Anderson-Darling Test Statistic	1.127	95% Bootstrap-t UCL 0.872
Anderson-Darling 5% Critical Value	0.756	95% Hall's Bootstrap UCL 0.902
Kolmogorov-Smirnov Test Statistic	0.0934	95% Percentile Bootstrap UCL 0.841
Kolmogorov-Smirnov 5% Critical Value	0.111	95% BCA Bootstrap UCL 0.865
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 0.998
		97.5% Chebyshev(Mean, Sd) UCL 1.111
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 1.332
95% Approximate Gamma UCL	0.825	
95% Adjusted Gamma UCL	0.827	

Potential UCL to Use	
Use 95% Approximate Gamma UCL	0.825

Nickel (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	21

Raw Statistics		Log-transformed Statistics	
Minimum	12	Minimum of Log Data	2.485
Maximum	55	Maximum of Log Data	4.007
Mean	19.12	Mean of log Data	2.921
Median	18	SD of log Data	0.229
SD	5.718		
Coefficient of Variation	0.299		
Skewness	4.015		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.186	Lilliefors Test Statistic	0.153
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	20.31	95% H-UCL	20.02
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	21.43
95% Adjusted-CLT UCL	20.67	97.5% Chebyshev (MVUE) UCL	22.46
95% Modified-t UCL	20.37	99% Chebyshev (MVUE) UCL	24.49

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	16.12	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.187		
nu star	2095		
Approximate Chi Square Value (.05)	1990	Nonparametric Statistics	
Adjusted Level of Significance	0.0463	95% CLT UCL	20.29
Adjusted Chi Square Value	1988	95% Jackknife UCL	20.31
		95% Standard Bootstrap UCL	20.27
Anderson-Darling Test Statistic	2.106	95% Bootstrap-t UCL	20.99
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	25.59
Kolmogorov-Smirnov Test Statistic	0.165	95% Percentile Bootstrap UCL	20.39
Kolmogorov-Smirnov 5% Critical Value	0.11	95% BCA Bootstrap UCL	20.76
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	22.22
		97.5% Chebyshev(Mean, Sd) UCL	23.55
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	26.18
95% Approximate Gamma UCL	20.14		
95% Adjusted Gamma UCL	20.16		

Potential UCL to Use		
	Use 95% Student's-t UCL	20.31
	or 95% Modified-t UCL	20.37

Potassium (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	22

Raw Statistics		Log-transformed Statistics	
Minimum	1200	Minimum of Log Data	7.09
Maximum	3800	Maximum of Log Data	8.243
Mean	2017	Mean of log Data	7.574
Median	1900	SD of log Data	0.264
SD	564.4		
Coefficient of Variation	0.28		
Skewness	1.061		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.113	Lilliefors Test Statistic	0.0958
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2134	95% H-UCL	2135
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2307
95% Adjusted-CLT UCL	2142	97.5% Chebyshev (MVUE) UCL	2434
95% Modified-t UCL	2135	99% Chebyshev (MVUE) UCL	2682

Gamma Distribution Test		Data Distribution
k star (bias corrected)	13.62	Data appear Gamma Distributed at 5% Significance Level
Theta Star	148	
nu star	1771	
Approximate Chi Square Value (.05)	1674	Nonparametric Statistics
Adjusted Level of Significance	0.0463	95% CLT UCL 2132
Adjusted Chi Square Value	1672	95% Jackknife UCL 2134
		95% Standard Bootstrap UCL 2134
Anderson-Darling Test Statistic	0.584	95% Bootstrap-t UCL 2140
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL 2149
Kolmogorov-Smirnov Test Statistic	0.105	95% Percentile Bootstrap UCL 2132
Kolmogorov-Smirnov 5% Critical Value	0.11	95% BCA Bootstrap UCL 2142
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 2322
		97.5% Chebyshev(Mean, Sd) UCL 2454
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 2713
95% Approximate Gamma UCL	2133	
95% Adjusted Gamma UCL	2136	

Potential UCL to Use	Use 95% Approximate Gamma UCL 2133

Sodium (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	26

Raw Statistics		Log-transformed Statistics	
Minimum	70	Minimum of Log Data	4.248
Maximum	260	Maximum of Log Data	5.561
Mean	130	Mean of log Data	4.835
Median	120	SD of log Data	0.253
SD	35.13		
Coefficient of Variation	0.27		
Skewness	1.287		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.192	Lilliefors Test Statistic	0.141
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	137.2	95% H-UCL	137.2
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	147.8
95% Adjusted-CLT UCL	137.9	97.5% Chebyshev (MVUE) UCL	155.6
95% Modified-t UCL	137.3	99% Chebyshev (MVUE) UCL	170.9

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	14.85	Data do not follow a Discernable Distribution (0.05)	
Theta Star	8.753		
nu star	1930		
Approximate Chi Square Value (.05)	1829	Nonparametric Statistics	
Adjusted Level of Significance	0.0463	95% CLT UCL	137.1
Adjusted Chi Square Value	1827	95% Jackknife UCL	137.2
		95% Standard Bootstrap UCL	136.9
Anderson-Darling Test Statistic	1.065	95% Bootstrap-t UCL	137.8
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	138.1
Kolmogorov-Smirnov Test Statistic	0.158	95% Percentile Bootstrap UCL	137
Kolmogorov-Smirnov 5% Critical Value	0.11	95% BCA Bootstrap UCL	137.7
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	148.9
		97.5% Chebyshev(Mean, Sd) UCL	157.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	173.3
95% Approximate Gamma UCL	137.1		
95% Adjusted Gamma UCL	137.3		

Potential UCL to Use	
Use 95% Student's-t UCL	137.2
or 95% Modified-t UCL	137.3

Vanadium (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	31

Raw Statistics		Log-transformed Statistics	
Minimum	13	Minimum of Log Data	2.565
Maximum	120	Maximum of Log Data	4.787
Mean	28.2	Mean of log Data	3.28
Median	26	SD of log Data	0.314
SD	13.36		
Coefficient of Variation	0.474		
Skewness	5.226		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.216	Lilliefors Test Statistic	0.119
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	30.97	95% H-UCL	29.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	32.72
95% Adjusted-CLT UCL	32.07	97.5% Chebyshev (MVUE) UCL	34.81
95% Modified-t UCL	31.14	99% Chebyshev (MVUE) UCL	38.92

Gamma Distribution Test		Data Distribution
k star (bias corrected)	8.179	Data do not follow a Discernable Distribution (0.05)
Theta Star	3.448	
nu star	1063	
Approximate Chi Square Value (.05)	988.6	Nonparametric Statistics
Adjusted Level of Significance	0.0463	95% CLT UCL 30.93
Adjusted Chi Square Value	987	95% Jackknife UCL 30.97
		95% Standard Bootstrap UCL 30.94
Anderson-Darling Test Statistic	1.998	95% Bootstrap-t UCL 33.22
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL 42.96
Kolmogorov-Smirnov Test Statistic	0.153	95% Percentile Bootstrap UCL 31.32
Kolmogorov-Smirnov 5% Critical Value	0.111	95% BCA Bootstrap UCL 32.31
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 35.42
		97.5% Chebyshev(Mean, Sd) UCL 38.55
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 44.69
95% Approximate Gamma UCL	30.33	
95% Adjusted Gamma UCL	30.38	

Potential UCL to Use	
Use 95% Student's-t UCL	30.97
or 95% Modified-t UCL	31.14

Zinc (floodplain)

General Statistics

Number of Valid Observations	65	Number of Distinct Observations	40

Raw Statistics		Log-transformed Statistics	
Minimum	76	Minimum of Log Data	4.331
Maximum	1400	Maximum of Log Data	7.244
Mean	293.7	Mean of log Data	5.499
Median	240	SD of log Data	0.578
SD	222.3		
Coefficient of Variation	0.757		
Skewness	2.886		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Lilliefors Test Statistic	0.271	Lilliefors Test Statistic	0.14
Lilliefors Critical Value	0.11	Lilliefors Critical Value	0.11
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	339.7	95% H-UCL	331.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	384.1
95% Adjusted-CLT UCL	349.6	97.5% Chebyshev (MVUE) UCL	425.7
95% Modified-t UCL	341.3	99% Chebyshev (MVUE) UCL	507.4

Gamma Distribution Test		Data Distribution
k star (bias corrected)	2.759	Data do not follow a Discernable Distribution (0.05)
Theta Star	106.4	
nu star	358.7	
Approximate Chi Square Value (.05)	315.8	**Nonparametric Statistics**
Adjusted Level of Significance	0.0463	95% CLT UCL 339
Adjusted Chi Square Value	314.9	95% Jackknife UCL 339.7
		95% Standard Bootstrap UCL 337.7
Anderson-Darling Test Statistic	2.202	95% Bootstrap-t UCL 351.7
Anderson-Darling 5% Critical Value	0.758	95% Hall's Bootstrap UCL 361.8
Kolmogorov-Smirnov Test Statistic	0.186	95% Percentile Bootstrap UCL 339
Kolmogorov-Smirnov 5% Critical Value	0.111	95% BCA Bootstrap UCL 350.1
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 413.9
		97.5% Chebyshev(Mean, Sd) UCL 465.9
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 568
95% Approximate Gamma UCL	333.5	
95% Adjusted Gamma UCL	334.5	

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL 413.9

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	J:\Indl_Service\Project Files\Solutia-6105\HHRA AddOn\SA1 Eco Screen\Data\ProUCL\Floodplain_ProUCLinp
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

2-Butanone (MEK) (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	31
Number of Distinct Detected Data	22	Number of Non-Detect Data	34
		Percent Non-Detects	52.31%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0091	Minimum Detected	-4.699
Maximum Detected	0.056	Maximum Detected	-2.882
Mean of Detected	0.0294	Mean of Detected	-3.594
SD of Detected	0.0103	SD of Detected	0.396
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.042	Maximum Non-Detect	-3.17

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	62
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	95.38%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.984	Lilliefors Test Statistic	0.947
5% Lilliefors Critical Value	0.929	5% Lilliefors Critical Value	0.929
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0216	Mean	-3.935
SD	0.0105	SD	0.439
95% DL/2 (t) UCL	0.0238	95% H-Stat (DL/2) UCL	0.0234
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0137	Mean in Log Scale	-3.804
SD	0.0169	SD in Log Scale	0.363
95% MLE (t) UCL	0.0172	Mean in Original Scale	0.0238
95% MLE (Tiku) UCL	0.0402	SD in Original Scale	0.00922
		95% Percentile Bootstrap UCL	0.0256
		95% BCA Bootstrap UCL	0.0258

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	6.78	**Data appear Normal at 5% Significance Level**
Theta Star	0.00434	
nu star	420.4	
A-D Test Statistic	0.345	**Nonparametric Statistics**
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method
K-S Test Statistic	0.747	Mean 0.024
5% K-S Critical Value	0.158	SD 0.00966
Data appear Gamma Distributed at 5% Significance Level		SE of Mean 0.00149
		95% KM (t) UCL 0.0265
Assuming Gamma Distribution		95% KM (z) UCL 0.0264
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.0265
Minimum	0.0091	95% KM (bootstrap t) UCL 0.0265
Maximum	0.056	95% KM (BCA) UCL 0.0264
Mean	0.0295	95% KM (Percentile Bootstrap) UCL 0.0264
Median	0.0302	95% KM (Chebyshev) UCL 0.0305
SD	0.00776	97.5% KM (Chebyshev) UCL 0.0333
k star	12.49	99% KM (Chebyshev) UCL 0.0388
Theta star	0.00236	
Nu star	1624	**Potential UCLs to Use**
AppChi2	1531	95% KM (t) UCL 0.0265
95% Gamma Approximate UCL	0.0313	95% KM (Percentile Bootstrap) UCL 0.0264
95% Adjusted Gamma UCL	0.0313	

Note: DL/2 is not a recommended method.

4,4'-DDD (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	59
		Percent Non-Detects	90.77%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.00056	Minimum Detected	-7.488
Maximum Detected	0.036	Maximum Detected	-3.324
Mean of Detected	0.00829	Mean of Detected	-5.738
SD of Detected	0.0137	SD of Detected	1.452
Minimum Non-Detect	0.0034	Minimum Non-Detect	-5.684
Maximum Non-Detect	0.0195	Maximum Non-Detect	-3.937

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	64
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	98.46%

Warning: There are only 6 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough tp draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.631	Lilliefors Test Statistic	0.964
5% Lilliefors Critical Value	0.788	5% Lilliefors Critical Value	0.788
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00301	Mean	-6.102
SD	0.00458	SD	0.584
95% DL/2 (t) UCL	0.00395	95% H-Stat (DL/2) UCL	0.00309
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.751
		SD in Log Scale	0.851
		Mean in Original Scale	0.00198
		SD in Original Scale	0.00443
		95% Percentile Bootstrap UCL	0.003
		95% BCA Bootstrap UCL	0.00363

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.434	**Data appear Gamma Distributed at 5% Significance Level**
Theta Star	0.0191	
nu star	5.211	
A-D Test Statistic	0.48	**Nonparametric Statistics**
5% A-D Critical Value	0.727	Kaplan-Meier (KM) Method
K-S Test Statistic	0.727	Mean 0.00194
5% K-S Critical Value	0.346	SD 0.00436
Data appear Gamma Distributed at 5% Significance Level		SE of Mean 0.0006664
		95% KM (t) UCL 0.00306
Assuming Gamma Distribution		95% KM (z) UCL 0.00304
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.00308
Minimum	1E-09	95% KM (bootstrap t) UCL 0.00408
Maximum	0.036	95% KM (BCA) UCL 0.00383
Mean	0.0095	95% KM (Percentile Bootstrap) UCL 0.00374
Median	0.0072	95% KM (Chebyshev) UCL 0.00485
SD	0.00957	97.5% KM (Chebyshev) UCL 0.0061
k star	0.271	99% KM (Chebyshev) UCL 0.00857
Theta star	0.035	
Nu star	35.24	**Potential UCLs to Use**
AppChi2	22.66	95% KM (t) UCL 0.00306
95% Gamma Approximate UCL	0.0148	
95% Adjusted Gamma UCL	0.0149	

Note: DL/2 is not a recommended method.

4,4'-DDE (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	35
Number of Distinct Detected Data	32	Number of Non-Detect Data	30
		Percent Non-Detects	46.15%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.000086	Minimum Detected	-9.361
Maximum Detected	0.054	Maximum Detected	-2.919
Mean of Detected	0.00415	Mean of Detected	-6.961
SD of Detected	0.0102	SD of Detected	1.557
Minimum Non-Detect	0.0034	Minimum Non-Detect	-5.684
Maximum Non-Detect	0.0072	Maximum Non-Detect	-4.934

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	60
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	92.31%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.441	Lilliefors Test Statistic	0.929
5% Lilliefors Critical Value	0.934	5% Lilliefors Critical Value	0.934
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00314	Mean	-6.633
SD	0.00753	SD	1.193
95% DL/2 (t) UCL	0.0047	95% H-Stat (DL/2) UCL	0.00499
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-7.16
		SD in Log Scale	1.274
		Mean in Original Scale	0.00261
		SD in Original Scale	0.00764
		95% Percentile Bootstrap UCL	0.00435
		95% BCA Bootstrap UCL	0.00529

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.42	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.00988		
nu star	29.43		
A-D Test Statistic	3.261	**Nonparametric Statistics**	
5% A-D Critical Value	0.826	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.826	Mean	0.00259
5% K-S Critical Value	0.158	SD	0.00759
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.000958
		95% KM (t) UCL	0.00418
Assuming Gamma Distribution		95% KM (z) UCL	0.00416
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00417
Minimum	0.000086	95% KM (bootstrap t) UCL	0.00638
Maximum	0.054	95% KM (BCA) UCL	0.00446
Mean	0.0042	95% KM (Percentile Bootstrap) UCL	0.00438
Median	0.00259	95% KM (Chebyshev) UCL	0.00676
SD	0.00748	97.5% KM (Chebyshev) UCL	0.00857
k star	0.715	99% KM (Chebyshev) UCL	0.0121
Theta star	0.00586		
Nu star	93.01	**Potential UCLs to Use**	
AppChi2	71.77	97.5% KM (Chebyshev) UCL	0.00857
95% Gamma Approximate UCL	0.00544		
95% Adjusted Gamma UCL	0.00547		

Note: DL/2 is not a recommended method.

4,4'-DDT (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	36
Number of Distinct Detected Data	33	Number of Non-Detect Data	29
		Percent Non-Detects	44.62%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.000065	Minimum Detected	-9.641
Maximum Detected	0.14	Maximum Detected	-1.966
Mean of Detected	0.0145	Mean of Detected	-6.163
SD of Detected	0.0352	SD of Detected	1.935
Minimum Non-Detect	0.0034	Minimum Non-Detect	-5.684
Maximum Non-Detect	0.0072	Maximum Non-Detect	-4.934

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	56
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	9
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	86.15%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.448	Lilliefors Test Statistic	0.95
5% Lilliefors Critical Value	0.935	5% Lilliefors Critical Value	0.935
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0089	Mean	-6.206
SD	0.0268	SD	1.434
95% DL/2 (t) UCL	0.0144	95% H-Stat (DL/2) UCL	0.0114
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.609
		SD in Log Scale	1.638
		Mean in Original Scale	0.00854
		SD in Original Scale	0.0269
		95% Percentile Bootstrap UCL	0.0146
		95% BCA Bootstrap UCL	0.0164

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.338	**Data appear Lognormal at 5% Significance Level**
Theta Star	0.0429	
nu star	24.33	
A-D Test Statistic	2.901	**Nonparametric Statistics**
5% A-D Critical Value	0.846	Kaplan-Meier (KM) Method
K-S Test Statistic	0.846	Mean 0.00849
5% K-S Critical Value	0.158	SD 0.0267
Data not Gamma Distributed at 5% Significance Level		SE of Mean 0.00336
		95% KM (t) UCL 0.0141
Assuming Gamma Distribution		95% KM (z) UCL 0.014
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.0141
Minimum	0.000065	95% KM (bootstrap t) UCL 0.0195
Maximum	0.14	95% KM (BCA) UCL 0.0141
Mean	0.0139	95% KM (Percentile Bootstrap) UCL 0.0143
Median	0.00433	95% KM (Chebyshev) UCL 0.0231
SD	0.0268	97.5% KM (Chebyshev) UCL 0.0294
k star	0.517	99% KM (Chebyshev) UCL 0.0419
Theta star	0.0269	
Nu star	67.27	**Potential UCLs to Use**
AppChi2	49.39	97.5% KM (Chebyshev) UCL 0.0294
95% Gamma Approximate UCL	0.019	
95% Adjusted Gamma UCL	0.0191	

Note: DL/2 is not a recommended method.

Acenaphthene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	56
		Percent Non-Detects	86.15%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.016	Minimum Detected	-4.135
Maximum Detected	1.2	Maximum Detected	0.182
Mean of Detected	0.249	Mean of Detected	-2.199
SD of Detected	0.379	SD of Detected	1.317
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	62
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	95.38%

Warning: There are only 9 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough tp draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.647	Lilliefors Test Statistic	0.957
5% Lilliefors Critical Value	0.829	5% Lilliefors Critical Value	0.829
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.118	Mean	-2.31
SD	0.144	SD	0.47
95% DL/2 (t) UCL	0.148	95% H-Stat (DL/2) UCL	0.134
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.839
		SD in Log Scale	0.922
		Mean in Original Scale	0.0958
		SD in Original Scale	0.156
		95% Percentile Bootstrap UCL	0.129
		95% BCA Bootstrap UCL	0.152

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.569	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	0.437		
nu star	10.25		
A-D Test Statistic	0.55	**Nonparametric Statistics**	
5% A-D Critical Value	0.752	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.752	Mean	0.0914
5% K-S Critical Value	0.289	SD	0.153
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0267
		95% KM (t) UCL	0.136
Assuming Gamma Distribution		95% KM (z) UCL	0.135
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.138
Minimum	1E-09	95% KM (bootstrap t) UCL	0.193
Maximum	1.2	95% KM (BCA) UCL	0.147
Mean	0.21	95% KM (Percentile Bootstrap) UCL	0.137
Median	0.216	95% KM (Chebyshev) UCL	0.208
SD	0.171	97.5% KM (Chebyshev) UCL	0.258
k star	0.514	99% KM (Chebyshev) UCL	0.357
Theta star	0.409		
Nu star	66.83	**Potential UCLs to Use**	
AppChi2	49.02	95% KM (t) UCL	0.136
95% Gamma Approximate UCL	0.287		
95% Adjusted Gamma UCL	0.289		

Note: DL/2 is not a recommended method.

Acetone (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	35
Number of Distinct Detected Data	27	Number of Non-Detect Data	30
		Percent Non-Detects	46.15%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.048	Minimum Detected	-3.037
Maximum Detected	0.67	Maximum Detected	-0.4
Mean of Detected	0.313	Mean of Detected	-1.366
SD of Detected	0.165	SD of Detected	0.743
Minimum Non-Detect	0.041	Minimum Non-Detect	-3.194
Maximum Non-Detect	0.083	Maximum Non-Detect	-2.489

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	35
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	30
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	53.85%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.959	Lilliefors Test Statistic	0.854
5% Lilliefors Critical Value	0.934	5% Lilliefors Critical Value	0.934
Data appear Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.182	Mean	-2.372
SD	0.187	SD	1.226
95% DL/2 (t) UCL	0.221	95% H-Stat (DL/2) UCL	0.186
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0755	Mean in Log Scale	-2.068
SD	0.307	SD in Log Scale	0.954
95% MLE (t) UCL	0.139	Mean in Original Scale	0.195
95% MLE (Tiku) UCL	0.157	SD in Original Scale	0.176
		95% Percentile Bootstrap UCL	0.23
		95% BCA Bootstrap UCL	0.235

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.395	**Data appear Normal at 5% Significance Level**
Theta Star	0.131	
nu star	167.6	
A-D Test Statistic	1.037	**Nonparametric Statistics**
5% A-D Critical Value	0.756	Kaplan-Meier (KM) Method
K-S Test Statistic	0.756	Mean 0.191
5% K-S Critical Value	0.15	SD 0.178
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean 0.0224
		95% KM (t) UCL 0.228
Assuming Gamma Distribution		95% KM (z) UCL 0.228
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.228
Minimum	0.048	95% KM (bootstrap t) UCL 0.233
Maximum	0.67	95% KM (BCA) UCL 0.231
Mean	0.308	95% KM (Percentile Bootstrap) UCL 0.228
Median	0.314	95% KM (Chebyshev) UCL 0.289
SD	0.122	97.5% KM (Chebyshev) UCL 0.331
k star	4.376	99% KM (Chebyshev) UCL 0.414
Theta star	0.0704	
Nu star	568.9	**Potential UCLs to Use**
AppChi2	514.6	95% KM (t) UCL 0.228
95% Gamma Approximate UCL	0.341	95% KM (Percentile Bootstrap) UCL 0.228
95% Adjusted Gamma UCL	0.342	

Note: DL/2 is not a recommended method.

Alpha Chlordane (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	13
Number of Distinct Detected Data	12	Number of Non-Detect Data	52
		Percent Non-Detects	80.00%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.00016	Minimum Detected	-8.74
Maximum Detected	0.054	Maximum Detected	-2.919
Mean of Detected	0.00819	Mean of Detected	-6.011
SD of Detected	0.0147	SD of Detected	1.692
Minimum Non-Detect	0.0018	Minimum Non-Detect	-6.32
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	64
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	98.46%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.586	Lilliefors Test Statistic	0.982
5% Lilliefors Critical Value	0.866	5% Lilliefors Critical Value	0.866
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00274	Mean	-6.629
SD	0.00704	SD	0.907
95% DL/2 (t) UCL	0.00419	95% H-Stat (DL/2) UCL	0.00249
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.202
		SD in Log Scale	1.282
		Mean in Original Scale	0.0023
		SD in Original Scale	0.00705
		95% Percentile Bootstrap UCL	0.00384
		95% BCA Bootstrap UCL	0.00493

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.454	**Data appear Gamma Distributed at 5% Significance Level**
Theta Star	0.0181	
nu star	11.79	
A-D Test Statistic	0.458	**Nonparametric Statistics**
5% A-D Critical Value	0.788	Kaplan-Meier (KM) Method
K-S Test Statistic	0.788	Mean 0.00225
5% K-S Critical Value	0.249	SD 0.007
Data appear Gamma Distributed at 5% Significance Level		SE of Mean 0.0009182
		95% KM (t) UCL 0.00378
Assuming Gamma Distribution		95% KM (z) UCL 0.00376
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.00374
Minimum	0.00016	95% KM (bootstrap t) UCL 0.00647
Maximum	0.054	95% KM (BCA) UCL 0.00408
Mean	0.0093	95% KM (Percentile Bootstrap) UCL 0.00383
Median	0.00798	95% KM (Chebyshev) UCL 0.00625
SD	0.00798	97.5% KM (Chebyshev) UCL 0.00798
k star	1.451	99% KM (Chebyshev) UCL 0.0114
Theta star	0.00641	
Nu star	188.7	**Potential UCLs to Use**
AppChi2	157.9	95% KM (t) UCL 0.00378
95% Gamma Approximate UCL	0.0111	
95% Adjusted Gamma UCL	0.0112	

Note: DL/2 is not a recommended method.

Anthracene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	15
Number of Distinct Detected Data	15	Number of Non-Detect Data	50
		Percent Non-Detects	76.92%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.026	Minimum Detected	-3.65
Maximum Detected	2.3	Maximum Detected	0.833
Mean of Detected	0.359	Mean of Detected	-2.104
SD of Detected	0.644	SD of Detected	1.414
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	61
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.85%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.58	Lilliefors Test Statistic	0.895
5% Lilliefors Critical Value	0.881	5% Lilliefors Critical Value	0.881
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.158	Mean	-2.275
SD	0.321	SD	0.67
95% DL/2 (t) UCL	0.224	95% H-Stat (DL/2) UCL	0.172
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.455	Mean in Log Scale	-2.69
SD	0.777	SD in Log Scale	1.053
95% MLE (t) UCL	1.615	Mean in Original Scale	0.144
95% MLE (Tiku) UCL	2.087	SD in Original Scale	0.328
		95% Percentile Bootstrap UCL	0.224
		95% BCA Bootstrap UCL	0.249

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.505	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.71		
nu star	15.15		
A-D Test Statistic	1.227	**Nonparametric Statistics**	
5% A-D Critical Value	0.788	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.788	Mean	0.13
5% K-S Critical Value	0.233	SD	0.325
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0427
		95% KM (t) UCL	0.201
Assuming Gamma Distribution		95% KM (z) UCL	0.2
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.2
Minimum	0.026	95% KM (bootstrap t) UCL	0.322
Maximum	2.3	95% KM (BCA) UCL	0.211
Mean	0.331	95% KM (Percentile Bootstrap) UCL	0.206
Median	0.316	95% KM (Chebyshev) UCL	0.316
SD	0.319	97.5% KM (Chebyshev) UCL	0.397
k star	1.634	99% KM (Chebyshev) UCL	0.555
Theta star	0.203		
Nu star	212.4	**Potential UCLs to Use**	
AppChi2	179.7	95% KM (BCA) UCL	0.211
95% Gamma Approximate UCL	0.391		
95% Adjusted Gamma UCL	0.393		

Note: DL/2 is not a recommended method.

Antimony (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	28
Number of Distinct Detected Data	22	Number of Non-Detect Data	37
		Percent Non-Detects	56.92%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.59	Minimum Detected	-0.528
Maximum Detected	2.6	Maximum Detected	0.956
Mean of Detected	1.221	Mean of Detected	0.0819
SD of Detected	0.628	SD of Detected	0.486
Minimum Non-Detect	1.9	Minimum Non-Detect	0.642
Maximum Non-Detect	2.5	Maximum Non-Detect	0.916

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	63
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	96.92%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.859	Lilliefors Test Statistic	0.907
5% Lilliefors Critical Value	0.924	5% Lilliefors Critical Value	0.924
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.151	Mean	0.0873
SD	0.416	SD	0.319
95% DL/2 (t) UCL	1.237	95% H-Stat (DL/2) UCL	1.593
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	0.0174
		SD in Log Scale	0.391
		Mean in Original Scale	1.102
		SD in Original Scale	0.477
		95% Percentile Bootstrap UCL	1.205
		95% BCA Bootstrap UCL	1.214
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	3.959	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.308		
nu star	221.7		
A-D Test Statistic	0.949	**Nonparametric Statistics**	
5% A-D Critical Value	0.749	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.749	Mean	1.12
5% K-S Critical Value	0.166	SD	0.526
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0916
		95% KM (t) UCL	1.273
Assuming Gamma Distribution		95% KM (z) UCL	1.27
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.274
Minimum	0.59	95% KM (bootstrap t) UCL	1.291
Maximum	2.6	95% KM (BCA) UCL	1.279
Mean	1.242	95% KM (Percentile Bootstrap) UCL	1.27
Median	1.268	95% KM (Chebyshev) UCL	1.519
SD	0.449	97.5% KM (Chebyshev) UCL	1.692
k star	7.728	99% KM (Chebyshev) UCL	2.031
Theta star	0.161		
Nu star	1005	**Potential UCLs to Use**	
AppChi2	932.1	95% KM (t) UCL	1.273
95% Gamma Approximate UCL	1.338	95% KM (% Bootstrap) UCL	1.27
95% Adjusted Gamma UCL	1.341		

Note: DL/2 is not a recommended method.

Benzo(a)anthracene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	37
Number of Distinct Detected Data	33	Number of Non-Detect Data	28
		Percent Non-Detects	43.08%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.023	Minimum Detected	-3.772
Maximum Detected	4.3	Maximum Detected	1.459
Mean of Detected	0.441	Mean of Detected	-2.041
SD of Detected	0.993	SD of Detected	1.37
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	55
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	84.62%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.45	Lilliefors Test Statistic	0.876
5% Lilliefors Critical Value	0.936	5% Lilliefors Critical Value	0.936
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.294	Mean	-2.156
SD	0.764	SD	1.036
95% DL/2 (t) UCL	0.452	95% H-Stat (DL/2) UCL	0.498
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.302
		SD in Log Scale	1.179
		Mean in Original Scale	0.29
		SD in Original Scale	0.766
		95% Percentile Bootstrap UCL	0.459
		95% BCA Bootstrap UCL	0.521

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.493	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.894		
nu star	36.48		
A-D Test Statistic	3.77	**Nonparametric Statistics**	
5% A-D Critical Value	0.811	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.811	Mean	0.281
5% K-S Critical Value	0.153	SD	0.762
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0959
		95% KM (t) UCL	0.441
Assuming Gamma Distribution		95% KM (z) UCL	0.439
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.44
Minimum	0.023	95% KM (bootstrap t) UCL	0.738
Maximum	4.3	95% KM (BCA) UCL	0.456
Mean	0.439	95% KM (Percentile Bootstrap) UCL	0.452
Median	0.32	95% KM (Chebyshev) UCL	0.699
SD	0.748	97.5% KM (Chebyshev) UCL	0.88
k star	0.801	99% KM (Chebyshev) UCL	1.235
Theta star	0.548		
Nu star	104.2	**Potential UCLs to Use**	
AppChi2	81.63	95% KM (Chebyshev) UCL	0.699
95% Gamma Approximate UCL	0.561		
95% Adjusted Gamma UCL	0.564		

Note: DL/2 is not a recommended method.

Benzo(a)pyrene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	35
Number of Distinct Detected Data	32	Number of Non-Detect Data	30
		Percent Non-Detects	46.15%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.043	Minimum Detected	-3.147
Maximum Detected	3.6	Maximum Detected	1.281
Mean of Detected	0.458	Mean of Detected	-1.737
SD of Detected	0.869	SD of Detected	1.226
Minimum Non-Detect	0.097	Minimum Non-Detect	-2.333
Maximum Non-Detect	0.12	Maximum Non-Detect	-2.12

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	48
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	17
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	73.85%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.51	Lilliefors Test Statistic	0.863
5% Lilliefors Critical Value	0.934	5% Lilliefors Critical Value	0.934
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.271	Mean	-2.298
SD	0.666	SD	1.084
95% DL/2 (t) UCL	0.409	95% H-Stat (DL/2) UCL	0.508
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.179
		SD in Log Scale	1.099
		Mean in Original Scale	0.284
		SD in Original Scale	0.662
		95% Percentile Bootstrap UCL	0.444
		95% BCA Bootstrap UCL	0.479

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.604	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.758		
nu star	42.31		
A-D Test Statistic	3.388	**Nonparametric Statistics**	
5% A-D Critical Value	0.798	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.798	Mean	0.28
5% K-S Critical Value	0.156	SD	0.658
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0828
		95% KM (t) UCL	0.418
Assuming Gamma Distribution		95% KM (z) UCL	0.416
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.417
Minimum	0.043	95% KM (bootstrap t) UCL	0.586
Maximum	3.6	95% KM (BCA) UCL	0.434
Mean	0.455	95% KM (Percentile Bootstrap) UCL	0.431
Median	0.257	95% KM (Chebyshev) UCL	0.641
SD	0.654	97.5% KM (Chebyshev) UCL	0.797
k star	0.953	99% KM (Chebyshev) UCL	1.104
Theta star	0.477		
Nu star	123.9	**Potential UCLs to Use**	
AppChi2	99.21	95% KM (Chebyshev) UCL	0.641
95% Gamma Approximate UCL	0.568		
95% Adjusted Gamma UCL	0.571		

Note: DL/2 is not a recommended method.

Benzo(b)fluoranthene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	39
Number of Distinct Detected Data	36	Number of Non-Detect Data	26
		Percent Non-Detects	40.00%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.027	Minimum Detected	-3.612
Maximum Detected	4.4	Maximum Detected	1.482
Mean of Detected	0.446	Mean of Detected	-1.903
SD of Detected	0.925	SD of Detected	1.316
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.21	Maximum Non-Detect	-1.561

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	55
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	84.62%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.49	Lilliefors Test Statistic	0.888
5% Lilliefors Critical Value	0.939	5% Lilliefors Critical Value	0.939
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.307	Mean	-2.065
SD	0.733	SD	1.035
95% DL/2 (t) UCL	0.459	95% H-Stat (DL/2) UCL	0.61
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.138
		SD in Log Scale	1.153
		Mean in Original Scale	0.31
		SD in Original Scale	0.734
		95% Percentile Bootstrap UCL	0.464
		95% BCA Bootstrap UCL	0.528

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.542	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.822		
nu star	42.3		
A-D Test Statistic	3.629	**Nonparametric Statistics**	
5% A-D Critical Value	0.806	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.806	Mean	0.301
5% K-S Critical Value	0.149	SD	0.73
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0919
		95% KM (t) UCL	0.454
Assuming Gamma Distribution		95% KM (z) UCL	0.452
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.454
Minimum	0.027	95% KM (bootstrap t) UCL	0.644
Maximum	4.4	95% KM (BCA) UCL	0.472
Mean	0.444	95% KM (Percentile Bootstrap) UCL	0.465
Median	0.263	95% KM (Chebyshev) UCL	0.701
SD	0.717	97.5% KM (Chebyshev) UCL	0.875
k star	0.841	99% KM (Chebyshev) UCL	1.215
Theta star	0.528		
Nu star	109.3	**Potential UCLs to Use**	
AppChi2	86.14	95% KM (Chebyshev) UCL	0.701
95% Gamma Approximate UCL	0.563		
95% Adjusted Gamma UCL	0.566		

Note: DL/2 is not a recommended method.

beta-BHC (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	7
Number of Distinct Detected Data	6	Number of Non-Detect Data	58
		Percent Non-Detects	89.23%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0001	Minimum Detected	-9.21
Maximum Detected	0.0038	Maximum Detected	-5.573
Mean of Detected	0.00104	Mean of Detected	-7.558
SD of Detected	0.0013	SD of Detected	1.356
Minimum Non-Detect	0.00052	Minimum Non-Detect	-7.562
Maximum Non-Detect	0.0054	Maximum Non-Detect	-5.221

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	65
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough tp draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.755	Lilliefors Test Statistic	0.932
5% Lilliefors Critical Value	0.803	5% Lilliefors Critical Value	0.803
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0005033	Mean	-7.905
SD	0.0006035	SD	0.663
95% DL/2 (t) UCL	0.0006282	95% H-Stat (DL/2) UCL	0.00055
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.717
		SD in Log Scale	0.835
		Mean in Original Scale	0.0002658
		SD in Original Scale	0.0004916
		95% Percentile Bootstrap UCL	0.0003703
		95% BCA Bootstrap UCL	0.0004296

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.581	**Data appear Gamma Distributed at 5% Significance Level**
Theta Star	0.00179	
nu star	8.139	
A-D Test Statistic	0.289	
5% A-D Critical Value	0.733	
K-S Test Statistic	0.733	
5% K-S Critical Value	0.321	
Data appear Gamma Distributed at 5% Significance Level		

Assuming Gamma Distribution		**Nonparametric Statistics**	
Gamma ROS Statistics using Extrapolated Data		Kaplan-Meier (KM) Method	
Minimum	1E-09	Mean	0.0002667
Maximum	0.0038	SD	0.0004931
Mean	0.0009474	SE of Mean	8.576E-05
Median	0.000974	95% KM (t) UCL	0.0004098
SD	0.0006162	95% KM (z) UCL	0.0004078
k star	0.706	95% KM (jackknife) UCL	0.0004292
Theta star	0.00134	95% KM (bootstrap t) UCL	0.0005756
Nu star	91.82	95% KM (BCA) UCL	0.0007625
AppChi2	70.73	95% KM (Percentile Bootstrap) UCL	0.0004864
95% Gamma Approximate UCL	0.00123	95% KM (Chebyshev) UCL	0.0006405
95% Adjusted Gamma UCL	0.00124	97.5% KM (Chebyshev) UCL	0.0008023
		99% KM (Chebyshev) UCL	0.00112
		Potential UCLs to Use	
		95% KM (t) UCL	0.0004098

Note: DL/2 is not a recommended method.

Benzo(g,h,i)perylene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	35
Number of Distinct Detected Data	26	Number of Non-Detect Data	30
		Percent Non-Detects	46.15%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.038	Minimum Detected	-3.27
Maximum Detected	2.2	Maximum Detected	0.788
Mean of Detected	0.312	Mean of Detected	-1.765
SD of Detected	0.439	SD of Detected	1.057
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.21	Maximum Non-Detect	-1.561

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	53
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	81.54%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.616	Lilliefors Test Statistic	0.94
5% Lilliefors Critical Value	0.934	5% Lilliefors Critical Value	0.934
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.214	Mean	-2.019
SD	0.338	SD	0.819
95% DL/2 (t) UCL	0.283	95% H-Stat (DL/2) UCL	0.254
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.105
		SD in Log Scale	0.949
		Mean in Original Scale	0.213
		SD in Original Scale	0.34
		95% Percentile Bootstrap UCL	0.287
		95% BCA Bootstrap UCL	0.32

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.902	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.346		
nu star	63.15		
A-D Test Statistic	1.465	**Nonparametric Statistics**	
5% A-D Critical Value	0.777	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.777	Mean	0.213
5% K-S Critical Value	0.153	SD	0.338
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0431
		95% KM (t) UCL	0.285
Assuming Gamma Distribution		95% KM (z) UCL	0.284
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.284
Minimum	0.038	95% KM (bootstrap t) UCL	0.324
Maximum	2.2	95% KM (BCA) UCL	0.291
Mean	0.312	95% KM (Percentile Bootstrap) UCL	0.291
Median	0.277	95% KM (Chebyshev) UCL	0.401
SD	0.321	97.5% KM (Chebyshev) UCL	0.482
k star	1.613	99% KM (Chebyshev) UCL	0.642
Theta star	0.193		
Nu star	209.7	**Potential UCLs to Use**	
AppChi2	177.2	95% KM (Chebyshev) UCL	0.401
95% Gamma Approximate UCL	0.369		
95% Adjusted Gamma UCL	0.37		

Note: DL/2 is not a recommended method.

Benzo(k)fluoranthene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	36
Number of Distinct Detected Data	27	Number of Non-Detect Data	29
		Percent Non-Detects	44.62%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.037	Minimum Detected	-3.297
Maximum Detected	3.4	Maximum Detected	1.224
Mean of Detected	0.438	Mean of Detected	-1.72
SD of Detected	0.812	SD of Detected	1.216
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	55
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	84.62%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.507	Lilliefors Test Statistic	0.897
5% Lilliefors Critical Value	0.935	5% Lilliefors Critical Value	0.935
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.287	Mean	-1.983
SD	0.624	SD	0.947
95% DL/2 (t) UCL	0.416	95% H-Stat (DL/2) UCL	0.637
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.055
		SD in Log Scale	1.071
		Mean in Original Scale	0.289
		SD in Original Scale	0.625
		95% Percentile Bootstrap UCL	0.426
		95% BCA Bootstrap UCL	0.476

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.64	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.685		
nu star	46.08		
A-D Test Statistic	2.896	**Nonparametric Statistics**	
5% A-D Critical Value	0.795	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.795	Mean	0.287
5% K-S Critical Value	0.153	SD	0.62
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0784
		95% KM (t) UCL	0.418
Assuming Gamma Distribution		95% KM (z) UCL	0.416
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.417
Minimum	0.037	95% KM (bootstrap t) UCL	0.54
Maximum	3.4	95% KM (BCA) UCL	0.427
Mean	0.437	95% KM (Percentile Bootstrap) UCL	0.426
Median	0.378	95% KM (Chebyshev) UCL	0.629
SD	0.601	97.5% KM (Chebyshev) UCL	0.776
k star	1.098	99% KM (Chebyshev) UCL	1.067
Theta star	0.398		
Nu star	142.7	**Potential UCLs to Use**	
AppChi2	116.1	95% KM (Chebyshev) UCL	0.629
95% Gamma Approximate UCL	0.537		
95% Adjusted Gamma UCL	0.539		

Note: DL/2 is not a recommended method.

bis(2-Ethylhexyl)phthalate (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	25
Number of Distinct Detected Data	18	Number of Non-Detect Data	40
		Percent Non-Detects	61.54%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.029	Minimum Detected	-3.54
Maximum Detected	0.43	Maximum Detected	-0.844
Mean of Detected	0.135	Mean of Detected	-2.217
SD of Detected	0.0964	SD of Detected	0.675
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	63
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	96.92%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.82	Lilliefors Test Statistic	0.956
5% Lilliefors Critical Value	0.918	5% Lilliefors Critical Value	0.918
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.112	Mean	-2.284
SD	0.062	SD	0.419
95% DL/2 (t) UCL	0.125	95% H-Stat (DL/2) UCL	0.135
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.372
		SD in Log Scale	0.553
		Mean in Original Scale	0.109
		SD in Original Scale	0.0702
		95% Percentile Bootstrap UCL	0.124
		95% BCA Bootstrap UCL	0.128

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	2.186	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	0.062		
nu star	109.3		
A-D Test Statistic	0.66	**Nonparametric Statistics**	
5% A-D Critical Value	0.754	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.754	Mean	0.112
5% K-S Critical Value	0.176	SD	0.0729
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0121
		95% KM (t) UCL	0.132
Assuming Gamma Distribution		95% KM (z) UCL	0.132
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.133
Minimum	0.029	95% KM (bootstrap t) UCL	0.135
Maximum	0.43	95% KM (BCA) UCL	0.131
Mean	0.141	95% KM (Percentile Bootstrap) UCL	0.132
Median	0.147	95% KM (Chebyshev) UCL	0.165
SD	0.0739	97.5% KM (Chebyshev) UCL	0.188
k star	3.386	99% KM (Chebyshev) UCL	0.233
Theta star	0.0418		
Nu star	440.1	**Potential UCLs to Use**	
AppChi2	392.5	95% KM (t) UCL	0.132
95% Gamma Approximate UCL	0.159		
95% Adjusted Gamma UCL	0.159		

Note: DL/2 is not a recommended method.

Carbazole (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	54
		Percent Non-Detects	83.08%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.045	Minimum Detected	-3.101
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.259	Mean of Detected	-1.959
SD of Detected	0.341	SD of Detected	1.066
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	62
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.38%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.65	Lilliefors Test Statistic	0.853
5% Lilliefors Critical Value	0.85	5% Lilliefors Critical Value	0.85
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.125	Mean	-2.265
SD	0.148	SD	0.447
95% DL/2 (t) UCL	0.156	95% H-Stat (DL/2) UCL	0.138
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.797	Mean in Log Scale	-2.373
SD	0.298	SD in Log Scale	0.761
95% MLE (t) UCL	0.859	Mean in Original Scale	0.131
95% MLE (Tiku) UCL	1.081	SD in Original Scale	0.159
		95% Percentile Bootstrap UCL	0.167
		95% BCA Bootstrap UCL	0.177

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.754	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.344		
nu star	16.59		
A-D Test Statistic	1.121	**Nonparametric Statistics**	
5% A-D Critical Value	0.754	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.754	Mean	0.115
5% K-S Critical Value	0.263	SD	0.152
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0223
		95% KM (t) UCL	0.152
Assuming Gamma Distribution		95% KM (z) UCL	0.151
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.152
Minimum	1E-09	95% KM (bootstrap t) UCL	0.176
Maximum	1	95% KM (BCA) UCL	0.159
Mean	0.226	95% KM (Percentile Bootstrap) UCL	0.151
Median	0.216	95% KM (Chebyshev) UCL	0.212
SD	0.174	97.5% KM (Chebyshev) UCL	0.254
k star	0.95	99% KM (Chebyshev) UCL	0.336
Theta star	0.238		
Nu star	123.5	**Potential UCLs to Use**	
AppChi2	98.84	95% KM (BCA) UCL	0.159
95% Gamma Approximate UCL	0.283		
95% Adjusted Gamma UCL	0.284		

Note: DL/2 is not a recommended method.

Chrysene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	41
Number of Distinct Detected Data	35	Number of Non-Detect Data	24
		Percent Non-Detects	36.92%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.028	Minimum Detected	-3.576
Maximum Detected	4.9	Maximum Detected	1.589
Mean of Detected	0.481	Mean of Detected	-1.934
SD of Detected	1.062	SD of Detected	1.369
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.21	Maximum Non-Detect	-1.561

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	55
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	84.62%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.464	Lilliefors Test Statistic	0.882
5% Lilliefors Critical Value	0.941	5% Lilliefors Critical Value	0.941
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.34	Mean	-2.073
SD	0.86	SD	1.098
95% DL/2 (t) UCL	0.518	95% H-Stat (DL/2) UCL	0.465
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.146
		SD in Log Scale	1.207
		Mean in Original Scale	0.342
		SD in Original Scale	0.861
		95% Percentile Bootstrap UCL	0.532
		95% BCA Bootstrap UCL	0.599

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.502	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.957		
nu star	41.2		
A-D Test Statistic	3.997	**Nonparametric Statistics**	
5% A-D Critical Value	0.811	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.811	Mean	0.334
5% K-S Critical Value	0.146	SD	0.856
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.108
		95% KM (t) UCL	0.513
Assuming Gamma Distribution		95% KM (z) UCL	0.511
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.512
Minimum	0.028	95% KM (bootstrap t) UCL	0.785
Maximum	4.9	95% KM (BCA) UCL	0.55
Mean	0.48	95% KM (Percentile Bootstrap) UCL	0.53
Median	0.235	95% KM (Chebyshev) UCL	0.803
SD	0.844	97.5% KM (Chebyshev) UCL	1.005
k star	0.744	99% KM (Chebyshev) UCL	1.404
Theta star	0.646		
Nu star	96.68	**Potential UCLs to Use**	
AppChi2	75	95% KM (Chebyshev) UCL	0.803
95% Gamma Approximate UCL	0.619		
95% Adjusted Gamma UCL	0.623		

Note: DL/2 is not a recommended method.

Dibenzo(a,h)anthracene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	17
Number of Distinct Detected Data	16	Number of Non-Detect Data	48
		Percent Non-Detects	73.85%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.026	Minimum Detected	-3.65
Maximum Detected	0.81	Maximum Detected	-0.211
Mean of Detected	0.212	Mean of Detected	-1.93
SD of Detected	0.213	SD of Detected	0.883
Minimum Non-Detect	0.093	Minimum Non-Detect	-2.375
Maximum Non-Detect	0.12	Maximum Non-Detect	-2.12

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	56
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	86.15%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.749	Lilliefors Test Statistic	0.968
5% Lilliefors Critical Value	0.892	5% Lilliefors Critical Value	0.892
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0937	Mean	-2.692
SD	0.128	SD	0.637
95% DL/2 (t) UCL	0.12	95% H-Stat (DL/2) UCL	0.0921
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.736
		SD in Log Scale	0.816
		Mean in Original Scale	0.0971
		SD in Original Scale	0.129
		95% Percentile Bootstrap UCL	0.124
		95% BCA Bootstrap UCL	0.136

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	1.243	**Data Follow Appr. Gamma Distribution at 5% Significance Level**	
Theta Star	0.171		
nu star	42.25		
A-D Test Statistic	0.674	**Nonparametric Statistics**	
5% A-D Critical Value	0.756	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.756	Mean	0.103
5% K-S Critical Value	0.213	SD	0.126
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0184
		95% KM (t) UCL	0.134
Assuming Gamma Distribution		95% KM (z) UCL	0.133
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.135
Minimum	0.026	95% KM (bootstrap t) UCL	0.147
Maximum	0.81	95% KM (BCA) UCL	0.137
Mean	0.198	95% KM (Percentile Bootstrap) UCL	0.136
Median	0.174	95% KM (Chebyshev) UCL	0.183
SD	0.134	97.5% KM (Chebyshev) UCL	0.218
k star	2.374	99% KM (Chebyshev) UCL	0.286
Theta star	0.0833		
Nu star	308.6	**Potential UCLs to Use**	
AppChi2	268.9	95% KM (t) UCL	0.134
95% Gamma Approximate UCL	0.227		
95% Adjusted Gamma UCL	0.228		

Note: DL/2 is not a recommended method.

Dicamba (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	15
Number of Distinct Detected Data	12	Number of Non-Detect Data	50
		Percent Non-Detects	76.92%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0012	Minimum Detected	-6.725
Maximum Detected	0.0031	Maximum Detected	-5.776
Mean of Detected	0.00198	Mean of Detected	-6.273
SD of Detected	0.0006519	SD of Detected	0.318
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.047	Maximum Non-Detect	-3.058

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	65
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.872	Lilliefors Test Statistic	0.911
5% Lilliefors Critical Value	0.881	5% Lilliefors Critical Value	0.881
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00942	Mean	-4.879
SD	0.00442	SD	0.791
95% DL/2 (t) UCL	0.0103	95% H-Stat (DL/2) UCL	0.0281
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.273
		SD in Log Scale	0.278
		Mean in Original Scale	0.00196
		SD in Original Scale	0.0005525
		95% Percentile Bootstrap UCL	0.00207
		95% BCA Bootstrap UCL	0.00208

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	8.477	**Data Follow Appr. Gamma Distribution at 5% Significance Level**	
Theta Star	0.0002336		
nu star	254.3		
A-D Test Statistic	0.679	**Nonparametric Statistics**	
5% A-D Critical Value	0.737	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.737	Mean	0.00198
5% K-S Critical Value	0.221	SD	0.0006298
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0001683
		95% KM (t) UCL	0.00226
Assuming Gamma Distribution		95% KM (z) UCL	0.00226
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00227
Minimum	0.0008188	95% KM (bootstrap t) UCL	0.00231
Maximum	0.0031	95% KM (BCA) UCL	0.00228
Mean	0.002	95% KM (Percentile Bootstrap) UCL	0.00226
Median	0.00211	95% KM (Chebyshev) UCL	0.00271
SD	0.0005303	97.5% KM (Chebyshev) UCL	0.00303
k star	12.08	99% KM (Chebyshev) UCL	0.00365
Theta star	0.0001654		
Nu star	1570	**Potential UCLs to Use**	
AppChi2	1479	95% KM (t) UCL	0.00226
95% Gamma Approximate UCL	0.00212		
95% Adjusted Gamma UCL	0.00212		

Note: DL/2 is not a recommended method.

Dieldrin (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	24
Number of Distinct Detected Data	23	Number of Non-Detect Data	41
		Percent Non-Detects	63.08%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.000089	Minimum Detected	-9.327
Maximum Detected	0.12	Maximum Detected	-2.12
Mean of Detected	0.00734	Mean of Detected	-6.357
SD of Detected	0.0241	SD of Detected	1.486
Minimum Non-Detect	0.0034	Minimum Non-Detect	-5.684
Maximum Non-Detect	0.036	Maximum Non-Detect	-3.324

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	64
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	98.46%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.282	Lilliefors Test Statistic	0.939
5% Lilliefors Critical Value	0.916	5% Lilliefors Critical Value	0.916
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00442	Mean	-6.207
SD	0.0148	SD	0.981
95% DL/2 (t) UCL	0.00749	95% H-Stat (DL/2) UCL	0.0098
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.775
		SD in Log Scale	1.088
		Mean in Original Scale	0.0034
		SD in Original Scale	0.0148
		95% Percentile Bootstrap UCL	0.00704
		95% BCA Bootstrap UCL	0.00897

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.42	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.0175		
nu star	20.14		
A-D Test Statistic	2.476	**Nonparametric Statistics**	
5% A-D Critical Value	0.818	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.818	Mean	0.00358
5% K-S Critical Value	0.189	SD	0.0147
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00186
		95% KM (t) UCL	0.00669
Assuming Gamma Distribution		95% KM (z) UCL	0.00664
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00665
Minimum	1E-09	95% KM (bootstrap t) UCL	0.0203
Maximum	0.12	95% KM (BCA) UCL	0.00723
Mean	0.00711	95% KM (Percentile Bootstrap) UCL	0.00723
Median	0.00576	95% KM (Chebyshev) UCL	0.0117
SD	0.0146	97.5% KM (Chebyshev) UCL	0.0152
k star	0.7	99% KM (Chebyshev) UCL	0.0221
Theta star	0.0101		
Nu star	91.05	**Potential UCLs to Use**	
AppChi2	70.05	95% KM (BCA) UCL	0.00723
95% Gamma Approximate UCL	0.00924		
95% Adjusted Gamma UCL	0.00929		

Note: DL/2 is not a recommended method.

Di-n-butylphthalate (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	17
Number of Distinct Detected Data	13	Number of Non-Detect Data	48
		Percent Non-Detects	73.85%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.032	Minimum Detected	-3.442
Maximum Detected	0.21	Maximum Detected	-1.561
Mean of Detected	0.128	Mean of Detected	-2.246
SD of Detected	0.0687	SD of Detected	0.683
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	65
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.854	Lilliefors Test Statistic	0.85
5% Lilliefors Critical Value	0.892	5% Lilliefors Critical Value	0.892
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.105	Mean	-2.309
SD	0.0372	SD	0.347
95% DL/2 (t) UCL	0.113	95% H-Stat (DL/2) UCL	0.134
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.544
		SD in Log Scale	0.525
		Mean in Original Scale	0.0899
		SD in Original Scale	0.0487
		95% Percentile Bootstrap UCL	0.101
		95% BCA Bootstrap UCL	0.101

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	2.374	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.0537		
nu star	80.72		
A-D Test Statistic	0.961	**Nonparametric Statistics**	
5% A-D Critical Value	0.746	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.746	Mean	0.0964
5% K-S Critical Value	0.211	SD	0.0566
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0133
		95% KM (t) UCL	0.119
Assuming Gamma Distribution		95% KM (z) UCL	0.118
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.12
Minimum	0.032	95% KM (bootstrap t) UCL	0.124
Maximum	0.21	95% KM (BCA) UCL	0.118
Mean	0.13	95% KM (Percentile Bootstrap) UCL	0.12
Median	0.133	95% KM (Chebyshev) UCL	0.154
SD	0.0352	97.5% KM (Chebyshev) UCL	0.179
k star	9.606	99% KM (Chebyshev) UCL	0.229
Theta star	0.0135		
Nu star	1249	**Potential UCLs to Use**	
AppChi2	1168	95% KM (t) UCL	0.119
95% Gamma Approximate UCL	0.139	95% KM (% Bootstrap) UCL	0.12
95% Adjusted Gamma UCL	0.139		

Note: DL/2 is not a recommended method.

Endosulfan sulfate (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	12
Number of Distinct Detected Data	11	Number of Non-Detect Data	53
		Percent Non-Detects	81.54%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.000093	Minimum Detected	-9.283
Maximum Detected	0.0019	Maximum Detected	-6.266
Mean of Detected	0.0004753	Mean of Detected	-8.108
SD of Detected	0.0005181	SD of Detected	0.994
Minimum Non-Detect	0.0034	Minimum Non-Detect	-5.684
Maximum Non-Detect	0.036	Maximum Non-Detect	-3.324

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	65
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.731	Lilliefors Test Statistic	0.9
5% Lilliefors Critical Value	0.859	5% Lilliefors Critical Value	0.859
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0025	Mean	-6.436
SD	0.00293	SD	1.035
95% DL/2 (t) UCL	0.00311	95% H-Stat (DL/2) UCL	0.0052
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.108
		SD in Log Scale	0.778
		Mean in Original Scale	0.000405
		SD in Original Scale	0.0003441
		95% Percentile Bootstrap UCL	0.0004785
		95% BCA Bootstrap UCL	0.0004941

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.982	**Data appear Gamma Distributed at 5% Significance Level**
Theta Star	0.000484	
nu star	23.56	
A-D Test Statistic	0.592	
5% A-D Critical Value	0.751	
K-S Test Statistic	0.751	
5% K-S Critical Value	0.251	
Data appear Gamma Distributed at 5% Significance Level		

Assuming Gamma Distribution		**Nonparametric Statistics**	
Gamma ROS Statistics using Extrapolated Data		Kaplan-Meier (KM) Method	
Minimum	1E-09	Mean	0.0004753
Maximum	0.0019	SD	0.000496
Mean	0.0004812	SE of Mean	0.0001496
Median	0.0004723	95% KM (t) UCL	0.0007249
SD	0.0003671	95% KM (z) UCL	0.0007212
k star	0.506	95% KM (jackknife) UCL	0.0007339
Theta star	0.0009505	95% KM (bootstrap t) UCL	0.00102
Nu star	65.82	95% KM (BCA) UCL	0.0007361
AppChi2	48.15	95% KM (Percentile Bootstrap) UCL	0.0007382
95% Gamma Approximate UCL	0.0006578	95% KM (Chebyshev) UCL	0.00113
95% Adjusted Gamma UCL	0.0006625	97.5% KM (Chebyshev) UCL	0.00141
		99% KM (Chebyshev) UCL	0.00196
		Potential UCLs to Use	
		95% KM (t) UCL	0.0007249

Note: DL/2 is not a recommended method.

Endrin ketone (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	24
Number of Distinct Detected Data	19	Number of Non-Detect Data	41
		Percent Non-Detects	63.08%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.00012	Minimum Detected	-9.028
Maximum Detected	0.004	Maximum Detected	-5.521
Mean of Detected	0.00076	Mean of Detected	-7.739
SD of Detected	0.0009312	SD of Detected	1.034
Minimum Non-Detect	0.0034	Minimum Non-Detect	-5.684
Maximum Non-Detect	0.036	Maximum Non-Detect	-3.324

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	65
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.705	Lilliefors Test Statistic	0.913
5% Lilliefors Critical Value	0.916	5% Lilliefors Critical Value	0.916
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00215	Mean	-6.674
SD	0.00275	SD	1.118
95% DL/2 (t) UCL	0.00272	95% H-Stat (DL/2) UCL	0.00661
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.795
		SD in Log Scale	0.786
		Mean in Original Scale	0.0005803
		SD in Original Scale	0.0006206
		95% Percentile Bootstrap UCL	0.000709
		95% BCA Bootstrap UCL	0.0007469

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.931	**Data do not follow a Discernable Distribution (0.05)**
Theta Star	0.0008162	
nu star	44.69	
A-D Test Statistic	1.237	**Nonparametric Statistics**
5% A-D Critical Value	0.771	Kaplan-Meier (KM) Method
K-S Test Statistic	0.771	Mean 0.0006795
5% K-S Critical Value	0.183	SD 0.0007644
Data not Gamma Distributed at 5% Significance Level		SE of Mean 0.0001444
		95% KM (t) UCL 0.0009204
Assuming Gamma Distribution		95% KM (z) UCL 0.000917
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.000923
Minimum	0.00012	95% KM (bootstrap t) UCL 0.0009986
Maximum	0.004	95% KM (BCA) UCL 0.0009068
Mean	0.0007663	95% KM (Percentile Bootstrap) UCL 0.0009198
Median	0.0007606	95% KM (Chebyshev) UCL 0.00131
SD	0.0006221	97.5% KM (Chebyshev) UCL 0.00158
k star	1.804	99% KM (Chebyshev) UCL 0.00212
Theta star	0.0004249	
Nu star	234.5	**Potential UCLs to Use**
AppChi2	200	95% KM (BCA) UCL 0.0009068
95% Gamma Approximate UCL	0.0008983	
95% Adjusted Gamma UCL	0.0009015	

Note: DL/2 is not a recommended method.

Fluoranthene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	39
Number of Distinct Detected Data	30	Number of Non-Detect Data	26
		Percent Non-Detects	40.00%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.037	Minimum Detected	-3.297
Maximum Detected	10	Maximum Detected	2.303
Mean of Detected	1.012	Mean of Detected	-1.368
SD of Detected	2.321	SD of Detected	1.497
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	49
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	16
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	75.38%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.455	Lilliefors Test Statistic	0.895
5% Lilliefors Critical Value	0.939	5% Lilliefors Critical Value	0.939
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.647	Mean	-1.744
SD	1.844	SD	1.244
95% DL/2 (t) UCL	1.029	95% H-Stat (DL/2) UCL	0.581
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.802
		SD in Log Scale	1.356
		Mean in Original Scale	0.651
		SD in Original Scale	1.844
		95% Percentile Bootstrap UCL	1.057
		95% BCA Bootstrap UCL	1.206

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.447	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	2.267		
nu star	34.84		
A-D Test Statistic	3.756	**Nonparametric Statistics**	
5% A-D Critical Value	0.821	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.821	Mean	0.646
5% K-S Critical Value	0.15	SD	1.831
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.23
		95% KM (t) UCL	1.03
Assuming Gamma Distribution		95% KM (z) UCL	1.025
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.028
Minimum	0.0169	95% KM (bootstrap t) UCL	1.639
Maximum	10	95% KM (BCA) UCL	1.082
Mean	0.993	95% KM (Percentile Bootstrap) UCL	1.065
Median	0.245	95% KM (Chebyshev) UCL	1.649
SD	1.866	97.5% KM (Chebyshev) UCL	2.083
k star	0.56	99% KM (Chebyshev) UCL	2.935
Theta star	1.774		
Nu star	72.81	**Potential UCLs to Use**	
AppChi2	54.16	95% KM (Chebyshev) UCL	1.649
95% Gamma Approximate UCL	1.335		
95% Adjusted Gamma UCL	1.345		

Note: DL/2 is not a recommended method.

Fluorene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	58
		Percent Non-Detects	89.23%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.044	Minimum Detected	-3.124
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.358	Mean of Detected	-1.786
SD of Detected	0.497	SD of Detected	1.307
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	62
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	95.38%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough tp draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.713	Lilliefors Test Statistic	0.91
5% Lilliefors Critical Value	0.803	5% Lilliefors Critical Value	0.803
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.126	Mean	-2.27
SD	0.172	SD	0.437
95% DL/2 (t) UCL	0.161	95% H-Stat (DL/2) UCL	0.128
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.598
		SD in Log Scale	0.876
		Mean in Original Scale	0.118
		SD in Original Scale	0.184
		95% Percentile Bootstrap UCL	0.158
		95% BCA Bootstrap UCL	0.178

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.544	**Data appear Gamma Distributed at 5% Significance Level**
Theta Star	0.658	
nu star	7.613	
A-D Test Statistic	0.494	**Nonparametric Statistics**
5% A-D Critical Value	0.735	Kaplan-Meier (KM) Method
K-S Test Statistic	0.735	Mean 0.105
5% K-S Critical Value	0.322	SD 0.178
Data appear Gamma Distributed at 5% Significance Level		SE of Mean 0.0305
		95% KM (t) UCL 0.156
Assuming Gamma Distribution		95% KM (z) UCL 0.155
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.159
Minimum	1E-09	95% KM (bootstrap t) UCL 0.239
Maximum	1.4	95% KM (BCA) UCL 0.174
Mean	0.279	95% KM (Percentile Bootstrap) UCL 0.167
Median	0.3	95% KM (Chebyshev) UCL 0.238
SD	0.228	97.5% KM (Chebyshev) UCL 0.296
k star	0.272	99% KM (Chebyshev) UCL 0.409
Theta star	1.026	
Nu star	35.32	**Potential UCLs to Use**
AppChi2	22.72	95% KM (t) UCL 0.156
95% Gamma Approximate UCL	0.433	
95% Adjusted Gamma UCL	0.438	

Note: DL/2 is not a recommended method.

Gamma Chlordane (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	49
		Percent Non-Detects	75.38%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0001	Minimum Detected	-9.21
Maximum Detected	0.078	Maximum Detected	-2.551
Mean of Detected	0.0125	Mean of Detected	-6.031
SD of Detected	0.0247	SD of Detected	1.967
Minimum Non-Detect	0.0018	Minimum Non-Detect	-6.32
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	62
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.38%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.542	Lilliefors Test Statistic	0.964
5% Lilliefors Critical Value	0.887	5% Lilliefors Critical Value	0.887
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00408	Mean	-6.615
SD	0.013	SD	1.084
95% DL/2 (t) UCL	0.00676	95% H-Stat (DL/2) UCL	0.00677
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-7.22
		SD in Log Scale	1.521
		Mean in Original Scale	0.00371
		SD in Original Scale	0.013
		95% Percentile Bootstrap UCL	0.00665
		95% BCA Bootstrap UCL	0.00806

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.366	**Data Follow Appr. Gamma Distribution at 5% Significance Level**
Theta Star	0.0342	
nu star	11.7	
A-D Test Statistic	0.89	**Nonparametric Statistics**
5% A-D Critical Value	0.817	Kaplan-Meier (KM) Method
K-S Test Statistic	0.817	Mean 0.00365
5% K-S Critical Value	0.23	SD 0.0129
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean 0.00166
		95% KM (t) UCL 0.00642
Assuming Gamma Distribution		95% KM (z) UCL 0.00638
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.00636
Minimum	1E-09	95% KM (bootstrap t) UCL 0.0157
Maximum	0.078	95% KM (BCA) UCL 0.00668
Mean	0.0125	95% KM (Percentile Bootstrap) UCL 0.00661
Median	0.0066	95% KM (Chebyshev) UCL 0.0109
SD	0.0169	97.5% KM (Chebyshev) UCL 0.014
k star	0.231	99% KM (Chebyshev) UCL 0.0202
Theta star	0.0543	
Nu star	29.98	**Potential UCLs to Use**
AppChi2	18.47	95% KM (t) UCL 0.00642
95% Gamma Approximate UCL	0.0203	
95% Adjusted Gamma UCL	0.0205	

Note: DL/2 is not a recommended method.

Heptachlor epoxide (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	16
Number of Distinct Detected Data	15	Number of Non-Detect Data	49
		Percent Non-Detects	75.38%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.000064	Minimum Detected	-9.657
Maximum Detected	0.03	Maximum Detected	-3.507
Mean of Detected	0.00224	Mean of Detected	-8.065
SD of Detected	0.00742	SD of Detected	1.515
Minimum Non-Detect	0.0018	Minimum Non-Detect	-6.32
Maximum Non-Detect	0.018	Maximum Non-Detect	-4.017

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	64
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	98.46%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.317	Lilliefors Test Statistic	0.799
5% Lilliefors Critical Value	0.887	5% Lilliefors Critical Value	0.887
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00173	Mean	-7.035
SD	0.00386	SD	1.067
95% DL/2 (t) UCL	0.00253	95% H-Stat (DL/2) UCL	0.00297
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.33
		SD in Log Scale	1.067
		Mean in Original Scale	0.0007894
		SD in Original Scale	0.0037
		95% Percentile Bootstrap UCL	0.00169
		95% BCA Bootstrap UCL	0.00219

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.321	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.00698		
nu star	10.26		
A-D Test Statistic	2.988	**Nonparametric Statistics**	
5% A-D Critical Value	0.829	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.829	Mean	0.0007462
5% K-S Critical Value	0.232	SD	0.00367
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0004727
		95% KM (t) UCL	0.00154
Assuming Gamma Distribution		95% KM (z) UCL	0.00152
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00152
Minimum	1E-09	95% KM (bootstrap t) UCL	0.00631
Maximum	0.03	95% KM (BCA) UCL	0.00167
Mean	0.00227	95% KM (Percentile Bootstrap) UCL	0.00164
Median	0.00237	95% KM (Chebyshev) UCL	0.00281
SD	0.00372	97.5% KM (Chebyshev) UCL	0.0037
k star	0.398	99% KM (Chebyshev) UCL	0.00545
Theta star	0.00569		
Nu star	51.76	**Potential UCLs to Use**	
AppChi2	36.24	95% KM (Chebyshev) UCL	0.00281
95% Gamma Approximate UCL	0.00324		
95% Adjusted Gamma UCL	0.00327		

Note: DL/2 is not a recommended method.

Indeno(1,2,3-cd)pyrene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	22
Number of Distinct Detected Data	18	Number of Non-Detect Data	43
		Percent Non-Detects	66.15%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.051	Minimum Detected	-2.976
Maximum Detected	2	Maximum Detected	0.693
Mean of Detected	0.392	Mean of Detected	-1.443
SD of Detected	0.469	SD of Detected	0.999
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	55
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	84.62%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.696	Lilliefors Test Statistic	0.965
5% Lilliefors Critical Value	0.911	5% Lilliefors Critical Value	0.911
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.198	Mean	-2.021
SD	0.303	SD	0.709
95% DL/2 (t) UCL	0.261	95% H-Stat (DL/2) UCL	0.202
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.121
		SD in Log Scale	0.909
		Mean in Original Scale	0.2
		SD in Original Scale	0.306
		95% Percentile Bootstrap UCL	0.268
		95% BCA Bootstrap UCL	0.291

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	1.002	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	0.391		
nu star	44.09		
A-D Test Statistic	0.742	**Nonparametric Statistics**	
5% A-D Critical Value	0.768	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.768	Mean	0.197
5% K-S Critical Value	0.19	SD	0.303
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0392
		95% KM (t) UCL	0.262
Assuming Gamma Distribution		95% KM (z) UCL	0.261
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.261
Minimum	0.051	95% KM (bootstrap t) UCL	0.305
Maximum	2	95% KM (BCA) UCL	0.269
Mean	0.414	95% KM (Percentile Bootstrap) UCL	0.271
Median	0.378	95% KM (Chebyshev) UCL	0.368
SD	0.291	97.5% KM (Chebyshev) UCL	0.442
k star	2.451	99% KM (Chebyshev) UCL	0.587
Theta star	0.169		
Nu star	318.6	**Potential UCLs to Use**	
AppChi2	278.3	95% KM (t) UCL	0.262
95% Gamma Approximate UCL	0.474		
95% Adjusted Gamma UCL	0.475		

Note: DL/2 is not a recommended method.

MCPA (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	52
		Percent Non-Detects	80.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.8	Minimum Detected	0.588
Maximum Detected	7.4	Maximum Detected	2.001
Mean of Detected	3.758	Mean of Detected	1.222
SD of Detected	1.826	SD of Detected	0.464
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	2.5	Maximum Non-Detect	0.916

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	56
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	86.15%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.889	Lilliefors Test Statistic	0.95
5% Lilliefors Critical Value	0.866	5% Lilliefors Critical Value	0.866
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.658	Mean	0.344
SD	1.322	SD	0.488
95% DL/2 (t) UCL	1.932	95% H-Stat (DL/2) UCL	1.615
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.569
		SD in Log Scale	0.509
		Mean in Original Scale	2.033
		SD in Original Scale	1.281
		95% Percentile Bootstrap UCL	2.301
		95% BCA Bootstrap UCL	2.331

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	3.953	Data appear Normal at 5% Significance Level	
Theta Star	0.951		
nu star	102.8		
A-D Test Statistic	0.328	Nonparametric Statistics	
5% A-D Critical Value	0.736	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.736	Mean	2.263
5% K-S Critical Value	0.237	SD	1.089
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.148
		95% KM (t) UCL	2.51
Assuming Gamma Distribution		95% KM (z) UCL	2.506
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.492
Minimum	0.663	95% KM (bootstrap t) UCL	2.589
Maximum	7.4	95% KM (BCA) UCL	2.85
Mean	3.734	95% KM (Percentile Bootstrap) UCL	2.649
Median	3.823	95% KM (Chebyshev) UCL	2.907
SD	1.478	97.5% KM (Chebyshev) UCL	3.186
k star	4.73	99% KM (Chebyshev) UCL	3.733
Theta star	0.789		
Nu star	614.9	Potential UCLs to Use	
AppChi2	558.4	95% KM (t) UCL	2.51
95% Gamma Approximate UCL	4.112	95% KM (Percentile Bootstrap) UCL	2.649
95% Adjusted Gamma UCL	4.121		

Note: DL/2 is not a recommended method.

MCPP (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	55
		Percent Non-Detects	84.62%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	2.2	Minimum Detected	0.788
Maximum Detected	7.7	Maximum Detected	2.041
Mean of Detected	4.85	Mean of Detected	1.5
SD of Detected	1.959	SD of Detected	0.43
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	4.7	Maximum Non-Detect	1.548

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	61
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.85%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.923	Lilliefors Test Statistic	0.936
5% Lilliefors Critical Value	0.842	5% Lilliefors Critical Value	0.842
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.737	Mean	0.358
SD	1.535	SD	0.527
95% DL/2 (t) UCL	2.055	95% H-Stat (DL/2) UCL	1.676
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	6.964	Mean in Log Scale	-0.0077
SD	1.042	SD in Log Scale	0.902
95% MLE (t) UCL	7.18	Mean in Original Scale	1.523
95% MLE (Tiku) UCL	7.828	SD in Original Scale	1.687
		95% Percentile Bootstrap UCL	1.867
		95% BCA Bootstrap UCL	1.932

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	4.6	**Data appear Normal at 5% Significance Level**
Theta Star	1.054	
nu star	92	
A-D Test Statistic	0.291	**Nonparametric Statistics**
5% A-D Critical Value	0.728	Kaplan-Meier (KM) Method
K-S Test Statistic	0.728	Mean 2.61
5% K-S Critical Value	0.267	SD 1.203
Data appear Gamma Distributed at 5% Significance Level		SE of Mean 0.158
		95% KM (t) UCL 2.873
Assuming Gamma Distribution		95% KM (z) UCL 2.869
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 2.858
Minimum	2.2	95% KM (bootstrap t) UCL 2.909
Maximum	7.7	95% KM (BCA) UCL 4.414
Mean	4.765	95% KM (Percentile Bootstrap) UCL 3.945
Median	4.691	95% KM (Chebyshev) UCL 3.297
SD	0.775	97.5% KM (Chebyshev) UCL 3.594
k star	35.52	99% KM (Chebyshev) UCL 4.177
Theta star	0.134	
Nu star	4617	**Potential UCLs to Use**
AppChi2	4460	95% KM (t) UCL 2.873
95% Gamma Approximate UCL	4.933	95% KM (Percentile Bootstrap) UCL 3.945
95% Adjusted Gamma UCL	4.937	

Note: DL/2 is not a recommended method.

Methoxychlor (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	24
Number of Distinct Detected Data	21	Number of Non-Detect Data	41
		Percent Non-Detects	63.08%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.00093	Minimum Detected	-6.98
Maximum Detected	0.038	Maximum Detected	-3.27
Mean of Detected	0.00495	Mean of Detected	-5.802
SD of Detected	0.00753	SD of Detected	0.892
Minimum Non-Detect	0.018	Minimum Non-Detect	-4.017
Maximum Non-Detect	0.18	Maximum Non-Detect	-1.715

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	65
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.499	Lilliefors Test Statistic	0.93
5% Lilliefors Critical Value	0.916	5% Lilliefors Critical Value	0.916
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0107	Mean	-4.957
SD	0.0133	SD	0.931
95% DL/2 (t) UCL	0.0135	95% H-Stat (DL/2) UCL	0.0228
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.855
		SD in Log Scale	0.726
		Mean in Original Scale	0.00393
		SD in Original Scale	0.00487
		95% Percentile Bootstrap UCL	0.00494
		95% BCA Bootstrap UCL	0.00553

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	1.036	**Data Follow Appr. Gamma Distribution at 5% Significance Level**
Theta Star	0.00478	
nu star	49.72	
A-D Test Statistic	1.244	**Nonparametric Statistics**
5% A-D Critical Value	0.769	Kaplan-Meier (KM) Method
K-S Test Statistic	0.769	Mean 0.00407
5% K-S Critical Value	0.182	SD 0.00511
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean 0.0007992
		95% KM (t) UCL 0.00541
Assuming Gamma Distribution		95% KM (z) UCL 0.00539
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.00541
Minimum	0.00093	95% KM (bootstrap t) UCL 0.00604
Maximum	0.038	95% KM (BCA) UCL 0.00559
Mean	0.00497	95% KM (Percentile Bootstrap) UCL 0.00548
Median	0.00486	95% KM (Chebyshev) UCL 0.00756
SD	0.00452	97.5% KM (Chebyshev) UCL 0.00907
k star	2.745	99% KM (Chebyshev) UCL 0.012
Theta star	0.00181	
Nu star	356.8	**Potential UCLs to Use**
AppChi2	314.1	95% KM (t) UCL 0.00541
95% Gamma Approximate UCL	0.00564	
95% Adjusted Gamma UCL	0.00566	

Note: DL/2 is not a recommended method.

Pentachlorophenol (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	40
Number of Distinct Detected Data	28	Number of Non-Detect Data	25
		Percent Non-Detects	38.46%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0013	Minimum Detected	-6.645
Maximum Detected	0.04	Maximum Detected	-3.219
Mean of Detected	0.00562	Mean of Detected	-5.675
SD of Detected	0.00775	SD of Detected	0.872
Minimum Non-Detect	0.018	Minimum Non-Detect	-4.017
Maximum Non-Detect	0.022	Maximum Non-Detect	-3.817

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	64
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	98.46%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.572	Lilliefors Test Statistic	0.847
5% Lilliefors Critical Value	0.94	5% Lilliefors Critical Value	0.94
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00718	Mean	-5.276
SD	0.00638	SD	0.85
95% DL/2 (t) UCL	0.0085	95% H-Stat (DL/2) UCL	0.0251
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.74
		SD in Log Scale	0.767
		Mean in Original Scale	0.00474
		SD in Original Scale	0.00625
		95% Percentile Bootstrap UCL	0.00613
		95% BCA Bootstrap UCL	0.00645

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	1.083	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.00519		
nu star	86.63		
A-D Test Statistic	3.784	**Nonparametric Statistics**	
5% A-D Critical Value	0.775	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.775	Mean	0.0047
5% K-S Critical Value	0.143	SD	0.00632
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.000831
		95% KM (t) UCL	0.00608
Assuming Gamma Distribution		95% KM (z) UCL	0.00606
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00608
Minimum	0.0013	95% KM (bootstrap t) UCL	0.00687
Maximum	0.04	95% KM (BCA) UCL	0.00624
Mean	0.00565	95% KM (Percentile Bootstrap) UCL	0.00611
Median	0.0041	95% KM (Chebyshev) UCL	0.00832
SD	0.0061	97.5% KM (Chebyshev) UCL	0.00989
k star	1.673	99% KM (Chebyshev) UCL	0.013
Theta star	0.00338		
Nu star	217.5	**Potential UCLs to Use**	
AppChi2	184.4	95% KM (BCA) UCL	0.00624
95% Gamma Approximate UCL	0.00666		
95% Adjusted Gamma UCL	0.00669		

Note: DL/2 is not a recommended method.

Phenanthrene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	34
Number of Distinct Detected Data	33	Number of Non-Detect Data	31
		Percent Non-Detects	47.69%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.022	Minimum Detected	-3.817
Maximum Detected	9.2	Maximum Detected	2.219
Mean of Detected	0.795	Mean of Detected	-1.869
SD of Detected	1.98	SD of Detected	1.639
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	54
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	83.08%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.439	Lilliefors Test Statistic	0.886
5% Lilliefors Critical Value	0.933	5% Lilliefors Critical Value	0.933
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.463	Mean	-2.079
SD	1.464	SD	1.198
95% DL/2 (t) UCL	0.767	95% H-Stat (DL/2) UCL	0.418
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.252
		SD in Log Scale	1.396
		Mean in Original Scale	0.463
		SD in Original Scale	1.465
		95% Percentile Bootstrap UCL	0.79
		95% BCA Bootstrap UCL	0.928

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.385	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	2.064		
nu star	26.21		
A-D Test Statistic	3.434	**Nonparametric Statistics**	
5% A-D Critical Value	0.834	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.834	Mean	0.449
5% K-S Critical Value	0.162	SD	1.457
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.184
		95% KM (t) UCL	0.755
Assuming Gamma Distribution		95% KM (z) UCL	0.75
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.753
Minimum	0.022	95% KM (bootstrap t) UCL	1.315
Maximum	9.2	95% KM (BCA) UCL	0.782
Mean	0.78	95% KM (Percentile Bootstrap) UCL	0.761
Median	0.214	95% KM (Chebyshev) UCL	1.248
SD	1.502	97.5% KM (Chebyshev) UCL	1.595
k star	0.541	99% KM (Chebyshev) UCL	2.274
Theta star	1.443		
Nu star	70.27	**Potential UCLs to Use**	
AppChi2	51.97	97.5% KM (Chebyshev) UCL	1.595
95% Gamma Approximate UCL	1.055		
95% Adjusted Gamma UCL	1.062		

Note: DL/2 is not a recommended method.

Pyrene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	32
Number of Distinct Detected Data	27	Number of Non-Detect Data	33
		Percent Non-Detects	50.77%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.072	Minimum Detected	-2.631
Maximum Detected	8.5	Maximum Detected	2.14
Mean of Detected	0.985	Mean of Detected	-1.171
SD of Detected	2.028	SD of Detected	1.364
Minimum Non-Detect	0.18	Minimum Non-Detect	-1.715
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	51
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	14
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	78.46%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.495	Lilliefors Test Statistic	0.861
5% Lilliefors Critical Value	0.93	5% Lilliefors Critical Value	0.93
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.535	Mean	-1.75
SD	1.481	SD	1.11
95% DL/2 (t) UCL	0.842	95% H-Stat (DL/2) UCL	0.837
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.635
		SD in Log Scale	1.173
		Mean in Original Scale	0.564
		SD in Original Scale	1.474
		95% Percentile Bootstrap UCL	0.883
		95% BCA Bootstrap UCL	1.002

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.513	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	1.922		
nu star	32.8		
A-D Test Statistic	3.122	**Nonparametric Statistics**	
5% A-D Critical Value	0.807	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.807	Mean	0.546
5% K-S Critical Value	0.164	SD	1.466
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.185
		95% KM (t) UCL	0.855
Assuming Gamma Distribution		95% KM (z) UCL	0.85
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.852
Minimum	0.072	95% KM (bootstrap t) UCL	1.4
Maximum	8.5	95% KM (BCA) UCL	0.898
Mean	0.985	95% KM (Percentile Bootstrap) UCL	0.884
Median	0.938	95% KM (Chebyshev) UCL	1.352
SD	1.412	97.5% KM (Chebyshev) UCL	1.701
k star	0.975	99% KM (Chebyshev) UCL	2.386
Theta star	1.011		
Nu star	126.7	**Potential UCLs to Use**	
AppChi2	101.7	95% KM (BCA) UCL	0.898
95% Gamma Approximate UCL	1.227		
95% Adjusted Gamma UCL	1.233		

Note: DL/2 is not a recommended method.

Selenium (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	16
Number of Distinct Detected Data	14	Number of Non-Detect Data	49
		Percent Non-Detects	75.38%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.48	Minimum Detected	-0.734
Maximum Detected	3.2	Maximum Detected	1.163
Mean of Detected	0.887	Mean of Detected	-0.256
SD of Detected	0.652	SD of Detected	0.471
Minimum Non-Detect	0.975	Minimum Non-Detect	-0.0253
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	64
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	98.46%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.565	Lilliefors Test Statistic	0.821
5% Lilliefors Critical Value	0.887	5% Lilliefors Critical Value	0.887
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.638	Mean	-0.507
SD	0.348	SD	0.276
95% DL/2 (t) UCL	0.71	95% H-Stat (DL/2) UCL	0.747
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.38
		SD in Log Scale	0.343
		Mean in Original Scale	0.733
		SD in Original Scale	0.367
		95% Percentile Bootstrap UCL	0.81
		95% BCA Bootstrap UCL	0.847

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	3.155	**Data Follow Appr. Gamma Distribution at 5% Significance Level**
Theta Star	0.281	
nu star	101	
A-D Test Statistic	1.255	**Nonparametric Statistics**
5% A-D Critical Value	0.742	Kaplan-Meier (KM) Method
K-S Test Statistic	0.742	Mean 0.721
5% K-S Critical Value	0.216	SD 0.355
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean 0.0581
		95% KM (t) UCL 0.818
Assuming Gamma Distribution		95% KM (z) UCL 0.817
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.819
Minimum	0.48	95% KM (bootstrap t) UCL 0.86
Maximum	3.2	95% KM (BCA) UCL 0.818
Mean	0.873	95% KM (Percentile Bootstrap) UCL 0.819
Median	0.841	95% KM (Chebyshev) UCL 0.974
SD	0.332	97.5% KM (Chebyshev) UCL 1.084
k star	12.01	99% KM (Chebyshev) UCL 1.299
Theta star	0.0727	
Nu star	1562	**Potential UCLs to Use**
AppChi2	1471	95% KM (t) UCL 0.818
95% Gamma Approximate UCL	0.927	
95% Adjusted Gamma UCL	0.929	

Note: DL/2 is not a recommended method.

Silver (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	32
Number of Distinct Detected Data	21	Number of Non-Detect Data	33
		Percent Non-Detects	50.77%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.2	Minimum Detected	-1.609
Maximum Detected	0.6	Maximum Detected	-0.511
Mean of Detected	0.341	Mean of Detected	-1.127
SD of Detected	0.114	SD of Detected	0.319
Minimum Non-Detect	0.975	Minimum Non-Detect	-0.0253
Maximum Non-Detect	1.2	Maximum Non-Detect	0.182

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	65
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.898	Lilliefors Test Statistic	0.94
5% Lilliefors Critical Value	0.93	5% Lilliefors Critical Value	0.93
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.443	Mean	-0.867
SD	0.131	SD	0.343
95% DL/2 (t) UCL	0.47	95% H-Stat (DL/2) UCL	0.571
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.127
		SD in Log Scale	0.29
		Mean in Original Scale	0.338
		SD in Original Scale	0.102
		95% Percentile Bootstrap UCL	0.358
		95% BCA Bootstrap UCL	0.36

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	9.097	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.0375		
nu star	582.2		
A-D Test Statistic	0.75	**Nonparametric Statistics**	
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	0.341
5% K-S Critical Value	0.155	SD	0.113
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0202
		95% KM (t) UCL	0.375
Assuming Gamma Distribution		95% KM (z) UCL	0.374
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.375
Minimum	0.13	95% KM (bootstrap t) UCL	0.379
Maximum	0.6	95% KM (BCA) UCL	0.374
Mean	0.344	95% KM (Percentile Bootstrap) UCL	0.376
Median	0.35	95% KM (Chebyshev) UCL	0.429
SD	0.0986	97.5% KM (Chebyshev) UCL	0.467
k star	11.39	99% KM (Chebyshev) UCL	0.542
Theta star	0.0302		
Nu star	1481	**Potential UCLs to Use**	
AppChi2	1392	95% KM (t) UCL	0.375
95% Gamma Approximate UCL	0.366	95% KM (% Bootstrap) UCL	0.376
95% Adjusted Gamma UCL	0.366		

Note: DL/2 is not a recommended method.

Thallium (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	17
Number of Distinct Detected Data	15	Number of Non-Detect Data	48
		Percent Non-Detects	73.85%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.71	Minimum Detected	-0.342
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.932	Mean of Detected	-0.0902
SD of Detected	0.199	SD of Detected	0.199
Minimum Non-Detect	0.97	Minimum Non-Detect	-0.0305
Maximum Non-Detect	1.3	Maximum Non-Detect	0.262

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	63
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	96.92%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.89	Lilliefors Test Statistic	0.931
5% Lilliefors Critical Value	0.892	5% Lilliefors Critical Value	0.892
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.648	Mean	-0.47
SD	0.2	SD	0.256
95% DL/2 (t) UCL	0.689	95% H-Stat (DL/2) UCL	0.677
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.16
		SD in Log Scale	0.15
		Mean in Original Scale	0.862
		SD in Original Scale	0.138
		95% Percentile Bootstrap UCL	0.889
		95% BCA Bootstrap UCL	0.895

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	21.26	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	0.0438		
nu star	722.8		
A-D Test Statistic	0.493	**Nonparametric Statistics**	
5% A-D Critical Value	0.738	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.738	Mean	0.857
5% K-S Critical Value	0.209	SD	0.133
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0261
		95% KM (t) UCL	0.901
Assuming Gamma Distribution		95% KM (z) UCL	0.9
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.902
Minimum	0.622	95% KM (bootstrap t) UCL	0.903
Maximum	1.4	95% KM (BCA) UCL	0.901
Mean	0.933	95% KM (Percentile Bootstrap) UCL	0.902
Median	0.94	95% KM (Chebyshev) UCL	0.971
SD	0.132	97.5% KM (Chebyshev) UCL	1.02
k star	49.19	99% KM (Chebyshev) UCL	1.117
Theta star	0.019		
Nu star	6395	**Potential UCLs to Use**	
AppChi2	6210	95% KM (t) UCL	0.901
95% Gamma Approximate UCL	0.961		
95% Adjusted Gamma UCL	0.961		

Note: DL/2 is not a recommended method.

Toluene (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	13
Number of Distinct Detected Data	11	Number of Non-Detect Data	52
		Percent Non-Detects	80.00%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0022	Minimum Detected	-6.119
Maximum Detected	0.012	Maximum Detected	-4.423
Mean of Detected	0.00435	Mean of Detected	-5.588
SD of Detected	0.00291	SD of Detected	0.527
Minimum Non-Detect	0.0041	Minimum Non-Detect	-5.497
Maximum Non-Detect	0.0083	Maximum Non-Detect	-4.791

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	63
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	96.92%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.733	Lilliefors Test Statistic	0.878
5% Lilliefors Critical Value	0.866	5% Lilliefors Critical Value	0.866
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00319	Mean	-5.8
SD	0.00143	SD	0.276
95% DL/2 (t) UCL	0.00348	95% H-Stat (DL/2) UCL	0.00356
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.743
		SD in Log Scale	0.297
		Mean in Original Scale	0.00338
		SD in Original Scale	0.00146
		95% Percentile Bootstrap UCL	0.00372
		95% BCA Bootstrap UCL	0.00377

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	2.748	**Data Follow Appr. Gamma Distribution at 5% Significance Level**	
Theta Star	0.00158		
nu star	71.44		
A-D Test Statistic	0.847	**Nonparametric Statistics**	
5% A-D Critical Value	0.738	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.738	Mean	0.00334
5% K-S Critical Value	0.238	SD	0.00153
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0002905
		95% KM (t) UCL	0.00383
Assuming Gamma Distribution		95% KM (z) UCL	0.00382
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00384
Minimum	0.0022	95% KM (bootstrap t) UCL	0.00392
Maximum	0.012	95% KM (BCA) UCL	0.00381
Mean	0.00444	95% KM (Percentile Bootstrap) UCL	0.00384
Median	0.0045	95% KM (Chebyshev) UCL	0.00461
SD	0.00137	97.5% KM (Chebyshev) UCL	0.00516
k star	12.86	99% KM (Chebyshev) UCL	0.00623
Theta star	0.0003453		
Nu star	1672	**Potential UCLs to Use**	
AppChi2	1578	95% KM (t) UCL	0.00383
95% Gamma Approximate UCL	0.00471		
95% Adjusted Gamma UCL	0.00471		

Note: DL/2 is not a recommended method.

Total HMW PAHs (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	44
Number of Distinct Detected Data	44	Number of Non-Detect Data	21
		Percent Non-Detects	32.31%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.678	Minimum Detected	-0.389
Maximum Detected	42.51	Maximum Detected	3.75
Mean of Detected	4.481	Mean of Detected	0.696
SD of Detected	9.091	SD of Detected	1.026
Minimum Non-Detect	1.634	Minimum Non-Detect	0.491
Maximum Non-Detect	1.9	Maximum Non-Detect	0.642

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	52
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	13
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	80.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.437	Lilliefors Test Statistic	0.786
5% Lilliefors Critical Value	0.944	5% Lilliefors Critical Value	0.944
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.324	Mean	0.437
SD	7.64	SD	0.923
95% DL/2 (t) UCL	4.906	95% H-Stat (DL/2) UCL	4.678
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.555
		SD in Log Scale	0.9
		Mean in Original Scale	3.49
		SD in Original Scale	7.598
		95% Percentile Bootstrap UCL	5.168
		95% BCA Bootstrap UCL	5.834

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.71	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	6.313		
nu star	62.47		
A-D Test Statistic	6.035	**Nonparametric Statistics**	
5% A-D Critical Value	0.79	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.79	Mean	3.423
5% K-S Critical Value	0.139	SD	7.553
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.948
		95% KM (t) UCL	5.005
Assuming Gamma Distribution		95% KM (z) UCL	4.982
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.999
Minimum	0.678	95% KM (bootstrap t) UCL	7.81
Maximum	42.51	95% KM (BCA) UCL	5.088
Mean	4.487	95% KM (Percentile Bootstrap) UCL	5.036
Median	1.96	95% KM (Chebyshev) UCL	7.555
SD	7.454	97.5% KM (Chebyshev) UCL	9.344
k star	1.014	99% KM (Chebyshev) UCL	12.86
Theta star	4.424		
Nu star	131.9	**Potential UCLs to Use**	
AppChi2	106.3	95% KM (Chebyshev) UCL	7.555
95% Gamma Approximate UCL	5.565		
95% Adjusted Gamma UCL	5.592		

Note: DL/2 is not a recommended method.

Total LMW PAHs (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	34
Number of Distinct Detected Data	34	Number of Non-Detect Data	31
		Percent Non-Detects	47.69%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.948	Minimum Detected	-0.0534
Maximum Detected	14.26	Maximum Detected	2.658
Mean of Detected	2.027	Mean of Detected	0.406
SD of Detected	2.692	SD of Detected	0.601
Minimum Non-Detect	1.26	Minimum Non-Detect	0.231
Maximum Non-Detect	1.54	Maximum Non-Detect	0.432

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	59
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	90.77%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.386	Lilliefors Test Statistic	0.556
5% Lilliefors Critical Value	0.933	5% Lilliefors Critical Value	0.933
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.392	Mean	0.0388
SD	2.046	SD	0.581
95% DL/2 (t) UCL	1.816	95% H-Stat (DL/2) UCL	1.474
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.317
		SD in Log Scale	0.477
		Mean in Original Scale	1.674
		SD in Original Scale	1.982
		95% Percentile Bootstrap UCL	2.124
		95% BCA Bootstrap UCL	2.308

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	1.673	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	1.212		
nu star	113.8		
A-D Test Statistic	7.45	**Nonparametric Statistics**	
5% A-D Critical Value	0.762	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.762	Mean	1.625
5% K-S Critical Value	0.153	SD	1.965
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.248
		95% KM (t) UCL	2.039
Assuming Gamma Distribution		95% KM (z) UCL	2.033
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.036
Minimum	0.777	95% KM (bootstrap t) UCL	3.471
Maximum	14.26	95% KM (BCA) UCL	2.079
Mean	2.072	95% KM (Percentile Bootstrap) UCL	2.049
Median	1.433	95% KM (Chebyshev) UCL	2.705
SD	1.994	97.5% KM (Chebyshev) UCL	3.172
k star	2.687	99% KM (Chebyshev) UCL	4.089
Theta star	0.771		
Nu star	349.3	**Potential UCLs to Use**	
AppChi2	307	95% KM (t) UCL	2.039
95% Gamma Approximate UCL	2.358	95% KM (% Bootstrap) UCL	2.049
95% Adjusted Gamma UCL	2.365		

Note: DL/2 is not a recommended method.

Total PCBs (floodplain)

General Statistics

Number of Valid Data	65	Number of Detected Data	53
Number of Distinct Detected Data	53	Number of Non-Detect Data	12
		Percent Non-Detects	18.46%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0539	Minimum Detected	-2.921
Maximum Detected	0.393	Maximum Detected	-0.935
Mean of Detected	0.116	Mean of Detected	-2.248
SD of Detected	0.0603	SD of Detected	0.42
Minimum Non-Detect	0.0723	Minimum Non-Detect	-2.627
Maximum Non-Detect	0.7	Maximum Non-Detect	-0.357

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	65
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.165	Lilliefors Test Statistic	0.0978
5% Lilliefors Critical Value	0.122	5% Lilliefors Critical Value	0.122
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.111	Mean	-2.352
SD	0.069	SD	0.553
95% DL/2 (t) UCL	0.125	95% H-Stat (DL/2) UCL	0.132
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-2.316
		SD in Log Scale	0.413
		Mean in Original Scale	0.109
		SD in Original Scale	0.0571
		95% Percentile Bootstrap UCL	0.121
		95% BCA Bootstrap UCL	0.123

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	5.039	**Data appear Lognormal at 5% Significance Level**
Theta Star	0.0231	
nu star	534.1	
A-D Test Statistic	1.205	**Nonparametric Statistics**
5% A-D Critical Value	0.753	Kaplan-Meier (KM) Method
K-S Test Statistic	0.753	Mean 0.109
5% K-S Critical Value	0.122	SD 0.0575
Data not Gamma Distributed at 5% Significance Level		SE of Mean 0.00734
		95% KM (t) UCL 0.121
Assuming Gamma Distribution		95% KM (z) UCL 0.121
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.121
Minimum	0.0539	95% KM (bootstrap t) UCL 0.125
Maximum	0.393	95% KM (BCA) UCL 0.122
Mean	0.112	95% KM (Percentile Bootstrap) UCL 0.122
Median	0.095	95% KM (Chebyshev) UCL 0.141
SD	0.0564	97.5% KM (Chebyshev) UCL 0.155
k star	5.474	99% KM (Chebyshev) UCL 0.182
Theta star	0.0205	
Nu star	711.6	**Potential UCLs to Use**
AppChi2	650.7	95% KM (Chebyshev) UCL 0.141
95% Gamma Approximate UCL	0.122	
95% Adjusted Gamma UCL	0.123	

Note: DL/2 is not a recommended method.

General UCL Statistics for Full Data Sets

User Selected Options

From File	J:\Indl_Service\Project Files\Solutia-6105\HHRA AddOn\SA1 Eco Screen\ProUCL\DeadCreekProUCLinput_E.ws
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Aluminum (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	11

Raw Statistics

Minimum	5500
Maximum	14000
Mean	9968
Median	10100
SD	2222
Coefficient of Variation	0.223
Skewness	-0.427

Log-transformed Statistics

Minimum of Log Data	8.613
Maximum of Log Data	9.547
Mean of log Data	9.181
SD of log Data	0.245

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.946
Shapiro Wilk Critical Value	0.892

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.907
Shapiro Wilk Critical Value	0.892

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	10908

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	10794
95% Modified-t UCL	10899

Assuming Lognormal Distribution

95% H-UCL	11185
95% Chebyshev (MVUE) UCL	12594
97.5% Chebyshev (MVUE) UCL	13722
99% Chebyshev (MVUE) UCL	15939

Gamma Distribution Test

k star (bias corrected)	15.78
Theta Star	631.6
nu star	536.6
Approximate Chi Square Value (.05)	483.9
Adjusted Level of Significance	0.0346
Adjusted Chi Square Value	478.6
Anderson-Darling Test Statistic	0.673
Anderson-Darling 5% Critical Value	0.738
Kolmogorov-Smirnov Test Statistic	0.207
Kolmogorov-Smirnov 5% Critical Value	0.209

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	11054
95% Adjusted Gamma UCL	11175

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	10854
95% Jackknife UCL	10908
95% Standard Bootstrap UCL	10857
95% Bootstrap-t UCL	10857
95% Hall's Bootstrap UCL	10779
95% Percentile Bootstrap UCL	10794
95% BCA Bootstrap UCL	10824
95% Chebyshev(Mean, Sd) UCL	12316
97.5% Chebyshev(Mean, Sd) UCL	13332
99% Chebyshev(Mean, Sd) UCL	15329

Potential UCL to Use

Use 95% Student's-t UCL 10908

Barium (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	12

Raw Statistics		**Log-transformed Statistics**	
Minimum	150	Minimum of Log Data	5.011
Maximum	640	Maximum of Log Data	6.461
Mean	252.1	Mean of log Data	5.478
Median	240	SD of log Data	0.299
SD	105.4		
Coefficient of Variation	0.418		
Skewness	3.414		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.568	Shapiro Wilk Test Statistic	0.769
Shapiro Wilk Critical Value	0.892	Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	296.7	95% H-UCL	287.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	329.6
95% Adjusted-CLT UCL	316.7	97.5% Chebyshev (MVUE) UCL	364.2
95% Modified-t UCL	300.2	99% Chebyshev (MVUE) UCL	432.1

Gamma Distribution Test		**Data Distribution**
k star (bias corrected)	8.153	Data do not follow a Discernable Distribution (0.05)
Theta Star	30.92	
nu star	277.2	
Approximate Chi Square Value (.05)	239.6	**Nonparametric Statistics**
Adjusted Level of Significance	0.0346	95% CLT UCL 294.1
Adjusted Chi Square Value	236	95% Jackknife UCL 296.7
		95% Standard Bootstrap UCL 292.2
Anderson-Darling Test Statistic	1.726	95% Bootstrap-t UCL 356.1
Anderson-Darling 5% Critical Value	0.739	95% Hall's Bootstrap UCL 481
Kolmogorov-Smirnov Test Statistic	0.271	95% Percentile Bootstrap UCL 298.5
Kolmogorov-Smirnov 5% Critical Value	0.209	95% BCA Bootstrap UCL 322.9
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 363.5
		97.5% Chebyshev(Mean, Sd) UCL 411.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 506.4
95% Approximate Gamma UCL	291.6	
95% Adjusted Gamma UCL	296.1	

Potential UCL to Use		Use 95% Student's-t UCL	296.7
		or 95% Modified-t UCL	300.2

Beryllium (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	16

Raw Statistics		Log-transformed Statistics	
Minimum	0.31	Minimum of Log Data	-1.171
Maximum	1.1	Maximum of Log Data	0.0953
Mean	0.744	Mean of log Data	-0.338
Median	0.79	SD of log Data	0.322
SD	0.198		
Coefficient of Variation	0.265		
Skewness	-0.754		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.922	Shapiro Wilk Test Statistic	0.838
Shapiro Wilk Critical Value	0.892	Shapiro Wilk Critical Value	0.892
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.828	95% H-UCL	0.874
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.008
95% Adjusted-CLT UCL	0.814	97.5% Chebyshev (MVUE) UCL	1.12
95% Modified-t UCL	0.827	99% Chebyshev (MVUE) UCL	1.339

Gamma Distribution Test		Data Distribution
k star (bias corrected)	9.883	Data appear Normal at 5% Significance Level
Theta Star	0.0753	
nu star	336	
Approximate Chi Square Value (.05)	294.5	**Nonparametric Statistics**
Adjusted Level of Significance	0.0346	95% CLT UCL 0.823
Adjusted Chi Square Value	290.5	95% Jackknife UCL 0.828
		95% Standard Bootstrap UCL 0.821
Anderson-Darling Test Statistic	1.035	95% Bootstrap-t UCL 0.819
Anderson-Darling 5% Critical Value	0.739	95% Hall's Bootstrap UCL 0.817
Kolmogorov-Smirnov Test Statistic	0.236	95% Percentile Bootstrap UCL 0.815
Kolmogorov-Smirnov 5% Critical Value	0.209	95% BCA Bootstrap UCL 0.811
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 0.953
		97.5% Chebyshev(Mean, Sd) UCL 1.044
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 1.221
95% Approximate Gamma UCL	0.849	
95% Adjusted Gamma UCL	0.861	

Potential UCL to Use	Use 95% Student's-t UCL 0.828

Cadmium (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	15

Raw Statistics

Minimum	3.1
Maximum	38
Mean	14.21
Median	13
SD	9.922
Coefficient of Variation	0.698
Skewness	1.101

Log-transformed Statistics

Minimum of Log Data	1.131
Maximum of Log Data	3.638
Mean of log Data	2.4
SD of log Data	0.778

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.89
Shapiro Wilk Critical Value	0.892

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.93
Shapiro Wilk Critical Value	0.892

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	18.42

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	18.86
95% Modified-t UCL	18.52

Assuming Lognormal Distribution

95% H-UCL	23.51
95% Chebyshev (MVUE) UCL	27.46
97.5% Chebyshev (MVUE) UCL	33.03
99% Chebyshev (MVUE) UCL	43.97

Gamma Distribution Test

k star (bias corrected)	1.786
Theta Star	7.958
nu star	60.73
Approximate Chi Square Value (.05)	43.81
Adjusted Level of Significance	0.0346
Adjusted Chi Square Value	42.31
Anderson-Darling Test Statistic	0.374
Anderson-Darling 5% Critical Value	0.749
Kolmogorov-Smirnov Test Statistic	0.118
Kolmogorov-Smirnov 5% Critical Value	0.212

Data appear Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	18.17
95% Jackknife UCL	18.42
95% Standard Bootstrap UCL	17.99
95% Bootstrap-t UCL	19.65
95% Hall's Bootstrap UCL	21.13
95% Percentile Bootstrap UCL	18.42
95% BCA Bootstrap UCL	18.67
95% Chebyshev(Mean, Sd) UCL	24.7
97.5% Chebyshev(Mean, Sd) UCL	29.24
99% Chebyshev(Mean, Sd) UCL	38.16

Assuming Gamma Distribution

95% Approximate Gamma UCL	19.71
95% Adjusted Gamma UCL	20.41

Potential UCL to Use

Use 95% Approximate Gamma UCL 19.71

Calcium (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	13

Raw Statistics

Minimum	3300
Maximum	13000
Mean	8018
Median	7100
SD	3275
Coefficient of Variation	0.408
Skewness	0.32

Log-transformed Statistics

Minimum of Log Data	8.102
Maximum of Log Data	9.473
Mean of log Data	8.905
SD of log Data	0.436

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.909
Shapiro Wilk Critical Value	0.892

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.931
Shapiro Wilk Critical Value	0.892

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	9404

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	9390
95% Modified-t UCL	9415

Assuming Lognormal Distribution

95% H-UCL	10044
95% Chebyshev (MVUE) UCL	11857
97.5% Chebyshev (MVUE) UCL	13504
99% Chebyshev (MVUE) UCL	16739

Gamma Distribution Test

k star (bias corrected)	5.029
Theta Star	1594
nu star	171
Approximate Chi Square Value (.05)	141.7
Adjusted Level of Significance	0.0346
Adjusted Chi Square Value	138.9
Anderson-Darling Test Statistic	0.44
Anderson-Darling 5% Critical Value	0.741
Kolmogorov-Smirnov Test Statistic	0.178
Kolmogorov-Smirnov 5% Critical Value	0.21

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	9672
95% Adjusted Gamma UCL	9866

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	9324
95% Jackknife UCL	9404
95% Standard Bootstrap UCL	9297
95% Bootstrap-t UCL	9449
95% Hall's Bootstrap UCL	9304
95% Percentile Bootstrap UCL	9288
95% BCA Bootstrap UCL	9265
95% Chebyshev(Mean, Sd) UCL	11480
97.5% Chebyshev(Mean, Sd) UCL	12978
99% Chebyshev(Mean, Sd) UCL	15921

Potential UCL to Use

Use 95% Student's-t UCL 9404

Chromium (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	12

Raw Statistics		Log-transformed Statistics	
Minimum	14	Minimum of Log Data	2.639
Maximum	170	Maximum of Log Data	5.136
Mean	47.29	Mean of log Data	3.523
Median	21	SD of log Data	0.791
SD	45.15		
Coefficient of Variation	0.955		
Skewness	1.734		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.728	Shapiro Wilk Test Statistic	0.846
Shapiro Wilk Critical Value	0.892	Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	66.41	95% H-UCL	73.77
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	85.98
95% Adjusted-CLT UCL	70.23	97.5% Chebyshev (MVUE) UCL	103.6
95% Modified-t UCL	67.18	99% Chebyshev (MVUE) UCL	138.2

Gamma Distribution Test		Data Distribution
k star (bias corrected)	1.397	Data do not follow a Discernable Distribution (0.05)
Theta Star	33.86	
nu star	47.49	
Approximate Chi Square Value (.05)	32.67	**Nonparametric Statistics**
Adjusted Level of Significance	0.0346	95% CLT UCL 65.31
Adjusted Chi Square Value	31.39	95% Jackknife UCL 66.41
		95% Standard Bootstrap UCL 64.36
Anderson-Darling Test Statistic	1.385	95% Bootstrap-t UCL 78.49
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL 70.53
Kolmogorov-Smirnov Test Statistic	0.269	95% Percentile Bootstrap UCL 66.41
Kolmogorov-Smirnov 5% Critical Value	0.213	95% BCA Bootstrap UCL 69.82
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 95.03
		97.5% Chebyshev(Mean, Sd) UCL 115.7
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 156.3
95% Approximate Gamma UCL	68.74	
95% Adjusted Gamma UCL	71.56	

Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL 95.03

Cobalt (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	16

Raw Statistics

Minimum	3.2
Maximum	13
Mean	8.079
Median	8.2
SD	2.404
Coefficient of Variation	0.298
Skewness	-0.0548

Log-transformed Statistics

Minimum of Log Data	1.163
Maximum of Log Data	2.565
Mean of log Data	2.04
SD of log Data	0.341

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.976
Shapiro Wilk Critical Value	0.892

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.914
Shapiro Wilk Critical Value	0.892

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	9.098

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	9.03
95% Modified-t UCL	9.096

Assuming Lognormal Distribution

95% H-UCL	9.579
95% Chebyshev (MVUE) UCL	11.1
97.5% Chebyshev (MVUE) UCL	12.38
99% Chebyshev (MVUE) UCL	14.91

Gamma Distribution Test

k star (bias corrected)	8.58
Theta Star	0.942
nu star	291.7
Approximate Chi Square Value (.05)	253.1
Adjusted Level of Significance	0.0346
Adjusted Chi Square Value	249.4
Anderson-Darling Test Statistic	0.418
Anderson-Darling 5% Critical Value	0.739
Kolmogorov-Smirnov Test Statistic	0.144
Kolmogorov-Smirnov 5% Critical Value	0.209

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	9.31
95% Adjusted Gamma UCL	9.451

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	9.039
95% Jackknife UCL	9.098
95% Standard Bootstrap UCL	9.009
95% Bootstrap-t UCL	9.091
95% Hall's Bootstrap UCL	9.146
95% Percentile Bootstrap UCL	9.053
95% BCA Bootstrap UCL	8.932
95% Chebyshev(Mean, Sd) UCL	10.62
97.5% Chebyshev(Mean, Sd) UCL	11.72
99% Chebyshev(Mean, Sd) UCL	13.88

Potential UCL to Use

Use 95% Student's-t UCL 9.098

Copper (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	17

Raw Statistics

Minimum	24.5
Maximum	4300
Mean	425.2
Median	94
SD	1012
Coefficient of Variation	2.38
Skewness	3.943

Log-transformed Statistics

Minimum of Log Data	3.199
Maximum of Log Data	8.366
Mean of log Data	4.932
SD of log Data	1.372

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.397
Shapiro Wilk Critical Value	0.892

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.927
Shapiro Wilk Critical Value	0.892

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	853.7

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	1080
95% Modified-t UCL	892.8

Assuming Lognormal Distribution

95% H-UCL	1090
95% Chebyshev (MVUE) UCL	864.9
97.5% Chebyshev (MVUE) UCL	1099
99% Chebyshev (MVUE) UCL	1559

Gamma Distribution Test

k star (bias corrected)	0.498
Theta Star	853.1
nu star	16.95
Approximate Chi Square Value (.05)	8.634
Adjusted Level of Significance	0.0346
Adjusted Chi Square Value	8.018
Anderson-Darling Test Statistic	1.279
Anderson-Darling 5% Critical Value	0.793
Kolmogorov-Smirnov Test Statistic	0.22
Kolmogorov-Smirnov 5% Critical Value	0.22

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	834.6
95% Adjusted Gamma UCL	898.8

Data Distribution

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	828.9
95% Jackknife UCL	853.7
95% Standard Bootstrap UCL	827.8
95% Bootstrap-t UCL	2519
95% Hall's Bootstrap UCL	2364
95% Percentile Bootstrap UCL	900.7
95% BCA Bootstrap UCL	1172
95% Chebyshev(Mean, Sd) UCL	1495
97.5% Chebyshev(Mean, Sd) UCL	1958
99% Chebyshev(Mean, Sd) UCL	2867

Potential UCL to Use

Use 95% Chebyshev (MVUE) UCL 864.9

Iron (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	13

Raw Statistics

Minimum	7500
Maximum	27000
Mean	17776
Median	19000
SD	4984
Coefficient of Variation	0.28
Skewness	-0.453

Log-transformed Statistics

Minimum of Log Data	8.923
Maximum of Log Data	10.2
Mean of log Data	9.74
SD of log Data	0.332

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.962
Shapiro Wilk Critical Value	0.892

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.879
Shapiro Wilk Critical Value	0.892

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	19887

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	19623
95% Modified-t UCL	19865

Assuming Lognormal Distribution

95% H-UCL	20982
95% Chebyshev (MVUE) UCL	24252
97.5% Chebyshev (MVUE) UCL	27008
99% Chebyshev (MVUE) UCL	32421

Gamma Distribution Test

k star (bias corrected)	9.188
Theta Star	1935
nu star	312.4
Approximate Chi Square Value (.05)	272.4
Adjusted Level of Significance	0.0346
Adjusted Chi Square Value	268.5
Anderson-Darling Test Statistic	0.614
Anderson-Darling 5% Critical Value	0.739
Kolmogorov-Smirnov Test Statistic	0.156
Kolmogorov-Smirnov 5% Critical Value	0.209

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	20383
95% Adjusted Gamma UCL	20679

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	19765
95% Jackknife UCL	19887
95% Standard Bootstrap UCL	19684
95% Bootstrap-t UCL	19695
95% Hall's Bootstrap UCL	19770
95% Percentile Bootstrap UCL	19629
95% BCA Bootstrap UCL	19559
95% Chebyshev(Mean, Sd) UCL	23045
97.5% Chebyshev(Mean, Sd) UCL	25325
99% Chebyshev(Mean, Sd) UCL	29803

Potential UCL to Use

Use 95% Student's-t UCL 19887

Lead (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	17

Raw Statistics		**Log-transformed Statistics**	
Minimum	17	Minimum of Log Data	2.833
Maximum	400	Maximum of Log Data	5.991
Mean	78.5	Mean of log Data	3.958
Median	44	SD of log Data	0.846
SD	93.69		
Coefficient of Variation	1.193		
Skewness	2.843		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.635	Shapiro Wilk Test Statistic	0.927
Shapiro Wilk Critical Value	0.892	Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	118.2	95% H-UCL	125.1
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	143.4
95% Adjusted-CLT UCL	132.6	97.5% Chebyshev (MVUE) UCL	173.9
95% Modified-t UCL	120.8	99% Chebyshev (MVUE) UCL	233.9

Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	1.173	Data appear Lognormal at 5% Significance Level	
Theta Star	66.9		
nu star	39.9		
Approximate Chi Square Value (.05)	26.42	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0346	95% CLT UCL	115.9
Adjusted Chi Square Value	25.28	95% Jackknife UCL	118.2
		95% Standard Bootstrap UCL	115.6
Anderson-Darling Test Statistic	0.931	95% Bootstrap-t UCL	165.7
Anderson-Darling 5% Critical Value	0.758	95% Hall's Bootstrap UCL	256.5
Kolmogorov-Smirnov Test Statistic	0.224	95% Percentile Bootstrap UCL	118.2
Kolmogorov-Smirnov 5% Critical Value	0.213	95% BCA Bootstrap UCL	134.4
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	177.5
		97.5% Chebyshev(Mean, Sd) UCL	220.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	304.6
95% Approximate Gamma UCL	118.5		
95% Adjusted Gamma UCL	123.9		

Potential UCL to Use		Use 95% H-UCL	125.1

Magnesium (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	16

Raw Statistics		Log-transformed Statistics	
Minimum	1500	Minimum of Log Data	7.313
Maximum	6900	Maximum of Log Data	8.839
Mean	4506	Mean of log Data	8.34
Median	4400	SD of log Data	0.424
SD	1588		
Coefficient of Variation	0.352		
Skewness	-0.251		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.966	Shapiro Wilk Test Statistic	0.901
Shapiro Wilk Critical Value	0.892	Shapiro Wilk Critical Value	0.892
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	5178	95% H-UCL	5642
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	6648
95% Adjusted-CLT UCL	5114	97.5% Chebyshev (MVUE) UCL	7554
95% Modified-t UCL	5174	99% Chebyshev (MVUE) UCL	9334

Gamma Distribution Test		Data Distribution
k star (bias corrected)	5.768	Data appear Normal at 5% Significance Level
Theta Star	781.2	
nu star	196.1	
Approximate Chi Square Value (.05)	164.7	**Nonparametric Statistics**
Adjusted Level of Significance	0.0346	95% CLT UCL 5139
Adjusted Chi Square Value	161.7	95% Jackknife UCL 5178
		95% Standard Bootstrap UCL 5118
Anderson-Darling Test Statistic	0.377	95% Bootstrap-t UCL 5135
Anderson-Darling 5% Critical Value	0.74	95% Hall's Bootstrap UCL 5117
Kolmogorov-Smirnov Test Statistic	0.131	95% Percentile Bootstrap UCL 5085
Kolmogorov-Smirnov 5% Critical Value	0.209	95% BCA Bootstrap UCL 5094
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 6185
		97.5% Chebyshev(Mean, Sd) UCL 6911
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 8338
95% Approximate Gamma UCL	5365	
95% Adjusted Gamma UCL	5465	

Potential UCL to Use		Use 95% Student's-t UCL	5178

Manganese (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	13

Raw Statistics		Log-transformed Statistics	
Minimum	61	Minimum of Log Data	4.111
Maximum	300	Maximum of Log Data	5.704
Mean	173	Mean of log Data	5.081
Median	170	SD of log Data	0.409
SD	63.58		
Coefficient of Variation	0.368		
Skewness	0.183		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.978	Shapiro Wilk Test Statistic	0.956
Shapiro Wilk Critical Value	0.892	Shapiro Wilk Critical Value	0.892
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	199.9	95% H-UCL	213.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	251.1
95% Adjusted-CLT UCL	199.1	97.5% Chebyshev (MVUE) UCL	284.5
95% Modified-t UCL	200	99% Chebyshev (MVUE) UCL	349.9

Gamma Distribution Test		Data Distribution
k star (bias corrected)	5.88	Data appear Normal at 5% Significance Level
Theta Star	29.42	
nu star	199.9	
Approximate Chi Square Value (.05)	168.2	**Nonparametric Statistics**
Adjusted Level of Significance	0.0346	95% CLT UCL 198.4
Adjusted Chi Square Value	165.2	95% Jackknife UCL 199.9
		95% Standard Bootstrap UCL 197.7
Anderson-Darling Test Statistic	0.256	95% Bootstrap-t UCL 201.2
Anderson-Darling 5% Critical Value	0.74	95% Hall's Bootstrap UCL 199.6
Kolmogorov-Smirnov Test Statistic	0.169	95% Percentile Bootstrap UCL 198.5
Kolmogorov-Smirnov 5% Critical Value	0.209	95% BCA Bootstrap UCL 199.4
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 240.2
		97.5% Chebyshev(Mean, Sd) UCL 269.3
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 326.4
95% Approximate Gamma UCL	205.6	
95% Adjusted Gamma UCL	209.4	

Potential UCL to Use	Use 95% Student's-t UCL 199.9

Mercury (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	15

Raw Statistics

Minimum	0.083
Maximum	1.6
Mean	0.406
Median	0.27
SD	0.384
Coefficient of Variation	0.947
Skewness	2.07

Log-transformed Statistics

Minimum of Log Data	-2.489
Maximum of Log Data	0.47
Mean of log Data	-1.257
SD of log Data	0.868

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.776
Shapiro Wilk Critical Value	0.892

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.951
Shapiro Wilk Critical Value	0.892

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	0.569

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	0.609
95% Modified-t UCL	0.576

Assuming Lognormal Distribution

95% H-UCL	0.707
95% Chebyshev (MVUE) UCL	0.804
97.5% Chebyshev (MVUE) UCL	0.977
99% Chebyshev (MVUE) UCL	1.318

Gamma Distribution Test

k star (bias corrected)	1.316
Theta Star	0.308
nu star	44.76
Approximate Chi Square Value (.05)	30.41
Adjusted Level of Significance	0.0346
Adjusted Chi Square Value	29.18
Anderson-Darling Test Statistic	0.418
Anderson-Darling 5% Critical Value	0.755
Kolmogorov-Smirnov Test Statistic	0.151
Kolmogorov-Smirnov 5% Critical Value	0.213

Data appear Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	0.559
95% Jackknife UCL	0.569
95% Standard Bootstrap UCL	0.552
95% Bootstrap-t UCL	0.671
95% Hall's Bootstrap UCL	1.197
95% Percentile Bootstrap UCL	0.568
95% BCA Bootstrap UCL	0.603
95% Chebyshev(Mean, Sd) UCL	0.812
97.5% Chebyshev(Mean, Sd) UCL	0.988
99% Chebyshev(Mean, Sd) UCL	1.333

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.597
95% Adjusted Gamma UCL	0.623

Potential UCL to Use

Use 95% Approximate Gamma UCL 0.597

Nickel (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	14

Raw Statistics		**Log-transformed Statistics**	
Minimum	44	Minimum of Log Data	3.784
Maximum	600	Maximum of Log Data	6.397
Mean	181.3	Mean of log Data	4.988
Median	170	SD of log Data	0.681
SD	130.9		
Coefficient of Variation	0.722		
Skewness	2.133		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.797	Shapiro Wilk Test Statistic	0.952
Shapiro Wilk Critical Value	0.892	Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	236.7	95% H-UCL	270.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	320.4
95% Adjusted-CLT UCL	251	97.5% Chebyshev (MVUE) UCL	380.3
95% Modified-t UCL	239.4	99% Chebyshev (MVUE) UCL	498

Gamma Distribution Test		**Data Distribution**
k star (bias corrected)	2.113	Data appear Gamma Distributed at 5% Significance Level
Theta Star	85.78	
nu star	71.85	
Approximate Chi Square Value (.05)	53.33	**Nonparametric Statistics**
Adjusted Level of Significance	0.0346	95% CLT UCL 233.5
Adjusted Chi Square Value	51.66	95% Jackknife UCL 236.7
		95% Standard Bootstrap UCL 230.3
Anderson-Darling Test Statistic	0.385	95% Bootstrap-t UCL 270
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL 497.2
Kolmogorov-Smirnov Test Statistic	0.123	95% Percentile Bootstrap UCL 235.3
Kolmogorov-Smirnov 5% Critical Value	0.211	95% BCA Bootstrap UCL 257
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 319.6
		97.5% Chebyshev(Mean, Sd) UCL 379.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 497.1
95% Approximate Gamma UCL	244.2	
95% Adjusted Gamma UCL	252.1	

Potential UCL to Use	Use 95% Approximate Gamma UCL 244.2

Potassium (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	13

Raw Statistics

Minimum	1300
Maximum	2900
Mean	2071
Median	2200
SD	449.7
Coefficient of Variation	0.217
Skewness	-0.113

Log-transformed Statistics

Minimum of Log Data	7.17
Maximum of Log Data	7.972
Mean of log Data	7.612
SD of log Data	0.228

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.968
Shapiro Wilk Critical Value	0.892

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.952
Shapiro Wilk Critical Value	0.892

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	2261

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	2247
95% Modified-t UCL	2260

Assuming Lognormal Distribution

95% H-UCL	2301
95% Chebyshev (MVUE) UCL	2576
97.5% Chebyshev (MVUE) UCL	2794
99% Chebyshev (MVUE) UCL	3222

Gamma Distribution Test

k star (bias corrected)	17.59
Theta Star	117.7
nu star	598.1
Approximate Chi Square Value (.05)	542.4
Adjusted Level of Significance	0.0346
Adjusted Chi Square Value	536.8
Anderson-Darling Test Statistic	0.365
Anderson-Darling 5% Critical Value	0.738
Kolmogorov-Smirnov Test Statistic	0.168
Kolmogorov-Smirnov 5% Critical Value	0.209

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	2283
95% Adjusted Gamma UCL	2307

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	2250
95% Jackknife UCL	2261
95% Standard Bootstrap UCL	2244
95% Bootstrap-t UCL	2255
95% Hall's Bootstrap UCL	2248
95% Percentile Bootstrap UCL	2241
95% BCA Bootstrap UCL	2229
95% Chebyshev(Mean, Sd) UCL	2546
97.5% Chebyshev(Mean, Sd) UCL	2752
99% Chebyshev(Mean, Sd) UCL	3156

Potential UCL to Use

Use 95% Student's-t UCL 2261

Sodium (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	13

Raw Statistics

Minimum	160
Maximum	390
Mean	241.2
Median	240
SD	58.62
Coefficient of Variation	0.243
Skewness	0.88

Log-transformed Statistics

Minimum of Log Data	5.075
Maximum of Log Data	5.966
Mean of log Data	5.459
SD of log Data	0.235

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.941
Shapiro Wilk Critical Value	0.892

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.974
Shapiro Wilk Critical Value	0.892

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	266

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL	267.8
95% Modified-t UCL	266.5

Assuming Lognormal Distribution

95% H-UCL	268.6
95% Chebyshev (MVUE) UCL	301.4
97.5% Chebyshev (MVUE) UCL	327.4
99% Chebyshev (MVUE) UCL	378.7

Gamma Distribution Test

k star (bias corrected)	15.78
Theta Star	15.28
nu star	536.5
Approximate Chi Square Value (.05)	483.8
Adjusted Level of Significance	0.0346
Adjusted Chi Square Value	478.6
Anderson-Darling Test Statistic	0.234
Anderson-Darling 5% Critical Value	0.738
Kolmogorov-Smirnov Test Statistic	0.117
Kolmogorov-Smirnov 5% Critical Value	0.209

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	267.5
95% Adjusted Gamma UCL	270.4

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	264.6
95% Jackknife UCL	266
95% Standard Bootstrap UCL	264
95% Bootstrap-t UCL	270.9
95% Hall's Bootstrap UCL	272.5
95% Percentile Bootstrap UCL	264.1
95% BCA Bootstrap UCL	265.3
95% Chebyshev(Mean, Sd) UCL	303.1
97.5% Chebyshev(Mean, Sd) UCL	330
99% Chebyshev(Mean, Sd) UCL	382.6

Potential UCL to Use

Use 95% Student's-t UCL 266

Vanadium (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	12

Raw Statistics		Log-transformed Statistics	
Minimum	18	Minimum of Log Data	2.89
Maximum	39	Maximum of Log Data	3.664
Mean	29.47	Mean of log Data	3.362
Median	31	SD of log Data	0.223
SD	5.928		
Coefficient of Variation	0.201		
Skewness	-0.664		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.925	Shapiro Wilk Test Statistic	0.872
Shapiro Wilk Critical Value	0.892	Shapiro Wilk Critical Value	0.892
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	31.98	95% H-UCL	32.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	36.54
95% Adjusted-CLT UCL	31.59	97.5% Chebyshev (MVUE) UCL	39.58
95% Modified-t UCL	31.94	99% Chebyshev (MVUE) UCL	45.55

Gamma Distribution Test		Data Distribution
k star (bias corrected)	19.05	Data appear Normal at 5% Significance Level
Theta Star	1.547	
nu star	647.8	
Approximate Chi Square Value (.05)	589.7	**Nonparametric Statistics**
Adjusted Level of Significance	0.0346	95% CLT UCL 31.84
Adjusted Chi Square Value	583.9	95% Jackknife UCL 31.98
		95% Standard Bootstrap UCL 31.76
Anderson-Darling Test Statistic	0.825	95% Bootstrap-t UCL 31.76
Anderson-Darling 5% Critical Value	0.738	95% Hall's Bootstrap UCL 31.61
Kolmogorov-Smirnov Test Statistic	0.212	95% Percentile Bootstrap UCL 31.71
Kolmogorov-Smirnov 5% Critical Value	0.209	95% BCA Bootstrap UCL 31.47
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 35.74
		97.5% Chebyshev(Mean, Sd) UCL 38.45
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 43.78
95% Approximate Gamma UCL	32.37	
95% Adjusted Gamma UCL	32.69	

Potential UCL to Use	Use 95% Student's-t UCL 31.98

Zinc (e)

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	14

Raw Statistics		Log-transformed Statistics	
Minimum	320	Minimum of Log Data	5.768
Maximum	5900	Maximum of Log Data	8.683
Mean	1924	Mean of log Data	7.319
Median	1900	SD of log Data	0.763
SD	1345		
Coefficient of Variation	0.699		
Skewness	1.529		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.864	Shapiro Wilk Test Statistic	0.951
Shapiro Wilk Critical Value	0.892	Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2494	95% H-UCL	3143
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3681
95% Adjusted-CLT UCL	2590	97.5% Chebyshev (MVUE) UCL	4418
95% Modified-t UCL	2514	99% Chebyshev (MVUE) UCL	5867

Gamma Distribution Test		Data Distribution
k star (bias corrected)	1.86	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1034	
nu star	63.25	
Approximate Chi Square Value (.05)	45.96	**Nonparametric Statistics**
Adjusted Level of Significance	0.0346	95% CLT UCL 2461
Adjusted Chi Square Value	44.41	95% Jackknife UCL 2494
		95% Standard Bootstrap UCL 2437
Anderson-Darling Test Statistic	0.336	95% Bootstrap-t UCL 2656
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL 3153
Kolmogorov-Smirnov Test Statistic	0.132	95% Percentile Bootstrap UCL 2449
Kolmogorov-Smirnov 5% Critical Value	0.211	95% BCA Bootstrap UCL 2632
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 3346
		97.5% Chebyshev(Mean, Sd) UCL 3962
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 5171
95% Approximate Gamma UCL	2648	
95% Adjusted Gamma UCL	2740	

Potential UCL to Use	Use 95% Approximate Gamma UCL 2648

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	J:\Indl_Service\Project Files\Solutia-6105\HHRA AddOn\SA1 Eco Screen\ProUCL\DeadCreekProUCLinput_E.ws
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

4,4'-DDE (e)

General Statistics

Number of Valid Data	17	Number of Detected Data	6
Number of Distinct Detected Data	5	Number of Non-Detect Data	11
		Percent Non-Detects	64.71%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00024	Minimum Detected	-8.335
Maximum Detected	0.0072	Maximum Detected	-4.934
Mean of Detected	0.0016	Mean of Detected	-7.295
SD of Detected	0.00275	SD of Detected	1.264
Minimum Non-Detect	0.0042	Minimum Non-Detect	-5.473
Maximum Non-Detect	0.034	Maximum Non-Detect	-3.381

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 6 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough tp draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.574	Shapiro Wilk Test Statistic	0.83
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00341	Mean	-6.288
SD	0.0043	SD	1.182
95% DL/2 (t) UCL	0.00523	95% H-Stat (DL/2) UCL	0.0214
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.522
		SD in Log Scale	0.748
		Mean in Original Scale	0.0008809
		SD in Original Scale	0.00164
		95% Percentile Bootstrap UCL	0.00165
		95% BCA Bootstrap UCL	0.00206

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.463	Data appear Lognormal at 5% Significance Level
Theta Star	0.00345	
nu star	5.558	
A-D Test Statistic	0.849	**Nonparametric Statistics**
5% A-D Critical Value	0.724	Kaplan-Meier (KM) Method
K-S Test Statistic	0.724	Mean 0.000928
5% K-S Critical Value	0.344	SD 0.00169
Data not Gamma Distributed at 5% Significance Level		SE of Mean 0.0004862
		95% KM (t) UCL 0.00178
Assuming Gamma Distribution		95% KM (z) UCL 0.00173
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.00174
Minimum	0.00024	95% KM (bootstrap t) UCL 0.00445
Maximum	0.0072	95% KM (BCA) UCL 0.00182
Mean	0.00161	95% KM (Percentile Bootstrap) UCL 0.00176
Median	0.00161	95% KM (Chebyshev) UCL 0.00305
SD	0.00154	97.5% KM (Chebyshev) UCL 0.00396
k star	1.522	99% KM (Chebyshev) UCL 0.00577
Theta star	0.00106	
Nu star	51.74	**Potential UCLs to Use**
AppChi2	36.22	95% KM (BCA) UCL 0.00182
95% Gamma Approximate UCL	0.00229	
95% Adjusted Gamma UCL	0.00238	

Note: DL/2 is not a recommended method.

4,4'-DDT (e)

General Statistics

Number of Valid Data	17	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	10
		Percent Non-Detects	58.82%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00056	Minimum Detected	-7.488
Maximum Detected	0.017	Maximum Detected	-4.075
Mean of Detected	0.00436	Mean of Detected	-6.332
SD of Detected	0.00637	SD of Detected	1.385
Minimum Non-Detect	0.0042	Minimum Non-Detect	-5.473
Maximum Non-Detect	0.034	Maximum Non-Detect	-3.381

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough tp draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.688	Shapiro Wilk Test Statistic	0.798
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00448	Mean	-5.971
SD	0.00541	SD	1.06
95% DL/2 (t) UCL	0.00677	95% H-Stat (DL/2) UCL	0.0172
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.663
		SD in Log Scale	0.931
		Mean in Original Scale	0.00242
		SD in Original Scale	0.00425
		95% Percentile Bootstrap UCL	0.00433
		95% BCA Bootstrap UCL	0.00487

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.482	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	0.00905	
nu star	6.747	
A-D Test Statistic	0.891	Nonparametric Statistics
5% A-D Critical Value	0.741	Kaplan-Meier (KM) Method
K-S Test Statistic	0.741	Mean 0.00251
5% K-S Critical Value	0.324	SD 0.0044
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean 0.00123
		95% KM (t) UCL 0.00466
Assuming Gamma Distribution		95% KM (z) UCL 0.00454
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.00459
Minimum	0.00056	95% KM (bootstrap t) UCL 0.0164
Maximum	0.017	95% KM (BCA) UCL 0.00487
Mean	0.00438	95% KM (Percentile Bootstrap) UCL 0.00468
Median	0.00428	95% KM (Chebyshev) UCL 0.00789
SD	0.0039	97.5% KM (Chebyshev) UCL 0.0102
k star	1.271	99% KM (Chebyshev) UCL 0.0148
Theta star	0.00345	
Nu star	43.2	Potential UCLs to Use
AppChi2	29.13	95% KM (t) UCL 0.00466
95% Gamma Approximate UCL	0.00649	
95% Adjusted Gamma UCL	0.00678	

Note: DL/2 is not a recommended method.

Acetone (e)

General Statistics

Number of Valid Data	17	Number of Detected Data	9
Number of Distinct Detected Data	7	Number of Non-Detect Data	8
		Percent Non-Detects	47.06%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.018	Minimum Detected	-4.017
Maximum Detected	0.073	Maximum Detected	-2.617
Mean of Detected	0.0393	Mean of Detected	-3.351
SD of Detected	0.0196	SD of Detected	0.516
Minimum Non-Detect	0.0635	Minimum Non-Detect	-2.757
Maximum Non-Detect	0.077	Maximum Non-Detect	-2.564

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	17
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough tp draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.919	Shapiro Wilk Test Statistic	0.934
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0374	Mean	-3.349
SD	0.0141	SD	0.368
95% DL/2 (t) UCL	0.0434	95% H-Stat (DL/2) UCL	0.0667
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.389
		SD in Log Scale	0.368
		Mean in Original Scale	0.036
		SD in Original Scale	0.0143
		95% Percentile Bootstrap UCL	0.0417
		95% BCA Bootstrap UCL	0.0429

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	3.076	Data appear Normal at 5% Significance Level
Theta Star	0.0128	
nu star	55.37	
A-D Test Statistic	0.291	
5% A-D Critical Value	0.724	
K-S Test Statistic	0.724	
5% K-S Critical Value	0.28	
Data appear Gamma Distributed at 5% Significance Level		

Assuming Gamma Distribution		Nonparametric Statistics	
Gamma ROS Statistics using Extrapolated Data		Kaplan-Meier (KM) Method	
Minimum	0.018	Mean	0.0378
Maximum	0.073	SD	0.0174
Mean	0.0406	SE of Mean	0.00591
Median	0.0414	95% KM (t) UCL	0.0482
SD	0.014	95% KM (z) UCL	0.0476
k star	6.854	95% KM (jackknife) UCL	0.0484
Theta star	0.00593	95% KM (bootstrap t) UCL	0.0501
Nu star	233	95% KM (BCA) UCL	0.0474
AppChi2	198.7	95% KM (Percentile Bootstrap) UCL	0.0475
95% Gamma Approximate UCL	0.0477	95% KM (Chebyshev) UCL	0.0636
95% Adjusted Gamma UCL	0.0485	97.5% KM (Chebyshev) UCL	0.0748
		99% KM (Chebyshev) UCL	0.0967
		Potential UCLs to Use	
		95% KM (t) UCL	0.0482
		95% KM (Percentile Bootstrap) UCL	0.0475

Note: DL/2 is not a recommended method.

Arsenic (e)

General Statistics

Number of Valid Data	17	Number of Detected Data	16
Number of Distinct Detected Data	13	Number of Non-Detect Data	1
		Percent Non-Detects	5.88%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.8	Minimum Detected	1.03
Maximum Detected	20	Maximum Detected	2.996
Mean of Detected	8.481	Mean of Detected	2.048
SD of Detected	3.994	SD of Detected	0.435
Minimum Non-Detect	3.4	Minimum Non-Detect	1.224
Maximum Non-Detect	3.4	Maximum Non-Detect	1.224

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.821	Shapiro Wilk Test Statistic	0.922
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	8.082	Mean	1.959
SD	4.203	SD	0.559
95% DL/2 (t) UCL	9.862	95% H-Stat (DL/2) UCL	9.742
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	7.957	Mean in Log Scale	2
SD	4.312	SD in Log Scale	0.465
95% MLE (t) UCL	9.783	Mean in Original Scale	8.184
95% MLE (Tiku) UCL	9.786	SD in Original Scale	4.057
		95% Percentile Bootstrap UCL	9.747
		95% BCA Bootstrap UCL	10.27

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	4.702	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	1.804	
nu star	150.5	
A-D Test Statistic	0.76	**Nonparametric Statistics**
5% A-D Critical Value	0.741	Kaplan-Meier (KM) Method
K-S Test Statistic	0.741	Mean 8.147
5% K-S Critical Value	0.216	SD 3.983
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean 0.998
		95% KM (t) UCL 9.889
Assuming Gamma Distribution		95% KM (z) UCL 9.788
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 9.838
Minimum	2.557	95% KM (bootstrap t) UCL 10.72
Maximum	20	95% KM (BCA) UCL 10.24
Mean	8.133	95% KM (Percentile Bootstrap) UCL 9.959
Median	7.1	95% KM (Chebyshev) UCL 12.5
SD	4.126	97.5% KM (Chebyshev) UCL 14.38
k star	3.815	99% KM (Chebyshev) UCL 18.07
Theta star	2.132	
Nu star	129.7	**Potential UCLs to Use**
AppChi2	104.4	95% KM (BCA) UCL 10.24
95% Gamma Approximate UCL	10.1	
95% Adjusted Gamma UCL	10.34	

Note: DL/2 is not a recommended method.

Chlorobenzene (e)

General Statistics

Number of Valid Data	17	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	5
		Percent Non-Detects	29.41%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.002	Minimum Detected	-6.215
Maximum Detected	0.21	Maximum Detected	-1.561
Mean of Detected	0.0315	Mean of Detected	-4.45
SD of Detected	0.059	SD of Detected	1.364
Minimum Non-Detect	0.006	Minimum Non-Detect	-5.116
Maximum Non-Detect	0.0086	Maximum Non-Detect	-4.756

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	10
Number treated as Detected	7
Single DL Non-Detect Percentage	58.82%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.542	Shapiro Wilk Test Statistic	0.946
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0233	Mean	-4.801
SD	0.0507	SD	1.263
95% DL/2 (t) UCL	0.0448	95% H-Stat (DL/2) UCL	0.0283
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.847
		SD in Log Scale	1.297
		Mean in Original Scale	0.0232
		SD in Original Scale	0.0507
		95% Percentile Bootstrap UCL	0.0462
		95% BCA Bootstrap UCL	0.0591

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.52	Data appear Lognormal at 5% Significance Level
Theta Star	0.0607	
nu star	12.47	
A-D Test Statistic	0.861	Nonparametric Statistics
5% A-D Critical Value	0.776	Kaplan-Meier (KM) Method
K-S Test Statistic	0.776	Mean 0.0233
5% K-S Critical Value	0.257	SD 0.0492
Data not Gamma Distributed at 5% Significance Level		SE of Mean 0.0125
		95% KM (t) UCL 0.0451
Assuming Gamma Distribution		95% KM (z) UCL 0.0438
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.0448
Minimum	0.002	95% KM (bootstrap t) UCL 0.124
Maximum	0.21	95% KM (BCA) UCL 0.0454
Mean	0.0243	95% KM (Percentile Bootstrap) UCL 0.046
Median	0.00895	95% KM (Chebyshev) UCL 0.0776
SD	0.0503	97.5% KM (Chebyshev) UCL 0.101
k star	0.583	99% KM (Chebyshev) UCL 0.147
Theta star	0.0416	
Nu star	19.84	Potential UCLs to Use
AppChi2	10.73	97.5% KM (Chebyshev) UCL 0.101
95% Gamma Approximate UCL	0.0448	
95% Adjusted Gamma UCL	0.048	

Note: DL/2 is not a recommended method.

Dieldrin (e)

General Statistics

Number of Valid Data	17	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	4
		Percent Non-Detects	23.53%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00019	Minimum Detected	-8.568
Maximum Detected	0.034	Maximum Detected	-3.381
Mean of Detected	0.00637	Mean of Detected	-6.525
SD of Detected	0.0112	SD of Detected	1.779
Minimum Non-Detect	0.0046	Minimum Non-Detect	-5.382
Maximum Non-Detect	0.0051	Maximum Non-Detect	-5.279

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	13
Number treated as Detected	4
Single DL Non-Detect Percentage	76.47%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.618	Shapiro Wilk Test Statistic	0.889
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00545	Mean	-6.407
SD	0.00983	SD	1.557
95% DL/2 (t) UCL	0.00961	95% H-Stat (DL/2) UCL	0.0299
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.71
		SD in Log Scale	1.579
		Mean in Original Scale	0.00503
		SD in Original Scale	0.00999
		95% Percentile Bootstrap UCL	0.0094
		95% BCA Bootstrap UCL	0.0108

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.39	Data appear Lognormal at 5% Significance Level	
Theta Star	0.0163		
nu star	10.15		
A-D Test Statistic	1.122	Nonparametric Statistics	
5% A-D Critical Value	0.802	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.802	Mean	0.00502
5% K-S Critical Value	0.252	SD	0.0097
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00245
		95% KM (t) UCL	0.0093
Assuming Gamma Distribution		95% KM (z) UCL	0.00905
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00926
Minimum	0.00019	95% KM (bootstrap t) UCL	0.0188
Maximum	0.034	95% KM (BCA) UCL	0.00961
Mean	0.00647	95% KM (Percentile Bootstrap) UCL	0.00935
Median	0.0013	95% KM (Chebyshev) UCL	0.0157
SD	0.00968	97.5% KM (Chebyshev) UCL	0.0203
k star	0.497	99% KM (Chebyshev) UCL	0.0294
Theta star	0.013		
Nu star	16.9	Potential UCLs to Use	
AppChi2	8.6	99% KM (Chebyshev) UCL	0.0294
95% Gamma Approximate UCL	0.0127		
95% Adjusted Gamma UCL	0.0137		

Note: DL/2 is not a recommended method.

Dioxin TEQ (e)

General Statistics

Number of Valid Data	17	Number of Detected Data	14
Number of Distinct Detected Data	14	Number of Non-Detect Data	3
		Percent Non-Detects	17.65%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.262E-05	Minimum Detected	-11.28
Maximum Detected	0.0001627	Maximum Detected	-8.724
Mean of Detected	5.284E-05	Mean of Detected	-10.08
SD of Detected	3.991E-05	SD of Detected	0.703
Minimum Non-Detect	4.291E-05	Minimum Non-Detect	-10.06
Maximum Non-Detect	6.748E-05	Maximum Non-Detect	-9.604

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	14
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	82.35%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.813	Shapiro Wilk Test Statistic	0.961
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.803E-05	Mean	-10.17
SD	3.762E-05	SD	0.672
95% DL/2 (t) UCL	6.396E-05	95% H-Stat (DL/2) UCL	7.753E-05
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-10.16
		SD in Log Scale	0.665
		Mean in Original Scale	4.812E-05
		SD in Original Scale	3.752E-05
		95% Percentile Bootstrap UCL	6.387E-05
		95% BCA Bootstrap UCL	6.825E-05

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.884	Data appear Gamma Distributed at 5% Significance Level
Theta Star	2.805E-05	
nu star	52.74	
A-D Test Statistic	0.377	Nonparametric Statistics
5% A-D Critical Value	0.745	Kaplan-Meier (KM) Method
K-S Test Statistic	0.745	Mean 4.848E-05
5% K-S Critical Value	0.231	SD 3.657E-05
Data appear Gamma Distributed at 5% Significance Level		SE of Mean 9.323E-06
		95% KM (t) UCL 6.475E-05
Assuming Gamma Distribution		95% KM (z) UCL 6.381E-05
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 6.471E-05
Minimum	1.262E-05	95% KM (bootstrap t) UCL 7.506E-05
Maximum	0.0001627	95% KM (BCA) UCL 6.501E-05
Mean	5.133E-05	95% KM (Percentile Bootstrap) UCL 6.431E-05
Median	4.442E-05	95% KM (Chebyshev) UCL 8.912E-05
SD	3.629E-05	97.5% KM (Chebyshev) UCL 0.0001067
k star	2.298	99% KM (Chebyshev) UCL 0.0001412
Theta star	2.234E-05	
Nu star	78.12	Potential UCLs to Use
AppChi2	58.75	95% KM (BCA) UCL 6.501E-05
95% Gamma Approximate UCL	6.824E-05	
95% Adjusted Gamma UCL	7.034E-05	

Note: DL/2 is not a recommended method.

Pentachlorophenol (e)

General Statistics

Number of Valid Data	17	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	10
		Percent Non-Detects	58.82%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0016	Minimum Detected	-6.438
Maximum Detected	0.033	Maximum Detected	-3.411
Mean of Detected	0.00973	Mean of Detected	-5.234
SD of Detected	0.0116	SD of Detected	1.18
Minimum Non-Detect	0.022	Minimum Non-Detect	-3.817
Maximum Non-Detect	0.027	Maximum Non-Detect	-3.612

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	94.12%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough tp draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.771	Shapiro Wilk Test Statistic	0.892
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0113	Mean	-4.739
SD	0.00723	SD	0.84
95% DL/2 (t) UCL	0.0143	95% H-Stat (DL/2) UCL	0.0442
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.416
		SD in Log Scale	0.826
		Mean in Original Scale	0.00657
		SD in Original Scale	0.00777
		95% Percentile Bootstrap UCL	0.0098
		95% BCA Bootstrap UCL	0.0114

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.646	Data appear Gamma Distributed at 5% Significance Level
Theta Star	0.0151	
nu star	9.048	
A-D Test Statistic	0.502	Nonparametric Statistics
5% A-D Critical Value	0.729	Kaplan-Meier (KM) Method
K-S Test Statistic	0.729	Mean 0.00745
5% K-S Critical Value	0.32	SD 0.00824
Data appear Gamma Distributed at 5% Significance Level		SE of Mean 0.00279
		95% KM (t) UCL 0.0123
Assuming Gamma Distribution		95% KM (z) UCL 0.012
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.0125
Minimum	0.0016	95% KM (bootstrap t) UCL 0.0155
Maximum	0.033	95% KM (BCA) UCL 0.0125
Mean	0.00957	95% KM (Percentile Bootstrap) UCL 0.0122
Median	0.0092	95% KM (Chebyshev) UCL 0.0196
SD	0.00746	97.5% KM (Chebyshev) UCL 0.0248
k star	1.651	99% KM (Chebyshev) UCL 0.0352
Theta star	0.0058	
Nu star	56.14	Potential UCLs to Use
AppChi2	39.92	95% KM (t) UCL 0.0123
95% Gamma Approximate UCL	0.0135	
95% Adjusted Gamma UCL	0.014	

Note: DL/2 is not a recommended method.

Total PCBs (e)

General Statistics

Number of Valid Data	17	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	7
		Percent Non-Detects	41.18%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0897	Minimum Detected	-2.411
Maximum Detected	1.252	Maximum Detected	0.225
Mean of Detected	0.307	Mean of Detected	-1.741
SD of Detected	0.418	SD of Detected	0.967
Minimum Non-Detect	0.102	Minimum Non-Detect	-2.282
Maximum Non-Detect	0.122	Maximum Non-Detect	-2.102

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	76.47%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.571	Shapiro Wilk Test Statistic	0.647
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.204	Mean	-2.204
SD	0.339	SD	0.924
95% DL/2 (t) UCL	0.348	95% H-Stat (DL/2) UCL	0.248
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.981
		SD in Log Scale	0.799
		Mean in Original Scale	0.222
		SD in Original Scale	0.331
		95% Percentile Bootstrap UCL	0.362
		95% BCA Bootstrap UCL	0.389

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.784	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.392		
nu star	15.68		
A-D Test Statistic	2.034	Nonparametric Statistics	
5% A-D Critical Value	0.748	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.748	Mean	0.223
5% K-S Critical Value	0.274	SD	0.321
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0821
		95% KM (t) UCL	0.366
Assuming Gamma Distribution		95% KM (z) UCL	0.358
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.363
Minimum	0.0897	95% KM (bootstrap t) UCL	2.849
Maximum	1.252	95% KM (BCA) UCL	0.378
Mean	0.303	95% KM (Percentile Bootstrap) UCL	0.357
Median	0.246	95% KM (Chebyshev) UCL	0.58
SD	0.314	97.5% KM (Chebyshev) UCL	0.735
k star	1.399	99% KM (Chebyshev) UCL	1.039
Theta star	0.216		
Nu star	47.56	Potential UCLs to Use	
AppChi2	32.73	95% KM (t) UCL	0.366
95% Gamma Approximate UCL	0.44	95% KM (% Bootstrap) UCL	0.357
95% Adjusted Gamma UCL	0.458		

Note: DL/2 is not a recommended method.

Sauget Area 1 Engineering Evaluation/Cost Analysis Sampling Plan for Dead Creek Soil to Groundwater Leaching Investigation

SAUGET AREA 1 ENGINEERING EVALUATION/COST ANALYSIS
REVISED SAMPLING PLAN FOR DEAD CREEK SOIL TO GROUNDWATER
LEACHING INVESTIGATION
SAUGET AND CAHOKIA, ILLINOIS

Submitted To;

U.S. Environmental Protection Agency
Region 5
77 West Jackson Blvd.
Chicago, Illinois

April 27, 2007

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1.0 Background

During the Sauget Area 1 EE/CA and RI/FS Support Sampling Plan, shallow groundwater quality data was evaluated for possible use in addressing the issue of creek bottom soil leaching to groundwater.

Shallow groundwater samples were collected at, or in the vicinity of, Creek Segment B and Site M, both of which had higher sediment constituent concentrations than sediments in Creek Segments C, D, E and F. Two of these sampling points were located in shallow groundwater, outside of the waste boundaries. One was located immediately adjacent to Creek Segment B just north of Judith Lane (SGW-S2), while the other was located immediately adjacent to Site M at the west end of Walnut Street (SGW-S1). However, since both of these locations are on the upgradient side of the creek, the United States Environmental Protection Agency (USEPA or Agency) considers the data from these locations as unsuitable for use in assessing the potential for constituents to leach to shallow groundwater.

A soil-to-groundwater leaching estimation process contained in the Illinois TACO regulations (35 IAC 742) was used in an attempt to address the issue. Leaching estimates using this methodology were revised in response to March 18, 2003 Agency comments and the results of these revisions are given below.

Residual concentrations of organic constituents were predicted to leach from creek bottom soils in Creek Segments B, D, E and F at concentrations greater than Illinois Class I Groundwater Standards at the following locations:

Summary of Calculated Potential for Organics Leaching from Creek Bottom Soils

	Transect	Potentially Leachable Constituents
Creek Segment B	T0	Chlorobenzene
	T1	Pentachlorophenol, Dieldrin
	T3	Nitrobenzene, Pentachlorophenol, Dieldrin
	T4	Pentachlorophenol
	T5	Chlorobenzene, Pentachlorophenol
	T6	Pentachlorophenol
	T7	beta-BHC
	T8	Pentachlorophenol, beta-BHC
	T9	beta-BHC, delta-BHC
	T16	Dieldrin
	T17	Pentachlorophenol, Dieldrin
	T18	Chlorobenzene
Creek Segment D	T6	Dieldrin
Creek Segment E	T16	Dieldrin
Creek Segment F	T3	beta-BHC
	T16	1, 1, 2, 2-Tetrachloroethane

Cadmium is the only metal predicted to leach from creek bottom soils to groundwater at concentrations of potential concern. The screening model predicted that leaching to groundwater could occur in all sectors of the creek at the following locations:

Calculated Potential for Cadmium Leaching from Creek Bottom Soils

CS-B	T0, T1, T2, T3, T6, T7, T8, T9, T10, T11, T12, T17 and T18
CS-C	T1, T2, T3, T4, T6, T7, T8 and T9
CS-D	T1, T2, T3, T4, T5 and T6
CS-E	T1, T2, T3, T4, T5, T6, T7, T9, T12, T16 and T17
CS-F	T5, T6, T7, T8, T9, T10, T11, T12, T14 and T15

Based on these predictions, a Sampling Plan designed to measure whether leaching from the creek bottom soils had occurred was submitted to the Agency on October 12, 2005. Comments on this plan were received from the Agency on February 8, 2006. Based on these comments, it was proposed that soils containing organic constituents that could potentially leach to groundwater at concentrations greater than the Illinois Class I groundwater standards be excavated and disposed of in the containment cell at Judith Lane, with the exception of the soils

in CS-B. This would result in cadmium being the only constituent potentially of concern in Dead Creek Sectors C through F, and investigations designed to assess the potential for leaching would be focused on cadmium. The proposal was approved by the Agency on February 23, 2006.

The Agency comments on the Sampling Plan were discussed at a meeting on March 8, 2006. It was agreed that the potential for cadmium to leach to shallow groundwater at concentrations of concern would be best assessed by obtaining shallow groundwater samples in each creek segment immediately downgradient of the transect location containing soils with the highest cadmium concentration. It was also agreed that verification sampling of the creek bottom soils would be required to document the removal of soils containing organic constituents at concentrations of concern.

2.0 Excavation and Verification Sampling

According to the TACO screening tables, bottom soils in four creek sectors contained organic constituents at concentrations high enough that Illinois Class I groundwater standards could be exceeded if the constituents leached into the shallow groundwater. Excavation of the bottom soils in three of these sectors was approved by the Agency, as follows:

Location		Constituent of Concern
Creek Segment D	T6	Dieldrin
Creek Segment E	T16	Dieldrin
Creek Segment F	T3	beta-BHC
	T16	1, 1, 2, 2-Tetrachloroethane

The approval for the excavations was received in a series of three e-mails. The first of these, dated November 11, 2005, approved the excavation of soils in Creek Sectors B, D, and F. The excavations in these areas were intended to remove other constituents of potential concern (COPCs), but the soils in CS-D containing dieldrin were also removed in the process. A subsequent e-mail on December 21, 2005 approved excavation of additional creek bottom soils in CS-B, CS-D, CS-F, and the Borrow Pit Lake. These excavations were also intended to address COPCs other than those listed above. However, the excavated soils included those in CS-F that contained dieldrin at concentrations of concern. Finally, the excavation of the soils in CS-E at transect T-16 was approved in an e-mail dated February 23, 2006.

Excavation and verification sampling in each of these areas is separately discussed below.

2.1 Creek Segment D

Based on the Tier 2 TACO screening carried out in 2002 and presented the Response to Comments on the EE/CA report for the Dead Creek Final Remedy, dieldrin is present at a concentration of 0.69 mg/kg in soils at transect T-6 in CS-D and could potentially leach to groundwater at a concentration in excess of the Illinois Class I groundwater standards. However soils in this area of the creek also contained other constituents (PCBs and dioxins) at

concentrations in excess of the ecological Risk Based Concentration (RBC). Consequently, at least 12 inches of soil were removed from this area of the creek in December 2005 and January 2006 as part of creek bottom soil excavations to remove all soils with constituent concentrations in excess of the relevant ecological RBC.

Verification sampling was performed around transect T-6 at the locations shown on Figure 1. The transect location itself is immediately adjacent to a culvert that runs under Jerome Lane and a total of six samples were taken at 25 foot intervals along the centerline of the creek bottom between this transect and the next upstream transect, T-5. None of these samples contained dieldrin at concentrations above the detection limits, all of which were well below the TACO level of concern for the soil to groundwater pathway. The results are summarized in Table 1 and demonstrate that dieldrin is no longer of concern in this area of the creek.

2.2 Creek Segment E

Dieldrin was also detected in CS-E at transect T-16 at an estimated (J) concentration of 0.034 mg/kg. The TACO Tier 2 screening model indicated that this concentration could potentially result in the groundwater standard being exceeded if the dieldrin leached to the shallow groundwater. In order to define the limits of excavation, soil samples were obtained along the centerline of the bottom of the creek in this area. A total of 13 soil samples were obtained at 25 foot centers between the discharge end of the culvert under the Parks College parking lot and the midpoint between transects T-16 and T-17. At each of the sampling locations, shown on Figure 2, a 4 inch diameter casing was driven through the soft sediments overlying the creek bottom soils and the sediments were removed from within the casing using a hand auger. Once firm soil was encountered, the sample was obtained to a depth of approximately 6 inches into the firm materials. The only exception to this was the sample taken in the vicinity of T-16 itself (sample T16-9). Because the original post excavation sample was from the depth interval of 0 to 6 inches, the present sample was obtained in the depth interval of 6 to 12 inches.

Each sample was analyzed for dieldrin and the analytical results are summarized in Table 2. It can be seen that none of the samples contained dieldrin above the detection limit. Thus, the limits of excavation in this portion of the creek were defined to be sediments and the upper 6 inches of bottom soils within a distance of 12.5 feet on either side of the location of transect T-16. No verification sampling was required after excavation since sample T16-9 at a depth f 6 to 12 inches served to confirm that all of the impacted material has been removed once the excavation was complete.

The excavation was carried out on October 31, and November 1, 2006. In order to permit the excavation to be done in the dry, cofferdams were constructed of sand approximately 25 to 30 feet upstream and downstream of transect T-16. The area between the cofferdams was then dewatered by pumping the water around the downstream cofferdam. Once the bottom sediments were exposed, a drying agent consisting of ground corn cobs was added to the sediments and mixed in situ until the sediments were dry enough to safely transport in a roll-off container. The sediments were then excavated and the excavated spoil was placed in roll-off containers that contained a layer of ground corn cobs for additional dewatering. Excavation of the sediments was continued until the hard creek bottom soils were encountered. At that point, a minimum of 6 inches of soil was excavated from the entire width of the creek channel. The soil excavation extended at least 15 feet on either side of the location of transect T-16 to ensure that the soils containing dieldrin had been removed. All of the excavated soils were placed in roll-off containers and transported to Milam Landfill for disposal. Following removal of the bottom soils, the sand in the cofferdams was pushed into the excavation and the creek bottom was graded to drain.

2.3 Creek segment F, Transect T-3

Beta-BHC was detected in the soil sample taken at transect T-3 in CS-F in 2002 at a concentration that could result in an exceedance of the groundwater standard if leaching occurred. However, soils in this area of the creek also contained one other constituent (mercury) at concentrations in excess of the ecological RBC. As a result, at least 6 inches of bottom soils

and the overlying sediment were removed from this area of the creek in January 2006 as part of creek bottom soil excavations completed at that time.

In order to verify that the soils containing beta-BHC were removed during this earlier excavation, 14 verification samples were taken in the depth interval of 0 to 6 inches at the locations shown on Figure 3. The sampling locations extend from the midpoint between transects T-3 and the adjacent upgradient transect T-2, to approximately the midpoint between transects T-3 and the adjacent downgradient transect T-4. The analytical results for these samples are presented in Table 3. it can be seen that none of the samples contained beta-BHC at concentrations above the detection limits, confirming that the affected soils had been removed during the earlier excavation in January.

2.4 Creek segment F, Transect T-16

Transect T-16 in CS-F is located in the forebay of the Metro East Sanitary District (MESD) pumping station at the discharge end of Dead Creek. Post excavation sampling in 2002 indicated that the soils at this location contained 1, 1, 2, 2-tetrachloroethane at a concentration of 0.01 mg/kg. This is in excess of the TACO Tier 1 standard of 0.003 mg/kg for the groundwater pathway. It is somewhat surprising that the compound was detected in a near surface soil sample since its relatively high vapor pressure would result in its very ready volatilization. Nevertheless, it was detected in the sample taken at transect T-16.

Since that sampling event, a great deal of construction has occurred in the vicinity of the pumping station. Over the past several months, the entire forebay of the pump house has been excavated and then backfilled with large rip-rap. At least 2 feet of soils were removed from the forebay area and stockpiled against the levee. These stockpiles can be seen in the attached photographs shown in Plate 1. The photographs also clearly show that the excavated area was then backfilled wit large rip-rap (estimated to be up to 12 inches in size). During construction, it was noted that the excavated soil surface was covered with geotextile prior to rip-rap placement.

It is reasonable to assume that any small amount of volatile chemical present in the shallow soils in the forebay area were excavated and removed. It is also reasonable to expect that high vapor pressure compounds would have volatilized during the course of excavation, transport and stockpiling. Consequently, it is not necessary to sample the stockpiled soil for residual concentrations of 1, 1, 2, 2-tetrachloroethane.

2.5 Summary

Verification sampling indicates that once the near surface bottom soils in the immediate vicinity of CS-E, T-16 are removed, the only constituent of remaining interest in Dead Creek relative to leaching to shallow groundwater is cadmium (with the exception of the creek bottom soils in CS-B and residual concentrations of some constituents at the former location of Site M.). Consequently, additional investigations in the other sectors of the creek can be focused on cadmium. CS-B and the residuals beneath the fill at Site M will be addressed separately.

3.0 Proposed Soil to Groundwater Leaching Investigation

Investigation of the potential leaching of cadmium from creek bottom soil to groundwater is considered appropriate along Sectors C thought and including F of Dead Creek. In order to do this, cadmium leaching to groundwater will be evaluated by collecting shallow groundwater samples in each creek segment. The samples will be immediately downgradient of the location of the transect where the highest concentration of cadmium was detected in 2002. The specific transect locations are listed below and are shown on Figures 5 and 6.

Proposed Cadmium Leaching Sampling Locations

Creek Sector	Transect Number	2002 Cadmium Concentration (mg/kg)
CS-C	T-7	24 J*
CS-D	T-2	40 J
CS-E	T-16	38 J
CS-F	T-6	70

* J denotes that the constituent concentration was estimated.

Groundwater samples will be collected immediately below the water table using a Geoprobe® to hydraulically advance a hole below the water table. A small diameter slotted PVC tube surrounded by a pre-packed sand filter (pre-pack well screen) will be installed through the Geoprobe® rod and the rod will be slowly withdrawn to expose the pre-packed screen while sand is poured into the hole. The resulting installation will allow groundwater samples to be obtained with the lowest possible turbidity.

A low flow, peristaltic pump is the preferred groundwater sampling method and will be used wherever possible. However, if the groundwater elevation is so low as to not allow the use of such a pump, then samples will be obtained using an inertial lift (ball and check valve) sampler. Both unfiltered and filtered samples will be collected for cadmium analyses. Filtered samples will be passed through a 10 micron filter, as well as a 0.45 micron filter, in order to define the total cadmium concentrations, as well as the colloidal and dissolved concentrations. All

filtration will be done using in-line filters to avoid exposure of the samples to air. All Geoprobe® holes will be grouted shut once sampling is complete.

All samples will be collected and analyzed using the methods, procedures and protocols included in the Sauget Area 1 EE/CA and RI/FS Support Sampling Plan Field Sampling Plan and Quality Assurance Project Plan approved by USEPA on September 9, 1999. Groundwater samples will be analyzed for cadmium using USEPA SW-846 Method 3550/6020.

A report will be prepared summarizing the results of the investigation. The report will include a description of the sampling procedures and the turbidity of the samples prior to filtering. Any exceptions to proposed procedures will be identified, including a discussion of whether any samples were potentially exposed to air. Constituent concentrations will be compared with Illinois Class I groundwater standards to assess whether leaching from the creek bottom soils to shallow groundwater could have occurred. If any of the sample concentrations exceed the Class I groundwater standard, an assessment of the likelihood of the result being biased because of suspended solids will be made.

4.0 Schedule

It is anticipated that the work described in this plan can be completed in 4½ months following finalization of access agreements. It is noted that work on negotiating these agreements cannot begin until the Work Plan is approved by the Agency. Milestones in this schedule are the following:

Scheduling and mobilization of Geoprobe Contractor	2 weeks after access agreements finalized
Completion of field sampling	2 weeks after mobilization is complete
Completion of laboratory testing	6 weeks after completion of sampling
Completion of data validation	One month after receipt of laboratory data
Report	One month after completion of data validation.

TABLES

- TABLE 1 -

Creek Segment D Summary of Dieldrin Soil Sample Results

Sauget Area 1 Dead Creek Sediment Removal Action

Sauget, Illinois

Sample ID		CSDT6-1	MDL	CSDT6-2	MDL	CSDT6-3	MDL	CSDT6-4	MDL	CSDT6-5	MDL	CSDT6-6	MDL
Date Sampled		2/24/2006		2/24/2006		2/24/2006		2/24/2006		2/24/2006		2/24/2006	
Sample Location Description		Segment D, ~T5+25, (1B)		Segment D, ~T5+50		Segment D, ~T5+75		Segment D, ~T5+100		Segment D, ~T5+125		Segment D, ~T6+15	
Organochlorine Pesticides (USEPA Method 8081A)													
Analyte		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**	
Dieldrin		U	0.00049	U	0.00041	U	0.00041	U	0.00040	U	0.00036	U	0.00038

Results in ***bold italics*** denote detections.

MDL - Method detection limit
Flags and Qualifiers
U - Analyte was not detected at or above the Method Detection Limit (MDL).

Checked by: AMF
Reviewed by: MNH

- TABLE 2 -
Creek Segment E Summary of Dieldrin Soil Sample Results
Sauget Area 1 Dead Creek Sediment Removal Action
Sauget, Illinois

Sample ID		CSET16-1	MDL	CSET16-2	MDL	CSET16-3	MDL	CSET16-4	MDL	CSET16-5	MDL	CSET16-6	MDL
Date Sampled		3/23/2006		3/23/2006		3/23/2006		3/23/2006		3/23/2006		3/23/2006	
Sample Location Description		Segment E, ~T16-200		Segment E, ~T16-175		Segment E, ~T16-150		Segment E, ~T16-125		Segment E, ~T16-100		Segment E, ~T16-75	
Organochlorine Pesticides (USEPA Method 8081A)													
Analyte		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**	
Dieldrin		U	0.00042	U	0.00039	U	0.00037	U	0.00036	U	0.00036	U	0.00037

Results in ***bold italics*** denote detections.

MDL - Method detection limit
Flags and Qualifiers
U - Analyte was not detected at or above the Method Detection Limit (MDL).

Checked by: AMF
Reviewed by: MNH

- TABLE 2 -
Creek Segment E Summary of Dieldrin Soil Sample Results
Sauget Area 1 Dead Creek Sediment Removal Action
Sauget, Illinois

Sample ID		CSET16-7	MDL	CSET16-8	MDL	CSET16-9	MDL	CSET16-10	MDL	CSET16-11	MDL	CSET16-12	MDL
Date Sampled		3/23/2006		3/23/2006		3/23/2006		3/23/2006		3/23/2006		3/23/2006	
Sample Location Description		Segment E, ~T16-50		Segment E, ~T16-25		Segment E, ~T16+00		Segment E, ~T16+25		Segment E, ~T16+50		Segment E, ~T16+75	
Organochlorine Pesticides (USEPA Method 8081A)													
Analyte		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**	
Dieldrin		U	0.00036	U	0.00036	U	0.00035	U	0.00038	U	0.00037	U	0.00037

Results in ***bold italics*** denote detections.

MDL - Method detection limit
Flags and Qualifiers
U - Analyte was not detected at or above the Method Detection Limit (MDL).

Checked by: AMF
Reviewed by: MNH

- TABLE 2 -
Creek Segment E Summary of Dieldrin Soil Sample Results
Sauget Area 1 Dead Creek Sediment Removal Action
Sauget, Illinois

Sample ID		CSET16-13	MDL
Date Sampled		3/23/2006	
Sample Location Description		Segment E, ~T16+100	
Organochlorine Pesticides (USEPA Method 8081A)			
Analyte		**(mg/kg)**	
Dieldrin		U	0.00035

Results in ***bold italics*** denote detections.

MDL - Method detection limit
Flags and Qualifiers
U - Analyte was not detected at or above the Method Detection Limit (MDL).

Checked by: AMF
Reviewed by: MNH

- TABLE 3 -
Creek Segment F Summary of Beta-BHC Soil Sample Results
Sauget Area 1 Dead Creek Sediment Removal Action
Sauget, Illinois

Sample ID		CSFT3-101	MDL	CSFT3-102	MDL	CSFT3-103	MDL	CSFT3-104	MDL	CSFT3-105	MDL	CSFT3-106	MDL
Date Sampled		3/24/2006		3/24/2006		3/24/2006		3/24/2006		3/24/2006		3/24/2006	
Sample Location Description		Segment F, ~T2+225		Segment F, ~T2+250		Segment F, ~T2+275		Segment F, ~T2+300		Segment F, T2+325		Segment F, ~T2+350	
Organochlorine Pesticides (USEPA Method 8081A)													
Analyte		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**	
Beta-BHC		U	0.00017	U	0.00026	U	0.00016	U	0.00016	U	0.00019	U	0.00017

Results in ***bold italics*** denote detections.

MDL - Method detection limit
Flags and Qualifiers
U - Analyte was not detected at or above the Method Detection Limit (MDL).

Checked by: AMF
Reviewed by: MNH

- TABLE 3 -
Creek Segment F Summary of Beta-BHC Soil Sample Results
Sauget Area 1 Dead Creek Sediment Removal Action
Sauget, Illinois

Sample ID		CSFT3-107	MDL	CSFT3-108	MDL	CSFT3-109	MDL	CSFT3-110	MDL	CSFT3-111	MDL	CSFT3-112	MDL
Date Sampled		3/24/2006		3/24/2006		3/24/2006		3/24/2006		3/24/2006		3/24/2006	
Sample Location Description		Segment F, ~T2+375		Segment F, ~T3+00		Segment F, T3+25		Segment F, T3+100		Segment F, ~T3+125		Segment F, T3+150	
Organochlorine Pesticides (USEPA Method 8081A)													
Analyte		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**		**(mg/kg)**	
Beta-BHC		U	0.00017	U	0.00017	U	0.00016	U	0.00015	U	0.00016	U	0.00018

Results in ***bold italics*** denote detections.

MDL - Method detection limit
Flags and Qualifiers
U - Analyte was not detected at or above the Method Detection Limit (MDL).

Checked by: AMF
Reviewed by: MNH

- TABLE 3 -
Creek Segment F Summary of Beta-BHC Soil Sample Results
Sauget Area 1 Dead Creek Sediment Removal Action
Sauget, Illinois

Sample ID		CSFT3-113	MDL	CSFT3-114	MDL
Date Sampled		3/24/2006		3/24/2006	
Sample Location Description		Segment F, ~T3+175		Segment F, T3+200	
Organochlorine Pesticides (USEPA Method 8081A)					
Analyte		**(mg/kg)**		**(mg/kg)**	
Beta-BHC		U	0.00016	U	0.00015

Results in ***bold italics*** denote detections.

MDL - Method detection limit
Flags and Qualifiers
U - Analyte was not detected at or above the Method Detection Limit (MDL).

Checked by: AMF
Reviewed by: MNH

FIGURES

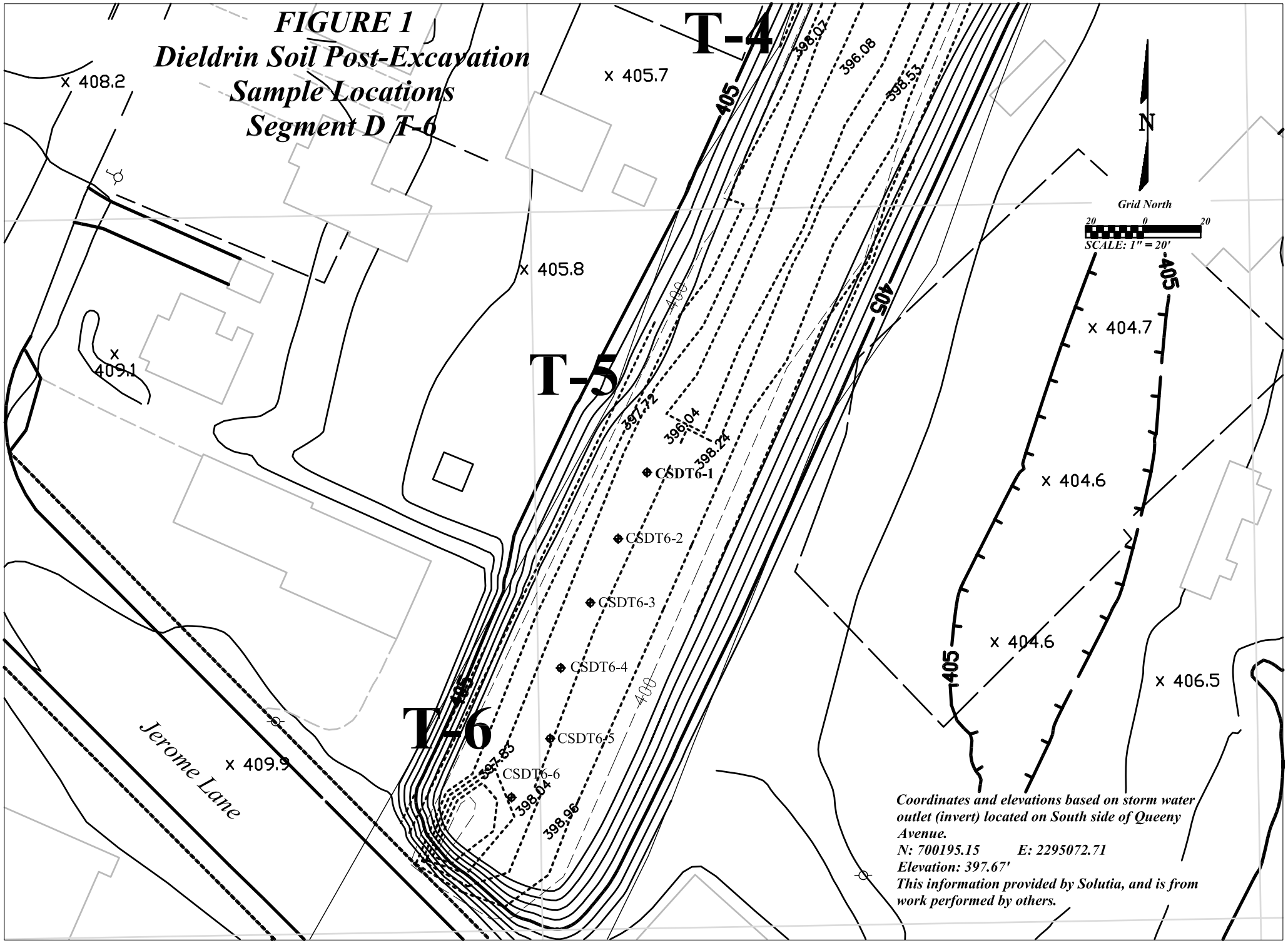


FIGURE 1
Dieldrin Soil Post-Excavation
Sample Locations
Segment D T-6
T-4
T-5
T-6
405
400
398.07
396.08
398.53
397.72
396.04
398.24
397.85
398.04
398.96
CSDT6-1
CSDT6-2
CSDT6-3
CSDT6-4
CSDT6-5
CSDT6-6
x 408.2
x 405.7
x 405.8
x 409.1
x 409.9
x 404.7
x 404.6
x 404.6
x 406.5
Jerome Lane
N
Grid North
20 0 20
SCALE: 1" = 20'
Coordinates and elevations based on storm water outlet (invert) located on South side of Queeny Avenue.
N: 700195.15 E: 2295072.71
Elevation: 397.67'
This information provided by Solutia, and is from work performed by others.

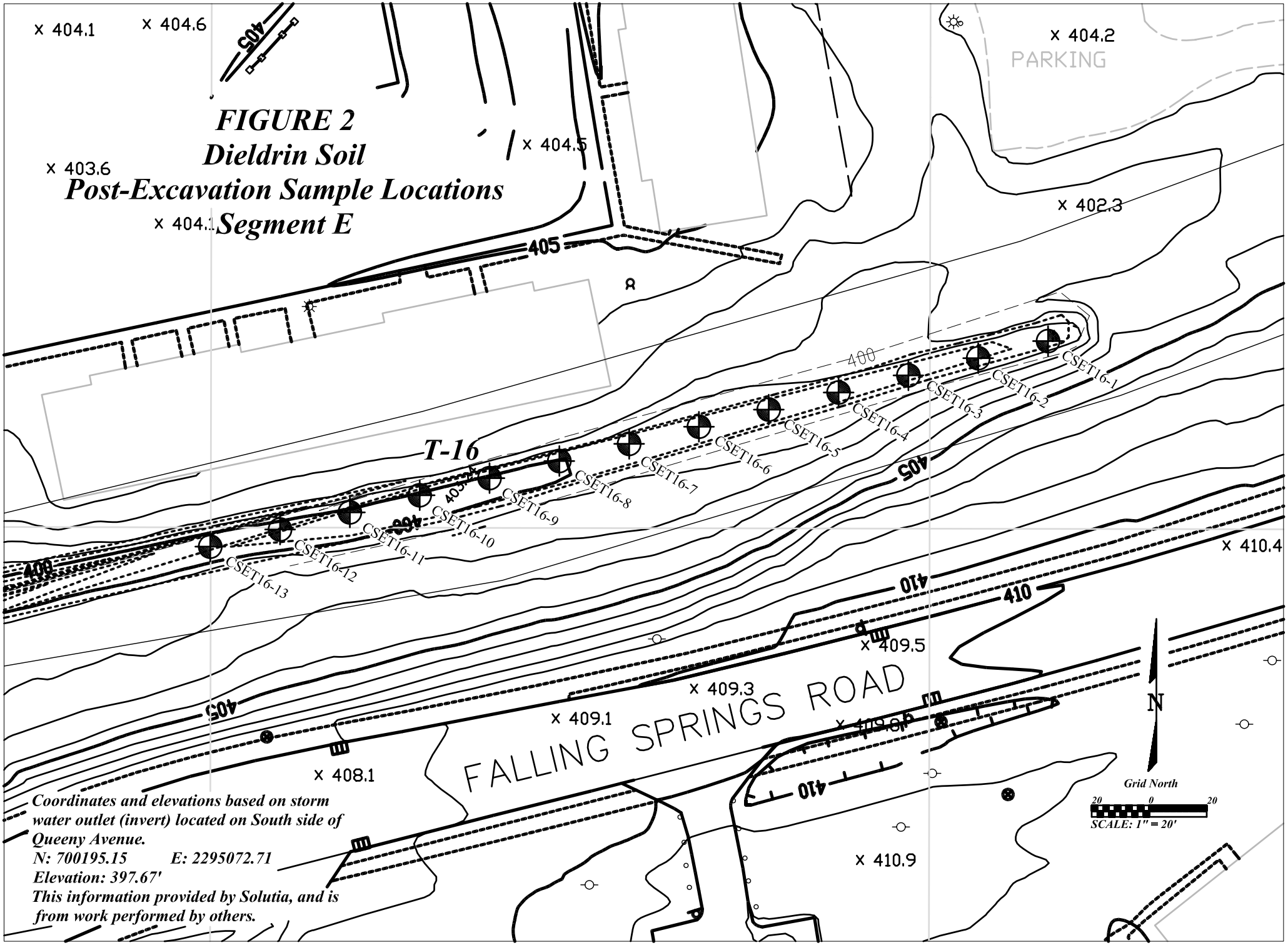


FIGURE 2
Dieldrin Soil
Post-Excavation Sample Locations
Segment E
T-16
CSET16-1
CSET16-2
CSET16-3
CSET16-4
CSET16-5
CSET16-6
CSET16-7
CSET16-8
CSET16-9
CSET16-10
CSET16-11
CSET16-12
CSET16-13
FALLING SPRINGS ROAD
PARKING
x 404.1
x 404.6
x 404.2
x 404.5
x 403.6
x 404.1
x 402.3
x 410.4
x 409.5
x 409.3
x 409.1
x 409.0
x 408.1
x 410.9
405
400
410
N
Grid North
20 0 20
SCALE: 1" = 20'
Coordinates and elevations based on storm water outlet (invert) located on South side of Queeny Avenue.
N: 700195.15 E: 2295072.71
Elevation: 397.67'
This information provided by Solutia, and is from work performed by others.

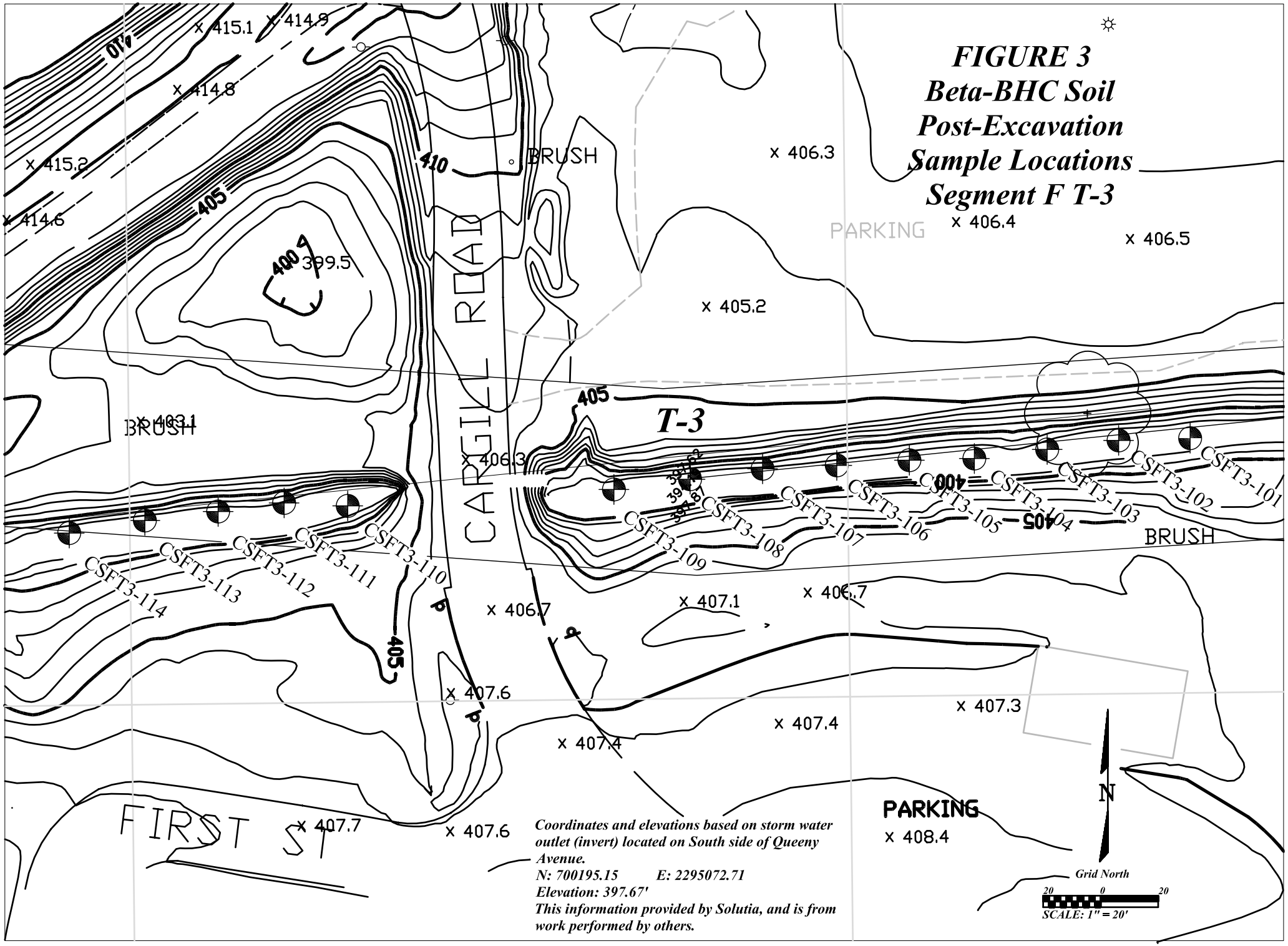
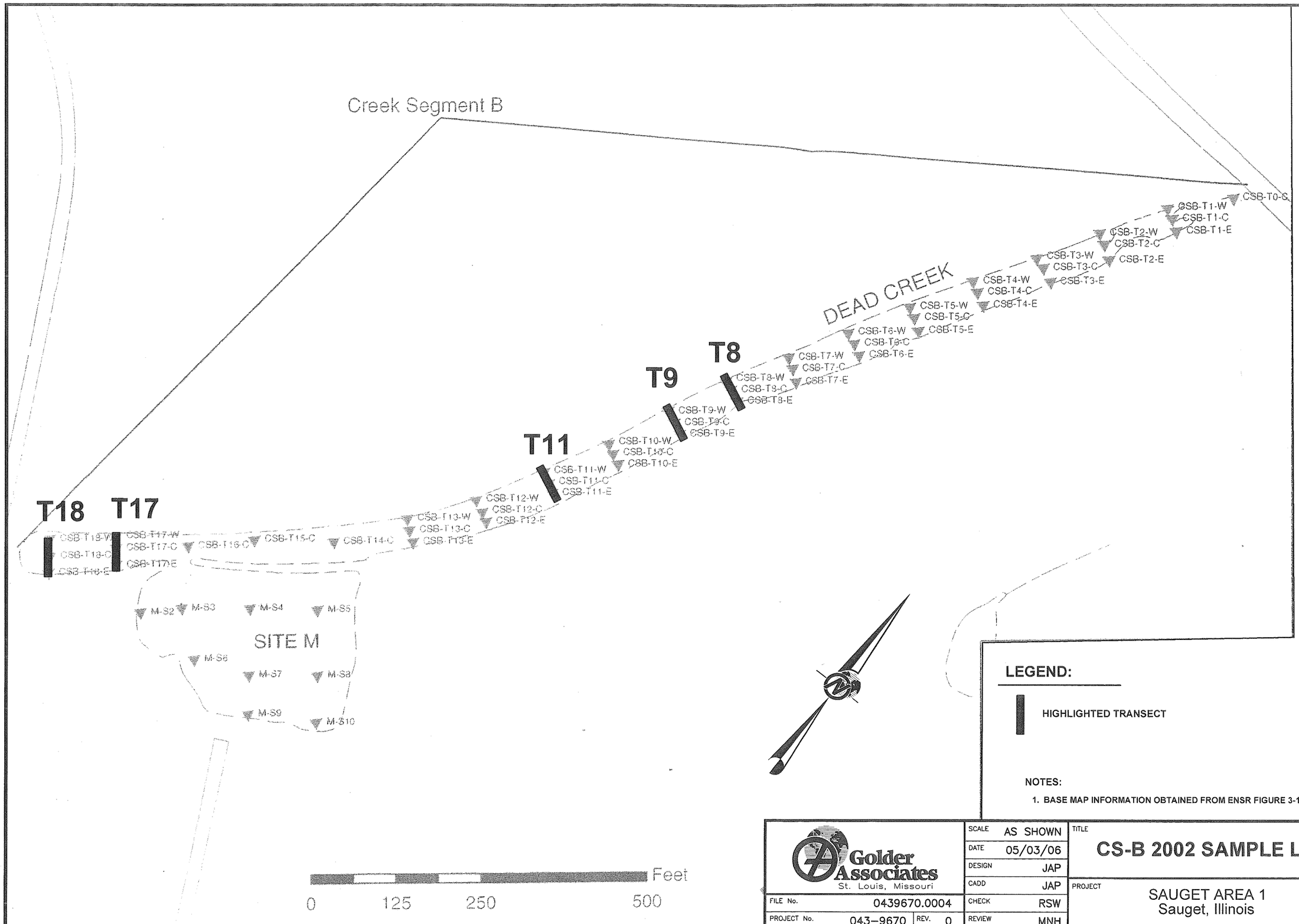


FIGURE 3
Beta-BHC Soil
Post-Excavation
Sample Locations
Segment F T-3
T-3
CARGILL ROAD
FIRST ST
BRUSH
PARKING
x 415.1
x 414.9
x 414.8
x 415.2
x 414.6
x 399.5
x 406.3
x 406.4
x 406.5
x 405.2
x 406.7
x 407.1
x 407.6
x 407.4
x 407.3
x 407.7
x 408.4
410
405
400
CSFT3-101
CSFT3-102
CSFT3-103
CSFT3-104
CSFT3-105
CSFT3-106
CSFT3-107
CSFT3-108
CSFT3-109
CSFT3-110
CSFT3-111
CSFT3-112
CSFT3-113
CSFT3-114
N
Grid North
20 0 20
SCALE: 1" = 20'
Coordinates and elevations based on storm water outlet (invert) located on South side of Queeny Avenue.
N: 700195.15 E: 2295072.71
Elevation: 397.67'
This information provided by Solutia, and is from work performed by others.



LEGEND:

HIGHLIGHTED TRANSECT

NOTES:

1. BASE MAP INFORMATION OBTAINED FROM ENSR FIGURE 3-1 JUNE 21, 2002.

Golder Associates
St. Louis, Missouri

FILE No.	0439670.0004
PROJECT No.	043-9670
REV.	0

SCALE	AS SHOWN
DATE	05/03/06
DESIGN	JAP
CADD	JAP
CHECK	RSW
REVIEW	MNH

TITLE

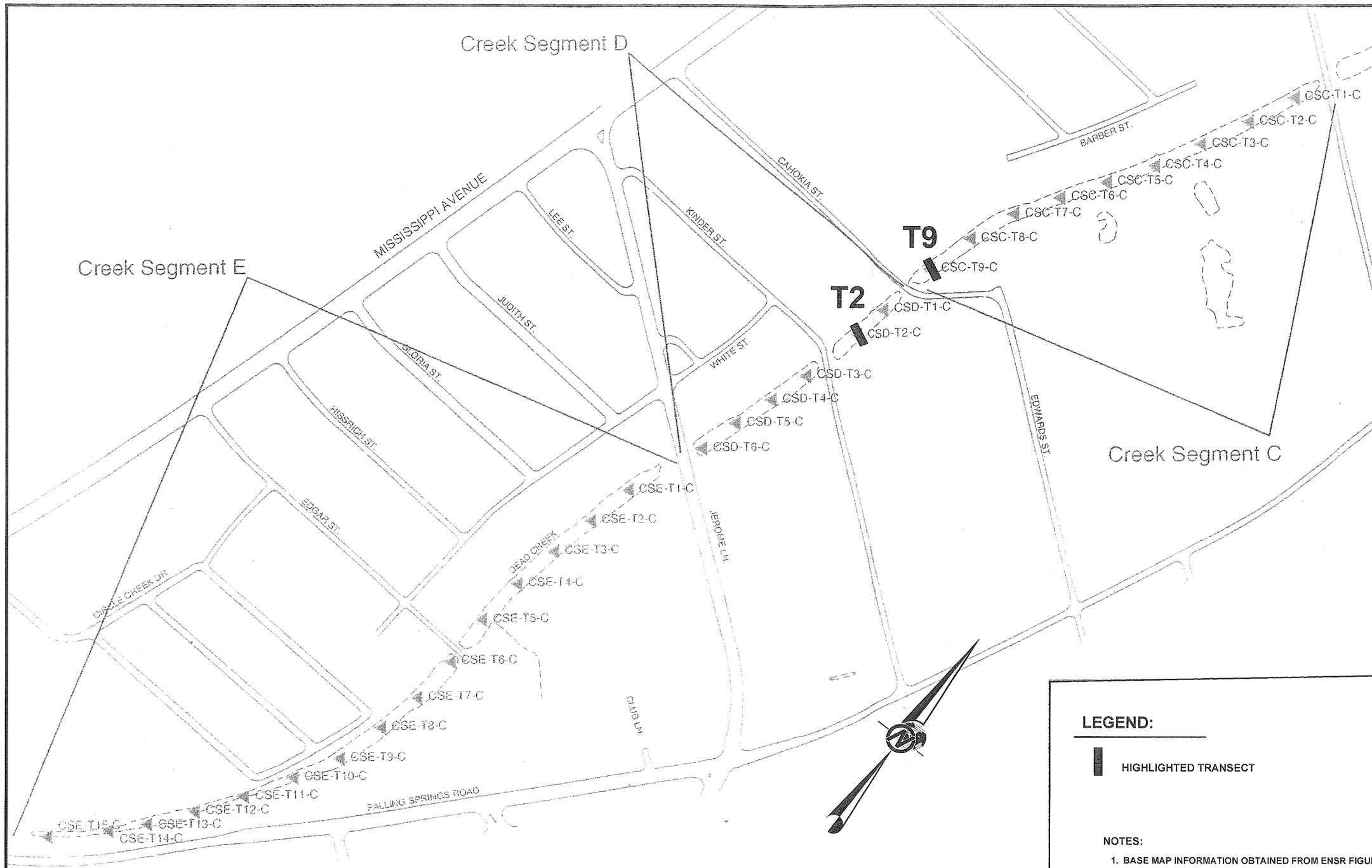
CS-B 2002 SAMPLE LOCATIONS

PROJECT

SAUGET AREA 1
Sauget, Illinois

FIGURE

4



LEGEND:

HIGHLIGHTED TRANSECT

NOTES:

1. BASE MAP INFORMATION OBTAINED FROM ENSR FIGURE 3-2 JUNE 21, 2002.

Golder Associates
St. Louis, Missouri

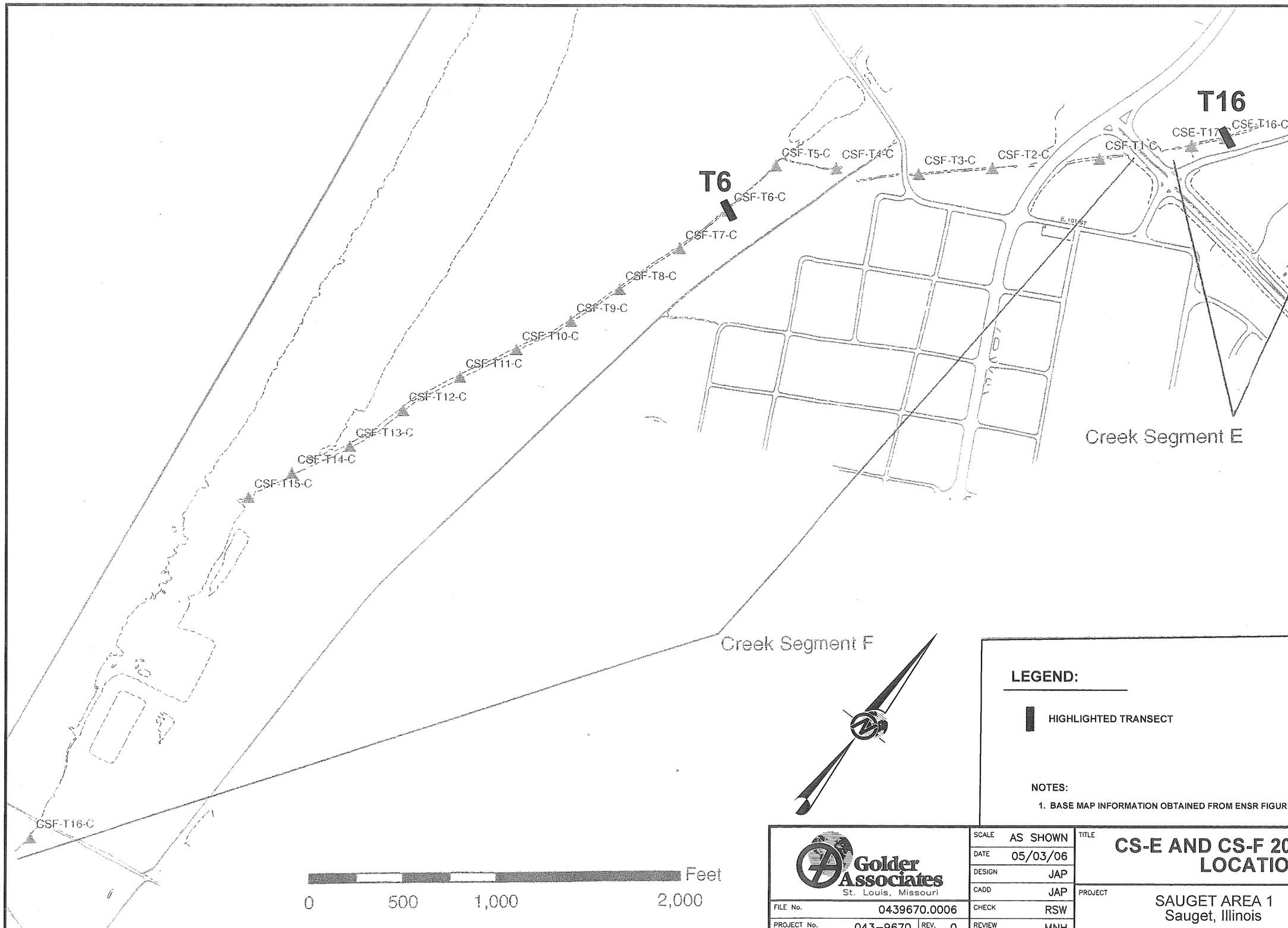
FILE No.	0439670.0005		
PROJECT No.	043-9670	REV.	0

SCALE	AS SHOWN
DATE	05/03/06
DESIGN	JAP
CADD	JAP
CHECK	RSW
REVIEW	MNH

TITLE: **CS-C AND CS-D 2002 SAMPLE LOCATIONS**

PROJECT: SAUGET AREA 1
Sauget, Illinois

FIGURE: 5



LEGEND:

HIGHLIGHTED TRANSECT

NOTES:

1. BASE MAP INFORMATION OBTAINED FROM ENSR FIGURE 3-3 JUNE 21, 2002.

Golder Associates
St. Louis, Missouri

FILE No.	0439670.0006
PROJECT No.	043-9670
REV.	0
SCALE	AS SHOWN
DATE	05/03/06
DESIGN	JAP
CADD	JAP
CHECK	RSW
REVIEW	MNH

TITLE: CS-E AND CS-F 2002 SAMPLE LOCATIONS

PROJECT: SAUGET AREA 1
Sauget, Illinois

FIGURE: 6

PLATES

Dead Creek Sector F - Transect T-16

PLATE 1

May 24, 2007 USEPA Acceptance Letter

Smith, Steven D

From: Fischer.Timothy@epamail.epa.gov
Sent: Thursday, May 24, 2007 3:47 PM
To: Smith, Steven D
Cc: clair.morris@ch2m.com; Sandra.Bron@Illinois.gov
Subject: Revised Sauget Area 1 Soil to Groundwater Leaching Investigation Sampling Plan

Steve,

US EPA has reviewed the revised Area 1 Soil to Groundwater Leaching Investigation Sampling Plan. This plan addresses and incorporates all of US EPA's comments on the draft sampling plan, and US EPA approves the sampling plan without any further revision.

Thanks,
Tim

Response from Illinois Department of Natural Resources Natural Heritage Database

From: Kieninger, Tara [Tara.Kieninger@Illinois.gov]
Sent: Tuesday, May 19, 2009 10:26 AM
To: Archer, Christine
Subject: RE: Natural Heritage Database request - Sauget and Cahokia, Illinois

Dear Christine,

According to the Illinois Natural Heritage Database, there are no endangered or threatened species, Illinois Natural Areas Inventory (INAI) sites, or Illinois Nature Preserves Commission lands in the Sauget Area 1 project area.

Please be aware that the Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of significant natural features in Illinois. The Department of Natural Resources can only summarize the existing information known to us at the time of the request. This report should not be regarded as a final statement on the area being considered, nor should it substitute for field surveys required for environmental assessments.

This letter is separate from the Illinois Department of Natural Resources consultation requirement under the Illinois Endangered Species Act (530 ILCS 10/11) and the Illinois Natural Areas Preservation Act (525 ILCS 30/17). For more information on this process, please contact the Illinois Department of Natural Resources, Division of Ecosystems and Environment, at One Natural Resources Way, Springfield, Illinois 62702-1271 or by telephone at (217)785-5500.

Please Note: data from the Illinois Natural Heritage Database is updated with new information on a daily to quarterly basis depending on the dataset involved. It is your responsibility to request data updates should your project's timeline warrant it. The majority of requests are answered within 2 weeks of their receipt. Please plan ahead to allow ample time for receipt of the data.

For Future Note:

Information related to the vicinity of a project site can be elicited from our EcoCAT (Ecological Compliance Assessment Tool) public website by submitting an "Information Request' or by initiating the Endangered Species Consultation Process there. Results are instantaneous. EcoCAT can be used to discover if known records of endangered or threatened species, Illinois Natural Areas Inventory (INAI) Sites, dedicated Illinois Nature Preserves, or registered Land & Water Reserves exist "in the vicinity." A report will be generated that summarizes those sensitive resources.

Go to the IDNR Agency web page: http://www.dnr.state.il.us. Click the EcoCAT icon link on the lower left side of the website and follow the instructions. EcoCAT will not provide exact locations for sensitive resources, but it will inform you if any of these resources are in the vicinity of your project site, either within or just outside the footprint of the project site that you draw.

Lists of endangered or threatened species, Illinois Natural Areas Inventory (INAI) sites, and lands protected by the Illinois Nature Preserves Commission (INPC) for each county are provided on our webpage: http://dnr.state.il.us/conservation/naturalheritage/inhd.htm. Be sure to check back quarterly for updates to this list.

Let me know if you have any questions.

Tara Kieninger
Database Program Manager
Illinois Natural Heritage Database
Illinois Dept of Natural Resources - ORC
One Natural Resources Way
Springfield, IL 62711
(217)782-2685
(217)785-2438 (fax)
tara.kieninger@illinois.gov

From: Archer, Christine [mailto:Christine.Archer@aecom.com]
Sent: Wednesday, May 13, 2009 8:04 AM
To: Kieninger, Tara
Subject: Natural Heritage Database request - Sauget and Cahokia, Illinois

Good morning-
The attached request for information from the Natural Heritage Database was sent in to the Department of Natural Resources early this week. I am just following up the request via e-mail in hopes that we might get a quick response. We are submitting a site investigation report on May 29, 2009, and EPA has requested that information from the database be included in the report. If it is possible for you to provide the information so that it could be incorporated into the report it would be most appreciated.

Please do not hesitate to contact me if you have any questions. Thank you.

<<SA-1 DNR.pdf>>

Christine Archer
Technical Specialist
Ecological Risk Assessment
AECOM Environment
Direct Line 603.528.8912
Cell Phone 603.707.6362
christine.archer@aecom.com

AECOM
171 Daniel Webster Hwy., Ste. 11
Belmont, NH 03220
T 603.524.8866 F 603.524.9777
www.aecom.com
Please consider the environment before printing this e-mail

AECOM Environment
171 Daniel Webster Highway, Suite 11, Belmont, NH 03220
T 603.524.8866 F 603.524.9777 www.aecom.com

May 8, 2009

Illinois Natural Heritage Database
Illinois Department of Natural Resources
ORC - Division of Habitat Resources
One Natural Resources Way
Springfield, IL 62702

Subject: Presence of Endangered or Threatened Species or Sensitive Habitats Sauget and Cahokia, Illinois

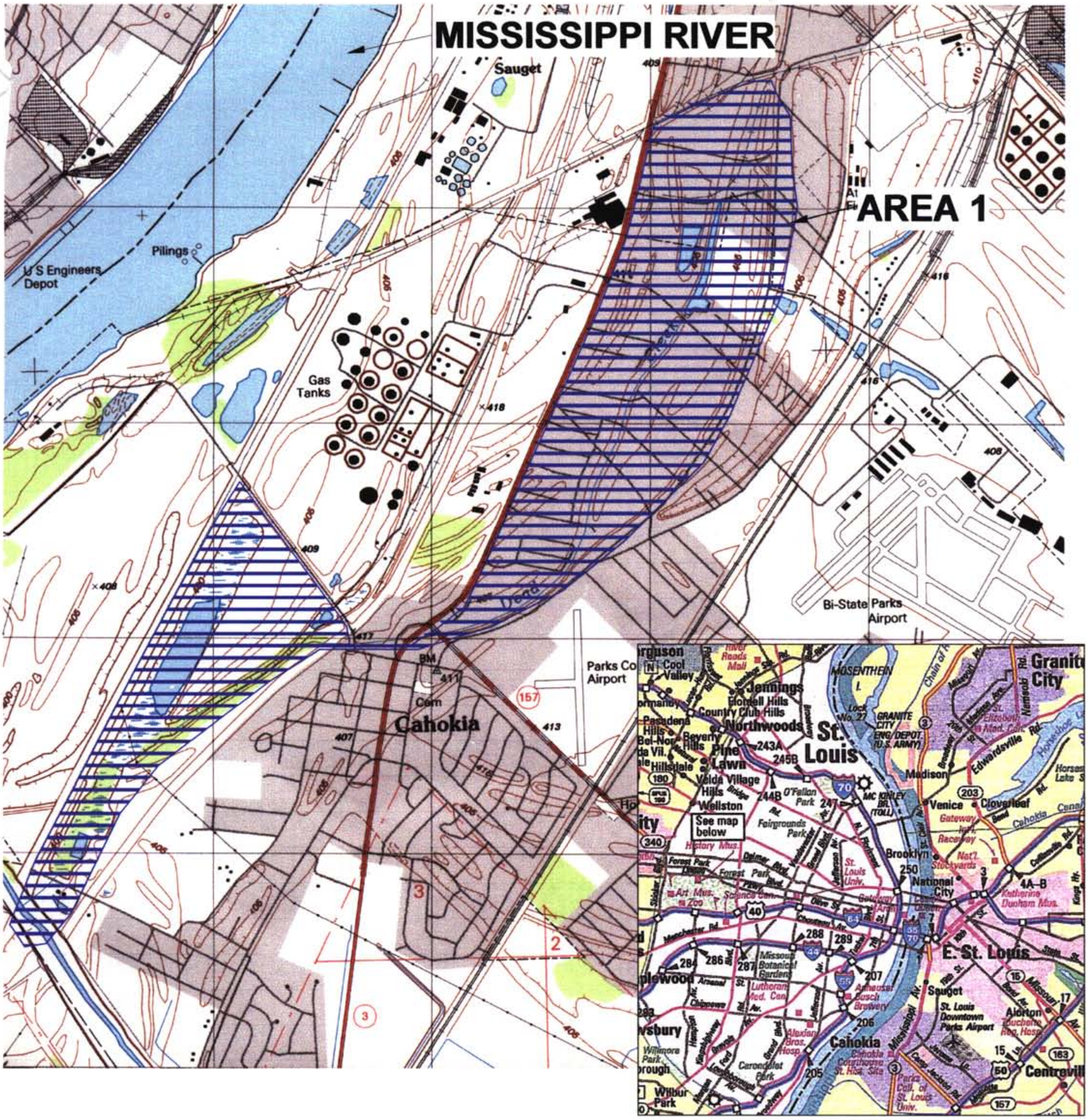
Dear Database Manager,

On behalf of Solutia, Inc., AECOM Environment hereby requests information from the Illinois Natural Heritage Database regarding the occurrence of state or federally-listed and proposed, endangered or threatened floral and faunal species or sensitive habitats in the vicinity of Sauget Area 1, located in Sauget and Cahokia, Illinois.

This information is sought in support of site investigation activities. A map presenting the site location has been provided for your use. Information from your database will provide an essential component of our environmental analysis of this site. Your assistance with this request is greatly appreciated. If you have any questions, please do not hesitate to contact me directly at (603) 528-8912. Thank you for your attention to this request.

Yours sincerely,

Christine Archer
Technical Specialist - Ecological Risk Assessment
christine.archer@aecom.com



SOURCE:
U.S.G.S. CAHOKIA, IL-MO
QUADRANGLE 1998
7.5 MINUTE SERIES (TOPOGRAPHIC)

LEGEND

SAUGET AREA 1

Title:

SITE LOCATION MAP
SAUGET AREA 1

DCG045070

SAUGET AND CAHOKIA, ILLINOIS

Prepared For: SOLUTIA

ROUX
ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: M.J.S.	Date: 02/01	FIGURE
Prepared by: M.J.S.	Scale: 1"=2000'	1-1
Project Mgr: J.R.L.	Office: TX	
File No: 46T04 1-1	Project: 08646T04	