APPENDIX I

RISK CALCULATION DATASHEETS

Risk Model Parameters

Parameter	Units	Description	Category
BD	g soil/cm^3 soil	Soil bulk density	Constants
Bs	--	Soil bioavailability factor	Constants
Cd	--	Drag coefficient	Constants
Ev	cm/yr	Average annual evapotranspiration	Constants
I	cm/yr	Average annual irrigation	Constants
k	--	von Karman's constant	Constants
kp	1/yr	Plant surface loss coefficient	Constants
mu_a	g/cm/s	Viscosity of air	Constants
P	cm/yr	Average annual precipitation	Constants
R	atm-m^3/mol-K	Universal gas constant	Constants
rho_a	g/cm^3	Density of air	Constants
rho_soil	g/cm^3	Density of soil	Constants
rho_w	g/cm^3	Density of water	Constants
RO	cm/yr	Average annual surface runoff from pervious areas	Constants
T1	year	Time period at the beginning of combustion	Constants
Ta	K	Ambient air temperature	Constants
tD	year	Time period over which deposition occurs	Constants
theta_sw	mL/cm^3	Soil volumetric water content	Constants
Zs	cm	Soil mixing zone depth	Constants
Rp_ag	--	Interception fraction of the edible portion of above ground produce	Constants
Tp_ag	yr	Length of plant exposure to deposition per harvest of the edible portion of the ith plant group	Constants
Yp_ag	kg DW/m^2	Yield or standing crop biomass of the edible portion of the plant (productivity)	Constants
h_teq	days	Half-life of dioxin TEQ in adults	Constants
f1	--	Fraction of ingested dioxin that is stored in fat	Constants
f2	--	Fraction of mother's weight that is fat	Constants
f3	--	Fraction of mother's breast milk that is fat	Constants
f4	--	Fraction of ingested COPC that is absorbed	Constants
BW	kg	Body weight	Exposure Basis
BW_infant	kg	Body weight for infant	Exposure Basis
IR	m^3/hr	Inhalation rate	Exposure Basis
Crsoil	kg soil/day	Consumption rate of soil	Exposure Basis
Crag	kg DW plant/kg BW-day	Consumption rate of exposed aboveground produce	Exposure Basis
CRpp	kg DW plant/kg BW-day	Consumption rate of protected aboveground produce	Exposure Basis
CRbg	kg DW plant/kg BW-day	Consumption rate of belowground produce	Exposure Basis

VES 007865

R5-2014-0104710000057

Risk Model Parameters

Parameter	Units	Description	Category
CRdw	L water/day	Consumption rate of drinking water	Exposure Basis
Crfish	kg/kg-day	Consumption rate of fish	Exposure Basis
CRbmilk	kg/day	Ingestion rate of breast milk by the infant	Exposure Basis
Fsoil	--	Fraction of soil that is contaminated	Exposure Basis
Fproduce	--	Fraction of ingested produce that is contaminated (aka Fag)	Exposure Basis
Fdw	--	Fraction of drinking water that is contaminated	Exposure Basis
Ffish	--	Fraction of fish that is contaminated	Exposure Basis
ET	hours/day	Exposure time	Exposure Basis
EF	days/yr	Exposure frequency	Exposure Basis
ED	year	Exposure duration	Exposure Basis
AT_noncancer	year	Averaging time for estimating noncancer hazard	Exposure Basis
AT_cancer	year	Averaging time for estimating cancer risk	Exposure Basis
b	--	Empirical slope coefficient	Waterbody Input
Al	m^2	Impervious watershed area receiving COPC deposition	Waterbody Input
AL	m^2	Total watershed area receiving deposition	Waterbody Input
Aw	m^2	Waterbody Surface Area	Waterbody Input
C_usle	--	USLE cover management factor	Waterbody Input
CBS	g/cm^3	Bed sediment concentration	Waterbody Input
dbs	m	Depth of upper benthic sediment layer	Waterbody Input
dwc	m	Depth of water column	Waterbody Input
dz	m	Total water body depth	Waterbody Input
flipid	--	Fish lipid content	Waterbody Input
Kb	1/yr	Benthic burial rate constant	Waterbody Input
K_usle	ton/acre	USLE erodibility factor	Waterbody Input
lambda_z	--	Dimensionless viscous sublayer thickness	Waterbody Input
LS_usle	--	USLE length-slope factor	Waterbody Input
mu_w	g/cm-s	Viscosity of water corresponding to water temperature	Waterbody Input
OCsed	--	Fraction of organic carbon in bottom sediment	Waterbody Input
PF_usle	--	USLE supporting practice factor	Waterbody Input
RF_usle	1/yr	USLE rainfall (or erosivity factor)	Waterbody Input
SD	--	Sediment delivery ratio (watershed)	Waterbody Input
theta	--	Temperature correction factor	Waterbody Input
theta_bs	--	Bed sediment concentration	Waterbody Input
TSS	mg/L	Total suspended solids concentration	Waterbody Input
Twk	K	Water body temperature	Waterbody Input
u	m/s	Current velocity	Waterbody Input
Vfx	m^3/yr	Average volumetric flow rate through water body	Waterbody Input

VES 007866

R5-2014-0104710000057

Risk Model Parameters

Parameter	Units	Description	Category
W	m/s	Average annual wind speed	Waterbody Input
Xe	kg/m^2-yr	Unit Soil loss	Waterbody Input
Cyv	µg-s/g-m^3	Unitized vapor phase air concentration (yearly average)	Air Model
Cyp	µg-s/g-m^3	Unitized particle phase air concentration (yearly average)	Air Model
Cypb	µg-s/g-m^3	Unitized particle-bound phase air concentration (yearly average)	Air Model
Dytv(Vdv)	s/m^2-yr	Unitized vapor phase total deposition (yearly average) as a function of the dry vapor deposition velocity	Air Model
Dywv	s/m^2-yr	Unitized vapor phase wet deposition (yearly average)	Air Model
Dytp	s/m^2-yr	Unitized particle phase total deposition (yearly average)	Air Model
Dytpb	s/m^2-yr	Unitized particle-bound phase total deposition (yearly average)	Air Model
Dydp	s/m^2-yr	Unitized particle phase dry deposition (yearly average)	Air Model
Dydpb	s/m^2-yr	Unitized particle-bound phase dry deposition (yearly average)	Air Model
Dywp	s/m^2-yr	Unitized particle phase wet deposition (yearly average)	Air Model
Dywpb	s/m^2-yr	Unitized particle-bound phase wet deposition (yearly average)	Air Model
Chv	µg-s/g-m^3	Unitized vapor phase air concentration (hourly maximum)	Air Model
Chp	µg-s/g-m^3	Unitized particle phase air concentration (hourly maximum)	Air Model
Chpb	µg-s/g-m^3	Unitized particle-bound phase air concentration (hourly maximum)	Air Model
Q	g/s	COPC emission rate impacting risk assessment area	COPC Data
kse	1/yr	COPC loss constant due to soil erosion	COPC Data
ksr	1/yr	COPC loss constant due to runoff	COPC Data
ksl	1/yr	COPC loss constant due to leaching	COPC Data
ksv	1/yr	COPC loss constant due to volatilization	COPC Data
ks	1/yr	COPC soil loss constant due to all processes	COPC Data
RfDo	mg/kg/day	Oral reference dose	COPC Data
RfC	mg/kg	Reference concentration	COPC Data
CSPo	1/(mg/kg/day)	Oral cancer slope factor	COPC Data
URFi	1/(µg/m^3)	Inhalation unit risk factor	COPC Data
AIEC	mg/m^3	Acute inhalation exposure criterion	COPC Data
BAF	L/kg FW	Bioaccumulation factor for COPC in fish	COPC Data
BCFfish	L/kg FW	Bioconcentration factor for COPC in fish	COPC Data
BSAFfish	(mg/kg)/(mg/kg)	Biota-sediment accumulation factor	COPC Data
Brag	--	Plant-soil bioconcentration factor for given plant-type	COPC Data
Brroot	--	Plant-soil bioconcentration factor for given plant-type	COPC Data
Bvag	(mg/kg)/(mg/kg)	COPC air-to-plant biotransfer factor for given plant-type	COPC Data
Da	cm^2/s	Diffusivity of COPC in air	COPC Data

VES 007867

R5-2014-0104710000057

Risk Model Parameters

Parameter	Units	Description	Category
Dw	cm^2/s	Diffusivity of COPC in water	COPC Data
Fv	--	Fraction of COPC in vapor phase	COPC Data
H	atm-m^3/mol	Henry's Law constant	COPC Data
Kdts	cm^3 water/g bed sediment	Bed sediment/sediment pore-water partition coefficient	COPC Data
Kds	cm^3 water/g soil	Soil-water partition coefficient	COPC Data
Kdsw	L water/kg suspended sediment	Suspended sediments/ surface water partition coefficient	COPC Data
Kow	--	Octanol-water partition coefficient	COPC Data
ksg	1/yr	COPC soil loss constant due to biotic and abiotic degradation	COPC Data
TEF	--	Toxicity equivalency factor	COPC Data
Fw	--	Fraction of COPC wet deposition that adheres to plant surfaces	COPC Data
ER	--	Soil enrichment ratio	COPC Data
Vdv	cm/s	Dry deposition velocity	COPC Data
Q'Hg0	g/s	Emission rate of elemental mercury (including portion entering global cycle)	Mercury Input
Q'Hg2_v	g/s	Emission rate of vapor phase oxidized mercury (including portion entering global cycle)	Mercury Input
Q'Hg2_ph	g/s	Emission rate of particle-bound phase mercury (including portion entering global cycle)	Mercury Input
Q'Hg2	g/s	Emission rate of divalent mercury modeled as mercuric chloride (including portion entering global cycle)	Mercury Input
fHg0	--	Fraction of elemental mercury (Q'Hg0) deposited	Mercury Input
fHg2_v	--	Fraction of vapor phase oxidized mercury (Q'Hg2_v) deposited	Mercury Input
fHg2_ph	--	Fraction of particle-bound oxidized mercury (Q'Hg2_ph) deposited	Mercury Input
fHg2	--	Fraction of divalent mercury (Q'Hg2) deposited	Mercury Input
Fv_Hg2	--	The fraction of divalent mercury impacting the risk assessment area in the vapor phase	Mercury Input
fMHg_soil	--	Fraction of total mercury methylated in soils	Mercury Input
fMHg_wc	--	Fraction of the dissolved total mercury methylated in water column	Mercury Input
fmhg_plant	--	Fraction of the total mercury from deposition and vapor transfer methylated in plants	Mercury Input
Ds	mg COPC/kg soil/yr	Deposition term	Water Fate & Transport
Cstd	mg COPC/kg soil	Soil concentration at time tD	Water Fate & Transport
LDEP	g/yr	Total (wet and dry) particle phase and wet vapor phase COPC direct deposition load to water body	Water Fate & Transport
KG	m/yr	Gas phase transfer coefficient	Water Fate & Transport

VES 007868

R5-2014-0104710000057

Risk Model Parameters

Parameter	Units	Description	Category
KL	m/yr	Liquid phase transfer coefficient	Water Fate & Transport
Kv_overall	m/yr	Overall COPC transfer rate coefficient	Water Fate & Transport
Ldif	g/yr	Vapor phase COPC diffusion (dry deposition) load to water body	Water Fate & Transport
LRI	g/yr	Runoff load from impervious surfaces	Water Fate & Transport
fwc	--	Fraction of total water body COPC concentration in the water column	Water Fate & Transport
fts	--	Fraction of total water body COPC concentration in benthic sediment	Water Fate & Transport
kv	1/yr	Water column volatilization rate constant	Water Fate & Transport
kwt	1/yr	Overall total water body COPC dissipation rate constant	Water Fate & Transport
Cs	mg COPC/kg DW soil	For cancer risk Cs is the average soil concentration over the exposure period. For noncancer health hazards Cs is equivalent to CstD.	Water Fate & Transport
LR	g/yr	Runoff load from pervious surfaces	Water Fate & Transport
LB	g/yr	Soil erosion load	Water Fate & Transport
LT	g/yr	Total COPC load to the water body (including deposition, runoff, and erosion)	Water Fate & Transport
Cwtot	g COPC/m^3 water body	Total water body COPC concentration (including water column and bed sediment)	Water Fate & Transport
Cwctot	mg COPC/L water column	Total COPC concentration in water column	Water Fate & Transport
Cdw	mg COPC/L water	Dissolved phase water concentration	Water Fate & Transport
Csb	mg COPC/kg sediment	COPC concentration sorbed to bed sediment	Water Fate & Transport
Cfish	mg COPC/kg FW tissue	Concentration of COPC in fish	Water Fate & Transport
Ca	µg/m^3	Air concentration	Land Fate & Transport
VGag	--	Empirical correction factor for reducing edible plant mater concentration. VG_ag and VG_bg are COPC-specific	Land Fate & Transport
Pd_ag	mg COPC/kg DW	Concentration of COPC in aboveground unprotected plants due to direct deposition	Land Fate & Transport
Pv_ag	mg COPC/kg WW	Concentration of COPC in aboveground produce due to air-to-plant transfer	Land Fate & Transport
Pr_ag	mg COPC/kg DW	Concentration of COPC in aboveground produce due to root uptake	Land Fate & Transport
Pr_bg	mg COPC/kg DW	Concentration of COPC in belowground produce due to root uptake	Land Fate & Transport
Pag	mg COPC/kg DW	Concentration of COPC in consumed potion of aboveground produce	Land Fate & Transport

VES 007869

R5-2014-0104710000057

Risk Model Parameters

Parameter	Units	Description	Category
Isoil	mg COPC/kg Bw-day	Daily intake of COPC from soil	Intake, Risk & Hazard
Iproduce	mg COPC/kg Bw-day	Daily intake of COPC from produce	Intake, Risk & Hazard
Ifish	mg COPC/kg Bw-day	Daily intake of COPC from fish	Intake, Risk & Hazard
Idw	mg COPC/kg Bw-day	Daily intake of COPC from drinking water	Intake, Risk & Hazard
I_oral	mg COPC/kg BW-day	Total intake via oral ingestion of contaminated media	Intake, Risk & Hazard
I_inh	mg COPC/kg BW-day	Intake of COPC intake via inhalation	Intake, Risk & Hazard
I_teq	mg COPC/kg Bw-day	Average maternal intake of dioxin for each adult exposure scenario	Intake, Risk & Hazard
Cbmilk	pg COPC/kg milk fat	COPC Concentration in milk fat of breast milk	Intake, Risk & Hazard
I_bmilk	pg COPC/kg BW infant/day	Intake of COPC via breast milk	Intake, Risk & Hazard
HQsoil	--	Hazard quotient	Intake, Risk & Hazard
HQproduce	--	Hazard quotient	Intake, Risk & Hazard
HQdw	--	Hazard quotient	Intake, Risk & Hazard
HQfish	--	Hazard quotient	Intake, Risk & Hazard
HQinh	--	Hazard quotient	Intake, Risk & Hazard
Cancer_oral	--	Individual lifetime cancer risk through oral exposure to COPC	Intake, Risk & Hazard
Cancer_inh	--	Individual lifetime cancer risk through inhalation exposure to COPC	Intake, Risk & Hazard
Cacute	µg/m^3	Acute air concentration	Intake, Risk & Hazard
AHQ_inh	--	Acute hazard quotient for inhalation of COPCs	Intake, Risk & Hazard

VES 007870

R5-2014-0104710000057

SITE-SPECIFIC AND DEFAULT CONSTANTS

Parameter	Units	Value
BD	g/cm^3	1.7
Bs	--	1
Cd	--	0.0011
Ev	cm/yr	54.3
I	cm/yr	12.5
k	--	0.4
kp	1/yr	18
mu_a	g/cm/s	1.81E-04
P	cm/yr	99.9
R	atm-m^3/mol-K	8.205E-05
rho_a	g/cm^3	0.00120
rho_soil	g/cm^3	2.70
rho_w	g/cm^3	1.00
RO	cm/yr	12.5
TI	year	0
Ta	K	298
tD	yr	30
theta_sw	mL/cm^3	0.2
Zs	cm	2
Rp_ag	--	0.39
Tp_ag	yr	0.164
Yp_ag	kg/m^2	2.23
h_foq	days	2,555
f1	--	0.90
f2	--	0.30
f3	--	0.04
f4	--	0.90

EXPOSURE SCENARIO SPECIFIC DATA

Parameter	Units	Scenario1	Scenario2	Scenario3	Scenario4
Scenario	--	Child Resident	Recreational Fisher Child	Adult Resident	Recreational Fisher
BW	kg	15	15	70	70
BW_infant	kg			10	10
IR	m^3/hr	0.3	0.3	0.63	0.63
CRsoil	kg/day	0.0001	0.0001	0.0002	0.0002
CRag	kg /kg/day	0.00042	0.00042	0.0003	0.0003
CRpp	kg /kg/day	0.00077	0.00077	0.00057	0.00057
CRbg	kg /kg/day	0.00022	0.00022	0.00014	0.00014
CRdw	L/day	0.67	0.67	1.4	1.4
Crfish	kg/kg/day	0	1.48E-04	0	2.11E-04
CRbmilk	kg/day	0	0	0.8	0.8
Fsoil	--	1	1	1	1
Fproduce	--	0.25	0.25	0.25	0.25
Fdw	--	1	1	1	1
Ffish	--	0	1	0	1
ET	hr/day	24	24	24	24
EF	day/yr	350	350	350	350
ED	yr	6	6	30	30
AT_noncancer	yr	6	6	30	30
AT_cancer	yr	70	70	70	70
iuf	--	1.00	1.00	1.00	1.00
bwf	--	1.00	1.00	1.00	1.00
eff	--	0.959	0.959	0.959	0.959
edf_nc	--	1	1	1	1
edf_c	--	0.0857	0.0857	0.4286	0.4286
edf_nursing	--			1	1

WATERBODY AND WATERSHED SPECIFIC DATA

Parameter	Units	Waterbody 1	Waterbody 2
Name	--	Frank Holten	Mississippi
Waterbody_type	--	Lake	River
b	--	0.125	0.125
AI	m^2	2.34E+06	2.08E+07
AL	m^2	7.55E+06	4.96E+07
Aw	m^2	716,293	1.36E+07
C_usle	--	0.1	0.1
CBS	g/cm^3	1	1
dbs	m	0.03	0.03
dwc	m	2	7.62
dz	m	2.03	7.65
fflipid	--	0.07	0.07
kb	1/yr	0.187	0.000
K_usle	ton/acre	0.39	0.39
lambda_z	--	4	4
LS_usle	--	1.5	1.5
mu_w	g/cm-s	0.0169	0.0169
OCsed	--	0.04	0.04
PF_usle	--	1	1
RF_usle	1/yr	210	210
SD	--	0.193	0.131
theta	--	1.026	1.026
theta_bs	--	0.6	0.6
TSS	mg/L	10	10
Twk	K	298	298
u	m/s		1.62
Vfx	m^3/yr	384,998	1.54207E+11
W	m/s	4.55	4.55
Xe	kg/m^2-yr	2.75	2.75

AIR MODELING RESULTS

Parameter	Units	Maximum Land Impacts	Waterbody 1	Watershed 1	Waterbody 2
Cyv	µg-s/g-m^3	0.997	5.64E-04		0.108
Cyp	µg-s/g-m^3	0.903			
Cypb	µg-s/g-m^3	0.957			
Dytv(2-9)	s/m^2-yr		0.0493	0.0427	
Dywv	s/m^2-yr	0.604			0.0105
Dytp	s/m^2-yr	2.26	0.0152	0.0149	0.0669
Dytpb	s/m^2-yr	1.22	0.00940	0.00798	0.0338
Dydp	s/m^2-yr	1.57			
Dydpb	s/m^2-yr	0.749			
Dywp	s/m^2-yr	0.685			
Dywpb	s/m^2-yr	0.470			
Chv	µg-s/g-m^3	61.1			
Chp	µg-s/g-m^3	61.0			
Chpb	µg-s/g-m^3	60.9			

COPC-SPECIFIC DATA

CAS No.	COPC Name	COPC Group	Q g/s	kse 1/yr	ksr 1/yr	ksl 1/yr	ksv 1/yr	ks 1/yr	RfDo mg/kg/day	RfC µg/m^3	CSFo 1/(mg/kg/day)
7440382	Arsenic	Metal	7.72E-04		0.126	0.462	66,238	66,239	3.00E-04	3.00E-05	1.50
7440417	Beryllium	Metal	7.72E-04		0.00465	0.0170	47.4	47.4	0.00200	2.00E-05	
7440439	Cadmium	Metal	0.00191		0.0489	0.179	1,031	1,031	0.00100	2.00E-04	
7440473	Chromium	Metal	7.72E-04		0.192	0.703		0.895	1.50	5.30	
18540299	Chromium (VI)	Metal	7.72E-04		0.192	0.703		0.895	0.00300	1.00E-04	
7439921	Lead	Metal	0.00191		0.00408	0.0149	69.3	69.3	4.29E-04	0.00150	0.00850
7439976	Elemental Mercury	Metal	9.23E-07		0.00368	0.0134	2.50	2.52		3.00E-04	
7487947	Mercuric Chloride	Metal	6.18E-04		6.34E-05	2.32E-04	1.79E-08	2.95E-04	3.00E-04	0.00105	
22967926	Methyl Mercury	Metal			5.25E-04	0.00192	1.15E-04	0.00256	1.00E-04		
1746016	TetraCDD, 2,3,7,8-	D/F	3.18E-12		9.45E-05	3.45E-04	0.00284	0.0333	1.00E-09		150,000

VES 007875

R5-2014-0104710000057

COPC-SPECIFIC DATA

CAS No.	COPC Name	URFi 1/(µg/m^3)	AIEC mg/m^3	BAF L/kg	BCFfish L/kg	BSAFfish	Brag	Brroot	Bvag	Da cm^2/s	Dw cm^2/s	Fv
7440382	Arsenic	0.00430	1.90E-04		114		0.00633	0.00800		0.0772	9.57E-06	0.00600
7440417	Beryllium	0.00240	0.00500		62.0		0.00258	0.00150		0.0772	9.57E-06	0.00900
7440439	Cadmium	0.00180	0.0300		907		0.125	0.0640		0.0772	9.57E-06	0.00900
7440473	Chromium		1.50		19.0		0.00488	0.00450		0.127	1.41E-05	0.00900
18540299	Chromium (VI)	0.0120			3.16		0.00488	0.00450				
7439921	Lead	1.20E-05	0.150		0.0900		0.0136	0.00900		0.0772	9.57E-06	0.00700
7439976	Elemental Mercury		0.00180							0.0109	3.01E-05	1.00
7487947	Mercuric Chloride		0.125				0.0145	0.0360	1,800	0.0453	5.25E-06	0.950
22967926	Methyl Mercury		0.0300	120,000			0.0294	0.0990		0.0528	6.11E-06	
1746016	TetraCDD, 2,3,7,8-		0.00150		34,400	0.0900	0.00455	1.03	65,500	0.104	5.60E-06	0.664

VES 007876

R5-2014-0104710000057

COPC-SPECIFIC DATA

CAS No.	COPC Name	H atm-m^3/mol	Kdbs cm^3/g	Kds cm^3/g	Kdsw L/kg	Kow	ksg 1/yr	TEF	Fw	ER	Vdv
7440382	Arsenic	0.770	29.0	29.0	29.0	0.0211			0.600	1.00	
7440417	Beryllium	0.0150	790	790	790	0.00362			0.600	1.00	
7440439	Cadmium	0.0310	75.0	75.0	75.0	2.82E-12			0.600	1.00	
7440473	Chromium		19.0	19.0	19.0	4.14E-07			0.600	1.00	
18540299	Chromium (VI)		19.0	19.0	19.0				0.600	1.00	
7439921	Lead	0.0250	900	900	900	0.0430			0.600	1.00	
7439976	Elemental Mercury	0.00710	1,000	1,000	1,000	0.00839			0.600	1.00	
7487947	Mercuric Chloride	7.10E-10	50,000	58,000	100,000	2.11E-07			0.600	1.00	2.90
22967926	Methyl Mercury	4.70E-07	3,000	7,000	100,000				0.600	3.00	
1746016	TetraCDD, 2,3,7,8-	3.29E-05	155,618	38,905	291,784	2.11E+08	0.0300	1.00	0.600	3.00	2.90

MERCURY EMISSIONS AND SPECIATION DATA

Parameter	Units	Value
Q'Hg0	g/s	9.23E-05
Q'Hg2_v	g/s	8.64E-04
Q'Hg2_pb	g/s	8.59E-05
Q'Hg2	g/s	9.50E-04
fHg0	--	0.0100
fHg2_v	--	0.680
fHg2_pb	--	0.360
fHg2	--	0.651
fv_Hg2	--	0.950
fmhg_soil	--	0.0200
fmhg_we	--	0.150
fmhg_plant	--	0.220

CALCULATIONS FOR ESTIMATING FISH CONCENTRATIONS

CAS No.	COPC Name	Ds mg/kg/yr	CstD mg/kg	LDEP g/yr	KG m/yr	KL m/yr	Kv_overall m/yr	Ldif g/yr	LRI g/yr	fwc	fbs	kv 1/yr	kwt 1/yr
7440382	Arsenic	3.38E-04	5.10E-09	8.41	561,364	203	231		26.9	0.693	0.307	114	78.9
7440417	Beryllium	3.38E-04	7.13E-06	8.41	561,364	203	231		26.9	0.0783	0.922	113	9.02
7440439	Cadmium	8.36E-04	8.10E-07	20.8	561,364	203	231		66.5	0.469	0.531	114	53.4
7440473	Chromium	3.38E-04	3.77E-04	8.41	781,523	264			26.9	0.773	0.227		0.0425
18540299	Chromium (VI)	3.38E-04	3.77E-04	8.41					26.9	0.773	0.227		0.0425
7439921	Lead	8.36E-04	1.21E-05	20.8	561,364	203	231		66.5	0.0695	0.931	113	8.02
7487947	Mercuric Chloride (as Total Mercury)	7.44E-04	0.0222	20.7	392,833	136	0.0130	0.106	59.2	0.00266	0.997	0.00319	0.186
1746016	TetraCDD, 2,3,7,8-	2.90E-12	5.51E-11	7.46E-08	685,414	142	140	8.88E-11	2.31E-07	0.00168	0.998	17.6	0.216

CALCULATIONS FOR ESTIMATING FISH CONCENTRATIONS
(Noncancer Health Effects)

CAS No.	COPC Name	Cs mg/kg	LR g/yr	LE g/yr	LT g/yr	Cwtot g/m^3	Cwctot mg/L	Cdw mg/L	Csb mg/kg	Cfish mg/kg
7440382	Arsenic	5.10E-09	1.14E-04	1.41E-05	35.3	3.07E-07	2.16E-07	2.16E-07	6.25E-06	2.46E-05
7440417	Beryllium	7.13E-06	0.00587	0.0198	35.3	2.69E-06	2.14E-07	2.12E-07	1.67E-04	1.31E-05
7440439	Cadmium	8.10E-07	0.00702	0.00224	87.3	1.12E-06	5.33E-07	5.33E-07	4.00E-05	4.83E-04
7440473	Chromium	3.77E-04	12.9	1.04	49.2	1.37E-04	1.07E-04	1.07E-04	0.00204	0.00204
18540299	Chromium (VI)	3.77E-04	12.9	1.04	49.2	1.37E-04	1.07E-04	1.07E-04	0.00204	3.39E-04
7439921	Lead	1.21E-05	0.00872	0.0334	87.3	7.48E-06	5.27E-07	5.23E-07	4.70E-04	4.70E-08
7487947	Mercuric Chloride (as Total Mercury)	0.0222	0.250	61.7	142	5.22E-04	1.41E-06	7.04E-07	0.0352	
22967926	Methyl Mercury									0.0845
1746016	TetraCDD, 2,3,7,8-	5.51E-11	9.22E-10	4.58E-07	7.65E-07	2.43E-12	4.13E-15	1.05E-15	1.64E-10	2.59E-11

CALCULATIONS FOR ESTIMATING FISH CONCENTRATIONS
(Cancer Risks)

CAS No.	COPC Name	Cs mg/kg	LR g/yr	LE g/yr	LT g/yr	Cwtot g/m^3	Cwctot mg/L	Cdw mg/L	Csb mg/kg	Cfish mg/kg
7440382	Arsenic	5.10E-09	1.14E-04	1.41E-05	35.3	3.07E-07	2.16E-07	2.16E-07	6.25E-06	2.46E-05
7440417	Beryllium	7.12E-06	0.00587	0.01975	35.5	2.69E-06	2.14E-07	2.12E-07	1.67E-04	1.31E-05
7440439	Cadmium	8.10E-07	0.00702	0.00224	87.3	1.12E-06	5.33E-07	5.33E-07	4.00E-05	4.83E-04
7440473	Chromium	3.63E-04	12.4	1.00	48.7	1.35E-04	1.06E-04	1.06E-04	0.00202	0.00202
18540299	Chromium (VI)	3.63E-04	12.4	1.00	48.7	1.35E-04	1.06E-04	1.06E-04	0.00202	3.36E-04
7439921	Lead	1.20E-05	0.0	0.03	87.3	7.48E-06	5.27E-07	5.23E-07	0.00047	4.70E-08
7487947	Mercuric Chloride (as Total Mercury)	1.11E-02	0.125	31	111	0.00041	1.10E-06	5.51E-07	0.0275	
22967926	Methyl Mercury									0.066
1746016	TetraCDD, 2,3,7,8-	3.20E-11	5.36E-10	2.67E-07	5.73E-07	1.82E-12	3.09E-15	7.90E-16	1.23E-10	1.94E-11

VES 007881

R5-2014-0104710000057

CALCULATIONS FOR ESTIMATING DRINKING WATER CONCENTRATIONS

CAS No.	COPC Name	Ds mg/kg/yr	CstD mg/kg	LDEP g/yr	KG m/yr	KL m/yr	Kv_overall m/yr	Ldif g/yr	LRI g/yr	fwc	fbs	kv 1/yr	kwt 1/yr
7440382	Arsenic	0.0513	7.74E-07	700	36,500	449	510		36,274	0.896	0.104	66.7	59.7
7440417	Beryllium	0.0513	0.00108	700	36,500	449	500		36,274	0.245	0.755	64.9	15.9
7440439	Cadmium	0.127	1.23E-04	1,731	36,500	449	506		89,744	0.771	0.229	66.0	50.9
7440473	Chromium	0.0513	0.0573	700	36,500	545			36,274	0.928	0.0716		
18540299	Chromium (VI)	0.0513	0.0573	700	36,500				36,274	0.928	0.0716		
7439921	Lead	0.127	0.00183	1,731	36,500	449	504		89,744	0.222	0.778	65.3	14.5
7487947	Mercuric Chloride (as Total Mercury)	0.0115	0.345	871	36,500	332	0.00121	35.7	19,313	0.0101	0.990	7.88E-05	7.92E-07
1746016	TetraCDD, 2,3,7,8-	1.33E-10	2.52E-09	3.13E-06	36,500	343	48.9	1.12E-07	9.38E-05	0.00635	0.994	1.63	0.0104

VES 007882

R5-2014-0104710000057

CALCULATIONS FOR ESTIMATING DRINKING WATER CONCENTRATIONS
(Noncancer Health Effects)

CAS No.	COPC Name	Cs mg/kg	LR g/yr	LE g/yr	LT g/yr	Cwtot mg/L	Cwctot mg/L	Cdw mg/L
7440382	Arsenic	7.74E-07	0.0955	0.00799	36,973	2.56E-07	2.30E-07	2.30E-07
7440417	Beryllium	0.00108	4.92	11.2	36,989	9.40E-07	2.31E-07	2.29E-07
7440439	Cadmium	1.23E-04	5.88	1.27	91,483	7.37E-07	5.70E-07	5.70E-07
7440473	Chromium	0.0573	10,760	590	48,324	3.38E-07	3.15E-07	3.15E-07
18540299	Chromium (VI)	0.0573	10,760	590	48,324	3.38E-07	3.15E-07	3.15E-07
7439921	Lead	0.00183	7.30	19.0	91,502	2.57E-06	5.71E-07	5.66E-07
7487947	Mercuric Chloride (as Total Mercury)	0.345	21.4	3,576	23,817	1.54E-05	1.55E-07	6.59E-08
1746016	TetraCDD, 2,3,7,8-	2.52E-09	2.32E-07	7.82E-05	1.76E-04	1.79E-13	1.14E-15	2.91E-16

VES 007883

R5-2014-0104710000057

CALCULATIONS FOR ESTIMATING DRINKING WATER CONCENTRATIONS
(Cancer Risks)

CAS No.	COPC Name	Cs mg/kg	LR g/yr	LE g/yr	LT g/yr	Cwtot g/m^3	Cwctot mg/L	Cdw mg/L
7440382	Arsenic	7.74E-07	0.0955	0.00799	36,973	2.56E-07	2.30E-07	2.30E-07
7440417	Beryllium	0.00108	4.92	11.2	36,989	9.40E-07	2.31E-07	2.29E-07
7440439	Cadmium	1.23E-04	5.88	1.27	91,483	7.37E-07	5.70E-07	5.70E-07
7440473	Chromium	0.0551	10,360	568	47,901	3.35E-07	3.12E-07	3.12E-07
18540299	Chromium (VI)	0.0551	10,360	568	47,901	3.35E-07	3.12E-07	3.12E-07
7439921	Lead	0.00183	7.30	19.0	91,502	2.57E-06	5.71E-07	5.66E-07
7487947	Mercuric Chloride (as Total Mercury)	0.173	10.7	1,791	22,021	1.42E-05	1.43E-07	6.09E-08
1746016	TetraCDD, 2,3,7,8-	1.46E-09	1.35E-07	4.55E-05	1.43E-04	1.45E-13	9.28E-16	2.37E-16

CALCULATIONS FOR LAND BASED MEDIA CONCENTRATIONS

CAS No.	COPC Name	Ca µg/m^3	Ds mg/kg/yr	CstD mg/kg	VGag --	VGbg --	Pd_ag mg/kg	Pv_ag mg/kg
7440382	Arsenic	6.97E-04	0.0513	7.74E-07	1.00	1.00	0.0141	
7440417	Beryllium	6.97E-04	0.0513	0.00108	1.00	1.00	0.0141	
7440439	Cadmium	0.00172	0.127	1.23E-04	1.00	1.00	0.0349	
7440473	Chromium	6.97E-04	0.0513	0.0573	1.00	1.00	0.0141	
18540299	Chromium (VI)	6.97E-04	0.0513	0.0573	1.00	1.00	0.0141	
7439921	Lead	0.00172	0.127	0.00183	1.00	1.00	0.0349	
7439976	Elemental Mercury	9.19E-07			1.00	1.00		
7487947	Mercuric Chloride	6.15E-04	0.0267	0.799	1.00	1.00	2.29E-04	6.85E-04
22967926	Methyl Mercury		5.46E-04	0.0158	1.00	1.00	6.46E-05	1.93E-04
1746016	TetraCDD, 2,3,7,8-	3.13E-12	1.33E-10	2.52E-09	0.0100	0.0100	1.02E-11	1.15E-12

VES 007885

R5-2014-0104710000057

CALCULATIONS FOR LAND BASED MEDIA CONCENTRATIONS
(Non-Cancer Health Effects)

CAS No.	COPC Name	Cs mg/kg	Pr_ag mg/kg	Pr_bg mg/kg	Pag mg/kg
7440382	Arsenic	7.74E-07	4.90E-09	6.19E-09	0.0141
7440417	Beryllium	0.00108	2.79E-06	1.62E-06	0.0141
7440439	Cadmium	1.23E-04	1.54E-05	7.87E-06	0.0349
7440473	Chromium	0.0573	2.79E-04	2.58E-04	0.0144
18540299	Chromium (VI)	0.0573	2.79E-04	2.58E-04	0.0144
7439921	Lead	0.00183	2.49E-05	1.65E-05	0.0349
7439976	Elemental Mercury				
7487947	Mercuric Chloride	0.799	0.0116	0.0288	0.0125
22967926	Methyl Mercury	0.0158	4.63E-04	0.00156	7.21E-04
1746016	TetraCDD, 2,3,7,8-	2.52E-09	1.14E-11	2.59E-11	2.27E-11

CALCULATIONS FOR LAND BASED MEDIA CONCENTRATIONS
(Cancer Risks)

CAS No.	COPC Name	Cs mg/kg	Pr_ag mg/kg	Pr_bg mg/kg	Pag mg/kg
7440382	Arsenic	7.74E-07	4.90E-09	6.19E-09	0.0141
7440417	Beryllium	0.00108	2.79E-06	1.62E-06	0.0141
7440439	Cadmium	1.23E-04	1.54E-05	7.87E-06	0.0349
7440473	Chromium	0.0551	2.69E-04	2.48E-04	0.0144
18540299	Chromium (VI)	0.0551	2.69E-04	2.48E-04	0.0144
7439921	Lead	0.00183	2.49E-05	1.65E-05	0.0349
7439976	Elemental Mercury				
7487947	Mercuric Chloride	0.400	0.00580	0.0144	0.00671
22967926	Methyl Mercury	0.00798	2.35E-04	7.90E-04	4.92E-04
1746016	TetraCDD, 2,3,7,8-	1.46E-09	6.66E-12	1.51E-11	1.80E-11

COPC INTAKE AND CANCER RISK ESTIMATES
(Child Resident)

CAS No.	COPC Name	Isoil mg/kg/day	Iproduce mg/kg/day	Ifish mg/kg/day	Idw mg/kg/day	I_oral mg/kg/day	I_inh mg/kg/day	Cancer_oral	Cancer_inh
7440382	Arsenic	5.16E-12	1.48E-06		1.03E-08	1.49E-06	2.75E-08	1.84E-07	2.46E-07
7440417	Beryllium	7.21E-09	1.48E-06		1.02E-08	1.50E-06	2.75E-08		1.38E-07
7440439	Cadmium	8.20E-10	3.67E-06		2.55E-08	3.69E-06	6.80E-08		2.55E-07
7440473	Chromium	3.68E-07	1.57E-06		1.40E-08	1.96E-06	2.75E-08		
1.9E+07	Chromium (VI)	3.68E-07	1.57E-06		1.40E-08	1.96E-06	2.75E-08		6.88E-07
7439921	Lead	1.22E-08	3.67E-06		2.53E-08	3.71E-06	6.80E-08	2.59E-09	1.70E-09
7439976	Elemental Mercury						3.63E-11		
7487947	Mercuric Chloride	2.67E-06	2.61E-06		2.94E-09	5.28E-06	2.43E-08		
2.3E+07	Methyl Mercury	5.32E-08	1.40E-07		5.19E-10	1.94E-07			
1746016	TetraCDD, 2,3,7,8-	9.76E-15	4.00E-15		1.30E-17	1.38E-14	1.23E-16	1.70E-10	

VES 007888

R5-2014-0104710000057

COPC INTAKE AND CANCER RISK ESTIMATES
(Recreational Fisher Child)

CAS No.	COPC Name	Isoil mg/kg/day	Iproduce mg/kg/day	Ifish mg/kg/day	Idw mg/kg/day	I_oral mg/kg/day	I_inh mg/kg/day	Cancer_oral	Cancer_inh
7440382	Arsenic	5.16E-12	1.48E-06	3.65E-09	1.03E-08	1.49E-06	2.75E-08	1.84E-07	2.46E-07
7440417	Beryllium	7.21E-09	1.48E-06	1.95E-09	1.02E-08	1.50E-06	2.75E-08		1.38E-07
7440439	Cadmium	8.20E-10	3.67E-06	7.17E-08	2.55E-08	3.77E-06	6.80E-08		2.55E-07
7440473	Chromium	3.68E-07	1.57E-06	3.03E-07	1.40E-08	2.26E-06	2.75E-08		
1.9E+07	Chromium (VI)	3.68E-07	1.57E-06	5.03E-08	1.40E-08	2.01E-06	2.75E-08		6.88E-07
7439921	Lead	1.22E-08	3.67E-06	6.98E-12	2.53E-08	3.71E-06	6.80E-08	2.59E-09	1.70E-09
7439976	Elemental Mercury						3.63E-11		
7487947	Mercuric Chloride	2.67E-06	2.61E-06		2.94E-09	5.28E-06	2.43E-08		
2.3E-07	Methyl Mercury	5.32E-08	1.40E-07	1.25E-05	5.19E-10	1.27E-05			
1746016	TetraCDD, 2,3,7,8-	9.76E-15	4.00E-15	3.83E-15	1.30E-17	1.76E-14	1.23E-16	2.17E-10	

VES 007889

R5-2014-0104710000057

COPC INTAKE AND CANCER RISK ESTIMATES
(Adult Resident)

CAS No.	COPC Name	Isoil mg/kg/day	Iproduce mg/kg/day	Ifish mg/kg/day	Idw mg/kg/day	I_oral mg/kg/day	I_inh mg/kg/day	Cancer_oral	Cancer_inh
7440382	Arsenic	2.21E-12	1.06E-06		4.61E-09	1.06E-06	6.19E-08	6.55E-07	1.23E-06
7440417	Beryllium	3.09E-09	1.06E-06		4.58E-09	1.07E-06	6.19E-08		6.88E-07
7440439	Cadmium	3.51E-10	2.62E-06		1.14E-08	2.63E-06	1.53E-07		1.28E-06
7440473	Chromium	1.58E-07	1.12E-06		6.29E-09	1.29E-06	6.19E-08		
1.9E+07	Chromium (VI)	1.58E-07	1.12E-06		6.29E-09	1.29E-06	6.19E-08		3.44E-06
7439921	Lead	5.23E-09	2.62E-06		1.13E-08	2.64E-06	1.53E-07	9.22E-09	8.51E-09
7439976	Elemental Mercury						8.16E-11		
7487947	Mercuric Chloride	1.14E-06	1.83E-06		1.32E-09	2.98E-06	5.46E-08		
2.3E+07	Methyl Mercury	2.28E-08	9.80E-08		2.33E-10	1.21E-07			
1746016	TetraCDD, 2,3,7,8-	4.18E-15	2.82E-15		5.83E-18	7.01E-15	2.78E-16	4.32E-10	

COPC INTAKE AND CANCER RISK ESTIMATES
(Recreational Fisher)

CAS No.	COPC Name	Isoil mg/kg/day	Iproduce mg/kg/day	Ifish mg/kg/day	Idw mg/kg/day	I_oral mg/kg/day	I_inh mg/kg/day	Cancer_oral	Cancer_inh
7440382	Arsenic	2.21E-12	1.06E-06	5.18E-09	4.61E-09	1.07E-06	6.19E-08	6.58E-07	1.23E-06
7440417	Beryllium	3.09E-09	1.06E-06	2.77E-09	4.58E-09	1.07E-06	6.19E-08		6.88E-07
7440439	Cadmium	3.51E-10	2.62E-06	1.02E-07	1.14E-08	2.73E-06	1.53E-07		1.28E-06
7440473	Chromium	1.58E-07	1.12E-06	4.30E-07	6.29E-09	1.72E-06	6.19E-08		
1.9E+07	Chromium (VI)	1.58E-07	1.12E-06	7.13E-08	6.29E-09	1.36E-06	6.19E-08		3.44E-06
7439921	Lead	5.23E-09	2.62E-06	9.91E-12	1.13E-08	2.64E-06	1.53E-07	9.22E-09	8.51E-09
7439976	Elementnl Mercury						8.16E-11		
7487947	Mercuric Chloride	1.14E-06	1.83E-06		1.32E-09	2.98E-06	5.46E-08		
2.3E-07	Methyl Mercury	2.28E-08	9.80E-08	1.78E-05	2.33E-10	1.79E-05			
1746016	TetraCDD, 2,3,7,8-	4.18E-15	2.82E-15	5.45E-15	5.83E-18	1.25E-14	2.78E-16	7.68E-10	

COPC INTAKE AND NONCANCER HAZARD ESTIMATES
(Child Resident)

CAS No.	COPC Name	Isoil mg/kg/day	Iproduce mg/kg/day	Ifish mg/kg/day	Idw mg/kg/day	I_oral mg/kg/day	I_inh mg/kg/day
7440382	Arsenic	5.16E-12	1.48E-06		1.03E-08	1.49E-06	3.21E-07
7440417	Beryllium	7.21E-09	1.48E-06		1.02E-08	1.50E-06	3.21E-07
7440439	Cadmium	8.20E-10	3.67E-06		2.55E-08	3.69E-06	7.94E-07
7440473	Chromium	3.82E-07	1.58E-06		1.40E-08	1.97E-06	3.21E-07
1.9E+07	Chromium (VI)	3.82E-07	1.58E-06		1.40E-08	1.97E-06	3.21E-07
7439921	Lead	1.22E-08	3.67E-06		2.53E-08	3.71E-06	7.94E-07
7439976	Elemental Mercury						4.23E-10
7487947	Mercuric Chloride	5.33E-06	5.12E-06		2.94E-09	1.05E-05	2.83E-07
2.3E+07	Methyl Mercury	1.05E-07	2.51E-07		5.19E-10	3.56E-07	
1746016	TetraCDD, 2,3,7,8-	1.68E-14	6.02E-15		1.30E-17	2.28E-14	1.44E-15

COPC INTAKE AND NONCANCER HAZARD ESTIMATES
(Child Resident)

CAS No.	COPC Name	HQsoil	HQproduce	HQdw	HQfish	HQinh	Sum of Oral HQs
7440382	Arsenic	1.65E-08	0.00473	3.29E-05		0.0223	0.00477
7440417	Beryllium	3.46E-06	7.10E-04	4.90E-06		0.0334	7.19E-04
7440439	Cadmium	7.86E-07	0.00352	2.44E-05		0.00827	0.00354
7440473	Chromium	2.44E-07	1.01E-06	8.98E-09		1.26E-07	1.26E-06
1.9E+07	Chromium (VI)	1.22E-04	5.04E-04	4.49E-06		0.00669	6.31E-04
7439921	Lead	2.73E-05	0.00822	5.65E-05		0.00110	0.00830
7439976	Elemental Mercury					2.94E-06	
7487947	Mercuric Chloride	0.0170	0.0164	9.41E-06		5.62E-04	0.0334
2.3E+07	Methyl Mercury	0.00101	0.00240	4.98E-06			0.00342
1746016	TetraCDD, 2,3,7,8-	1.61E-05	5.77E-06	1.25E-08			2.19E-05

COPC INTAKE AND NONCANCER HAZARD ESTIMATES
(Recreational Fisher Child)

CAS No.	COPC Name	Isoil mg/kg/day	Iproduce mg/kg/day	Ifish mg/kg/day	Idw mg/kg/day	I_oral mg/kg/day	I_inh mg/kg/day
7440382	Arsenic	5.16E-12	1.48E-06	3.65E-09	1.03E-08	1.49E-06	3.21E-07
7440417	Beryllium	7.21E-09	1.48E-06	1.95E-09	1.02E-08	1.50E-06	3.21E-07
7440439	Cadmium	8.20E-10	3.67E-06	7.17E-08	2.55E-08	3.77E-06	7.94E-07
7440473	Chromium	3.82E-07	1.58E-06	3.03E-07	1.40E-08	2.28E-06	3.21E-07
1.9E+07	Chromium (VI)	3.82E-07	1.58E-06	5.03E-08	1.40E-08	2.02E-06	3.21E-07
7439921	Lead	1.22E-08	3.67E-06	6.98E-12	2.53E-08	3.71E-06	7.94E-07
7439976	Elemental Mercury						4.23E-10
7487947	Mercuric Chloride	5.33E-06	5.12E-06		2.94E-09	1.05E-05	2.83E-07
2.3E+07	Methyl Mercury	1.05E-07	2.51E-07	1.25E-05	5.19E-10	1.29E-05	
1746016	TetraCDD, 2,3,7,8-	1.68E-14	6.02E-15	3.83E-15	1.30E-17	2.66E-14	1.44E-15

COPC INTAKE AND NONCANCER HAZARD ESTIMATES
(Recreational Fisher Child)

CAS No.	COPC Name	HQsoil	HQproduce	HQdw	HQfish	HQinh	Sum of Oral HQs
7440382	Arsenic	1.65E-08	0.00473	3.29E-05	1.17E-05	0.0223	0.00478
7440417	Beryllium	3.46E-06	7.10E-04	4.90E-06	9.35E-07	0.0334	7.20E-04
7440439	Cadmium	7.86E-07	0.00352	2.44E-05	6.88E-05	0.00827	0.00361
7440473	Chromium	2.44E-07	1.01E-06	8.98E-09	1.93E-07	1.26E-07	1.46E-06
1.9E+07	Chromium (VI)	1.22E-04	5.04E-04	4.49E-06	1.61E-05	0.00669	6.47E-04
7439921	Lead	2.73E-05	0.00822	5.65E-05	1.56E-08	0.00110	0.00830
7439976	Elemental Mercury					2.94E-05	
7487947	Mercuric Chloride	0.0170	0.0164	9.41E-06		5.62E-04	0.0334
2.3E+07	Methyl Mercury	0.00101	0.00240	4.98E-06	0.120		0.124
1746016	TetraCDD, 2,3,7,8-	1.61E-05	5.77E-06	1.25E-08	3.68E-06		2.55E-05

VES 007895

R5-2014-0104710000057

COPC INTAKE AND NONCANCER HAZARD ESTIMATES
(Adult Resident)

CAS No.	COPC Name	Isoil mg/kg/day	Iproduce mg/kg/day	Ifish mg/kg/day	Idw mg/kg/day	I_oral mg/kg/day	I_inh mg/kg/day	I_teq mg/kg/day	Cbmilk pg/kg	I_bmilk pg/kg/day
7440382	Arsenic	2.21E-12	1.06E-06		4.61E-09	1.06E-06	1.44E-07			
7440417	Beryllium	3.09E-09	1.06E-06		4.58E-09	1.07E-06	1.44E-07			
7440439	Cadmium	3.51E-10	2.62E-06		1.14E-08	2.63E-06	3.57E-07			
7440473	Chromium	1.64E-07	1.13E-06		6.29E-09	1.30E-06	1.44E-07			
1.9E+07	Chromium (VI)	1.64E-07	1.13E-06		6.29E-09	1.30E-06	1.44E-07			
7439921	Lead	5.23E-09	2.62E-06		1.13E-08	2.64E-06	3.57E-07			
7439976	Elemental Mercury						1.90E-10			
7487947	Mercuric Chloride	2.28E-06	3.59E-06		1.32E-09	5.88E-06	1.27E-07			
2.3E+07	Methyl Mercury	4.50E-08	1.75E-07		2.33E-10	2.20E-07				
1746016	TetraCDD, 2,3,7,8-	7.19E-15	4.24E-15		5.83E-18	1.14E-14	6.48E-16	1.14E-14	0.127	3.64E-04

COPC INTAKE AND NONCANCER HAZARD ESTIMATES
(Adult Resident)

CAS No.	COPC Name	HQsoil	HQproduce	HQdw	HQfish	HQinh	Sum of Oral HQs
7440382	Arsenic	7.07E-09	0.00338	1.47E-05		0.0223	0.00340
7440417	Beryllium	1.48E-06	5.07E-04	2.20E-06		0.0334	5.11E-04
7440439	Cadmium	3.37E-07	0.00251	1.09E-05		0.00827	0.00252
7440473	Chromium	1.05E-07	7.21E-07	4.02E-09		1.26E-07	8.29E-07
1.9E+07	Chromium (VI)	5.23E-05	3.60E-04	2.01E-06		0.00669	4.15E-04
7439921	Lead	1.17E-05	0.00587	2.53E-05		0.00110	0.00591
7439976	Elemental Mercury					2.94E-06	
7487947	Mercuric Chloride	0.00730	0.0115	4.21E-06		5.62E-04	0.0188
2.3E+07	Methyl Mercury	4.32E-04	0.00168	2.23E-06			0.00211
1746016	TetraCDD, 2,3,7,8-	6.89E-06	4.07E-06	5.59E-09			1.10E-05

COPC INTAKE AND NONCANCER HAZARD ESTIMATES
(Recreational Fisher)

CAS No.	COPC Name	Isoil mg/kg/day	Iproduce mg/kg/day	Ifish mg/kg/day	Idw mg/kg/day	I_oral mg/kg/day	I_inh mg/kg/day	I_teq mg/kg/day	Cbmilk pg/kg	I_bmilk pg/kg/day
7440382	Arsenic	2.21E-12	1.06E-06	5.18E-09	4.61E-09	1.07E-06	1.44E-07			
7440417	Beryllium	3.09E-09	1.06E-06	2.77E-09	4.58E-09	1.07E-06	1.44E-07			
7440439	Cadmium	3.51E-10	2.62E-06	1.02E-07	1.14E-08	2.73E-06	3.57E-07			
7440473	Chromium	1.64E-07	1.13E-06	4.30E-07	6.29E-09	1.73E-06	1.44E-07			
1.9E+07	Chromium (VI)	1.64E-07	1.13E-06	7.15E-08	6.29E-09	1.37E-06	1.44E-07			
7439921	Lead	5.23E-09	2.62E-06	9.91E-12	1.13E-08	2.64E-06	3.57E-07			
7439976	Elemental Mercury						1.90E-10			
7487947	Mercuric Chloride	2.28E-06	3.59E-06		1.32E-09	5.88E-06	1.27E-07			
2.3E+07	Methyl Mercury	4.50E-08	1.75E-07	1.78E-05	2.33E-10	1.80E-05				
1746016	TetraCDD, 2,3,7,8-	7.19E-15	4.24E-15	5.45E-15	5.83E-18	1.69E-14	6.48E-16	1.69E-14	0.187	5.38E-04

VES 007898

R5-2014-0104710000057

COPC INTAKE AND NONCANCER HAZARD ESTIMATES
(Recreational Fisher)

CAS No.	COPC Name	HQsoil	HQproduce	HQdw	HQfish	HQinh	Sum of Oral HQs
7440382	Arsenic	7.07E-09	0.00338	1.47E-05	1.66E-05	0.0223	0.00341
7440417	Beryllium	1.48E-06	5.07E-04	2.20E-06	1.33E-06	0.0334	5.12E-04
7440439	Cadmium	3.37E-07	0.00251	1.09E-05	9.77E-05	0.00827	0.00262
7440473	Chromium	1.05E-07	7.24E-07	4.02E-09	2.75E-07	1.26E-07	1.10E-06
1.9E+07	Chromium (VI)	5.23E-05	3.60E-04	2.01E-06	2.28E-05	0.00669	4.38E-04
7439921	Lead	1.17E-05	0.00587	2.53E-05	2.22E-08	0.00110	0.00591
7439976	Elemental Mercury					2.94E-06	
7487947	Mercuric Chloride	0.00730	0.0115	4.21E-06		5.62E-04	0.0188
2.3E+07	Methyl Mercury	4.32E-04	0.00168	2.23E-06	0.171		0.173
1746016	TetraCDD, 2,3,7,8-	6.89E-06	4.07E-06	5.59E-09	5.22E-06		1.62E-05

VES 007899

R5-2014-0104710000057

NONCANCER HAZARD ESTIMATES FOR ACUTE INHALATION EXPOSURE

CAS No.	COPC Name	Cacute µg/m^3	AHQ_inh
7440382	Arsenic	0.0471	0.248
7440417	Beryllium	0.0471	0.00941
7440439	Cadmium	0.116	0.00388
7440473	Chromium	0.0471	3.14E-05
1.9E+07	Chromium (VI)	0.0471	
7439921	Lead	0.116	7.76E-04
7439976	Elemental Mercury	5.64E-05	3.13E-05
7487947	Mercuric Chloride	0.0378	3.02E-04
2.3E+07	Methyl Mercury		
1746016	TetraCDD, 2,3,7,8-	1.94E-10	1.30E-10