Table H.1-1
Selection of Exposure Pathways - New Boston Air Force Station - Site 5

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current	Surface Soil	Surface Soil	NBAFS Site 5	None	None	None	On-site	None	None of the organic compounds analyzed for this RI were detected in surface soil.
	Total Soil (Surface and Subsurface)	Total Soil (Surface and Subsurface)	NBAFS Site 5	None	None	None	On-site	None	No excavation or construction activities are currently occurring at NBAFS Site 5.
	Groundwater	Groundwater	NBAFS Site 5	None	None	Ingestion	On-site	None	Water is currently supplied to NBAFS Site 5 via production wells PW1 and PW2. Groundwater is currently treated. Therefore, there is no direct exposure to COPCs from groundwater at NBAFS Site 5.
						Dermal	On-site	None	Water is currently supplied to Site 5 via production wells PW1 and PW2. Groundwater is currently treated. Therefore, there is no direct exposure to COPCs from groundwater at NBAFS Site 5.
		Air	Volatile groundwater COPCs released to ambient air	Site Worker	Adult	Inhalation	On-site	None	Although volatiles could migrate from groundwater through the soil and be released into ambient air, concentrations are expected to be negligible due to the depth of the groundwater (i.e., 28 to 39 feet bgs).
				Trespasser	Adult	Inhalation	On-site	None	There is 24 hour security at the installation but there are no physical barriers to prevent access to any portion of NBAFS outside of the fence of the restricted Operations Area. Although volatiles could migrate from groundwater through the soil and be released into ambient air, concentrations are expected to be negligible due to the depth of the groundwater (i.e., 28 to 39 feet bgs).
					Adolescent	Inhalation	On-site	None	There is 24 hour security at the installation but there are no physical barriers to prevent access to any portion of NBAFS outside of the fence of the restricted Operations Area. Although volatiles could migrate from groundwater through the soil and be released into ambient air, concentrations are expected to be negligible due to the depth of the groundwater (i.e., 28 to 39 feet bgs).
				Recreational Visitor	Adult	Inhalation	On-site	None	This site is not currently open to recreational activities due to the presence of MEC.
					Adolescent	Inhalation	On-site	None	This site is not currently open to recreational activities due to the presence of MEC.
Future	Surface Soil	Surface Soil	NBAFS Site 5	None	None	None	On-site	None	None of the organic compounds analyzed for this RI were detected in surface soil.
	Total Soil (Surface and Subsurface)	Total Soil (Surface and Subsurface)	NBAFS Site 5	Site Worker	Adult	Ingestion	On-site	Quant	Site workers could contact total soil at NBAFS Site 5 and be exposed to COPCs via incidental ingestion.
						Dermal	On-site	Quant	Site workers could contact total soil at NBAFS Site 5 and be exposed to COPCs via dermal absorption.
				Construction Worker	Adult	Ingestion	On-site	Quant	Construction workers could contact total soil at NBAFS Site 5 and be exposed to COPCs via incidental ingestion.
						Dermal	On-site	Quant	Construction workers could contact total soil at NBAFS Site 5 and be exposed to COPCs via dermal absorption.
				Trespasser	Adult	Ingestion	On-site	Quant	If there is no security at the installation and/or no physical barriers to prevent access to any portion of NBAFS outside of the fence of the restricted Operations Area, trespasser exposures could be possible.
						Dermal	On-site	Quant	If there is no security at the installation and/or no physical barriers to prevent access to any portion of NBAFS outside of the fence of the restricted Operations Area, trespasser exposures could be possible.
					Adolescent	Ingestion	On-site	Quant	If there is no security at the installation and/or no physical barriers to prevent access to any portion of NBAFS outside of the fence of the restricted Operations Area, trespasser exposures could be possible.
						Dermal	On-site	Quant	If there is no security at the installation and/or no physical barriers to prevent access to any portion of NBAFS outside of the fence of the restricted Operations Area, trespasser exposures could be possible.

Table H.1-1
Selection of Exposure Pathways - New Boston Air Force Station - Site 5

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Future (cont)	Total Soil (Surface and Subsurface)	Total Soil (Surface and Subsurface)	NBAFS Site 5	Recreational Visitor	Adult	Ingestion	On-site	None	This site is not considered for future recreational use due to the presence of MEC.
						Dermal	On-site	None	This site is not considered for future recreational use due to the presence of MEC.
					Adolescent	Ingestion	On-site	None	This site is not considered for future recreational use due to the presence of MEC.
						Dermal	On-site	None	This site is not considered for future recreational use due to the presence of MEC.
				Resident	Adult	Ingestion	On-site	None	This site is not considered for future residential use due to the presence of MEC.
						Dermal	On-site	None	This site is not considered for future residential use due to the presence of MEC.
					Child	Ingestion	On-site	None	This site is not considered for future residential use due to the presence of MEC.
						Dermal	On-site	None	This site is not considered for future residential use due to the presence of MEC.
		Air	NBAFS Site 5	Site Worker	Adult	Inhalation	On-site	Quant	Site workers could be exposed to airborne volatiles or particulate matter released from soils at NBAFS Site 5.
				Construction Worker	Adult	Inhalation	On-site	Quant	Construction workers could be exposed to airborne volatiles or particulate matter released from soils at NBAFS Site 5 during construction activities.
				Trespasser	Adult	Inhalation	On-site	Quant	If there is no security at the installation and/or no physical barriers to prevent access to any portion of NBAFS outside of the fence of the restricted Operations Area, trespasser exposures could be possible.
					Adolescent	Inhalation	On-site	Quant	If there is no security at the installation and/or no physical barriers to prevent access to any portion of NBAFS outside of the fence of the restricted Operations Area, trespasser exposures could be possible.
				Recreational Visitor	Adult	Inhalation	On-site	None	This site is not considered for future recreational use due to the presence of MEC.
					Adolescent	Inhalation	On-site	None	This site is not considered for future recreational use due to the presence of MEC.
				Resident	Adult	Inhalation	On-site	None	This site is not considered for future residential use due to the presence of MEC.
					Child	Inhalation	On-site	None	This site is not considered for future residential use due to the presence of MEC.
	Groundwater	Groundwater	NBAFS Site 5	Site Worker	Adult	Ingestion	On-site	Quant	If treatment of water from the production wells was discontinued and/or groundwater wells were installed at the site, site workers could be exposed to COPCs in groundwater via ingestion.
						Dermal	On-site	None	Although site worker dermal exposures to groundwater could occur, the exposed body surface area of a worker (i.e., hands and arms) would be small and exposures would be infrequent.
				Construction Worker	Adult	Ingestion	On-site	None	Based on the depth to groundwater, it would not be likely for construction workers to ingest groundwater at NBAFS Site 5.
						Dermal	On-site	None	Based on the depth to groundwater, it would not be likely that construction workers would come in dermal contact with groundwater at NBAFS Site 5.
				Trespasser	Adult	Ingestion	On-site	None	A trespasser scenario is possible at this site because there are no physical barriers preventing access; however, ingestion of groundwater by a trespasser is unlikely.
						Dermal	On-site	None	A trespasser scenario is possible at this site because there are no physical barriers preventing access; however, dermal exposure to groundwater by a trespasser is unlikely.

Table H.1-1
Selection of Exposure Pathways - New Boston Air Force Station - Site 5

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Future (cont)	Groundwater (cont)	Groundwater (cont)	NBAFS Site 5		Adolescent	Ingestion	On-site	None	A trespasser scenario is possible at this site because there are no physical barriers preventing access; however, ingestion of groundwater by a trespasser is unlikely.
						Dermal	On-site	None	A trespasser scenario is possible at this site because there are no physical barriers preventing access; however, dermal exposure to groundwater by a trespasser is unlikely.
				Recreational Visitor	Adult	Ingestion	On-site	None	This site is not considered for future recreational use due to the presence of MEC.
						Dermal	On-site	None	This site is not considered for future recreational use due to the presence of MEC.
					Adolescent	Ingestion	On-site	None	This site is not considered for future recreational use due to the presence of MEC.
						Dermal	On-site	None	This site is not considered for future recreational use due to the presence of MEC.
				Resident	Adult	Ingestion	On-site	None	This site is not considered for future residential use due to the presence of MEC.
						Dermal	On-site	None	This site is not considered for future residential use due to the presence of MEC.
					Child	Ingestion	On-site	None	This site is not considered for future residential use due to the presence of MEC.
						Dermal	On-site	None	This site is not considered for future residential use due to the presence of MEC.
		Air	Volatile groundwater COPCs in indoor air	Site Worker	Adult	Inhalation	On-site	Quant	Volatiles in groundwater could potentially migrate into buildings via vapor intrusion.
				Resident	Adult	Inhalation	On-site	None	This site is not considered for future residential use due to the presence of MEC.
					Child	Inhalation	On-site	None	This site is not considered for future residential use due to the presence of MEC.
			Volatile groundwater COPCs in trench air	Construction Worker	Adult	Inhalation	On-site	Quant	Volatiles in groundwater could potentially migrate into a construction or utility trench via vapor intrusion.
			Volatile groundwater COPCs released to ambient air	Trespasser	Adult	Inhalation	On-site	None	Although volatiles could migrate from groundwater through the soil and be released into ambient air, concentrations are expected to be negligible due to the depth of the groundwater (i.e., 28 to 39 feet bgs).
					Adolescent	Inhalation	On-site	None	Although volatiles could migrate from groundwater through the soil and be released into ambient air, concentrations are expected to be negligible due to the depth of the groundwater (i.e., 28 to 39 feet bgs).
				Recreational Visitor	Adult	Inhalation	On-site	None	This site is not considered for future recreational use due to the presence of MEC.
					Adolescent	Inhalation	On-site	None	This site is not considered for future recreational use due to the presence of MEC.
			Volatile groundwater COPCs at showerhead	Resident	Adult	Inhalation	On-site	None	This site is not considered for future residential use due to the presence of MEC.
					Child	Inhalation	On-site	None	This site is not considered for future residential use due to the presence of MEC.

Table H.1-2
Occurrence, Distribution and Selection of Chemicals of Potential Concern
New Boston Air Force Station - Site 5

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Total Soil

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Background Value (2)	NHDES SRS (3)	USEPA r-RSL (4) (N/C)	Potential ARAR/TBC Value (5)	Potential ARAR/TBC Source (5)	COPC Flag (Y/N)	Rationale for Selection or Deletion (6)
Total Soil	123-91-1	1,4-Dioxane	8.33E-04 J	2.20E-03	mg/kg	SIS5SB01B_110309	2/3	1.10E-03 - 1.10E-03	2.20E-03	N/A	5.00E+00	---	---	---	No	BSL
	67-64-1	Acetone	3.40E-01 J	3.40E-01 J	mg/kg	SIS5SB01B_110309	1/3	6.75E-01 - 7.80E-01	3.40E-01	N/A	7.50E+01	---	---	---	No	BSL
	108-88-3	Toluene	9.80E-03 J	9.80E-03 J	mg/kg	SIS5SB01B_110309	1/3	4.55E-02 - 5.30E-02	9.80E-03	N/A	1.00E+02	---	---	---	No	BSL

(1) Maximum concentration used for screening.
(2) Background values derived from site-specific statistical analysis. See text for supporting information.
(3) New Hampshire Code of Administrative Rules, Chapter Env-Or 606.19, Table 600-2, Soil Remediation Standards.
Based on a risk level of 1.0E-06 and a hazard index of 0.2.
(4) USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites, May 2010, residential soil value.
Based on a risk level of 1.0E-06 and a hazard index of 0.2.
(5) ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
(6) Rationale Codes

Selection Reason: Toxicity Information Available (TX)
Above Screening Levels (ASL)
No Toxicity Information (NTX)

Deletion Reason: Infrequent Detection (<= 5%, IFD)
Background Levels (BKG)
Below Screening and/or ARAR/TBC Level (BSL)

Definitions: N/A = Not Applicable or Not Available
NVA = No Value Available
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
RDA = Recommended Daily Allowance
"---" = a preferred alternate screening value available
mg/kg = milligrams per kilogram

Screening Value Hierarchy:
1) NHDES screening value
2) USEPA RSL screening value
3) ARAR/TBC

Table H.1-3
Occurrence, Distribution and Selection of Chemicals of Potential Concern
New Boston Air Force Station - Site 5

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

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Background Value (2)	NHDES AGQS (3)	USEPA Tapwater SL (4) (N/C)	Potential ARAR/TBC Value (5)	Potential ARAR/TBC Source (5)	COPC Flag (Y/N)	Rationale for Selection or Deletion (6)
Groundwater	75-35-4	1,1-Dichloroethylene	5.80E-04	5.80E-04 J	mg/L	PW1_082207	1/9	2.00E-04 - 8.00E-03	5.80E-04	N/A	7.0E-03	---	---	---	No	BSL
	123-91-1	1,4-Dioxane	1.20E-02 J	1.20E-02 J	mg/L	LF003-MW1_051010	1/6	1.00E-03 - 1.00E-03	1.20E-02	N/A	3.0E-03	---	---	---	Yes	ASL
	95-63-6	Benzene, 1,2,4-trimethyl	1.08E-02	2.00E-01	mg/L	LF003-MW1_051010	4/9	2.00E-04 - 2.00E-03	2.00E-01	N/A	3.3E-01	---	---	---	No	BSL
	108-67-8	Benzene, 1,3,5-trimethyl-	1.71E-02	7.25E-02	mg/L	LF003-MW1_051010	4/9	2.00E-04 - 2.00E-03	7.25E-02	N/A	3.3E-01	---	---	---	No	BSL
	98-82-8	Benzene, 1-methylethyl-	7.70E-03	1.05E-02	mg/L	LF003-MW1_051010	3/9	2.00E-04 - 1.00E-03	1.05E-02	N/A	8.0E-01	---	---	---	No	BSL
	67-66-3	Chloroform	2.28E-03	2.28E-03 J	mg/L	LF003-MW1_051010	1/9	2.00E-04 - 2.00E-03	2.28E-03	N/A	7.0E-02	---	---	---	No	BSL
	100-41-4	Ethylbenzene	1.90E-03	1.90E-03 J	mg/L	LF003-MW1_051010	1/9	2.00E-04 - 2.00E-03	1.90E-03	N/A	7.0E-01	---	---	---	No	BSL
	2691-41-0	HMX	2.45E-04 J	2.45E-04 J	mg/L	PW1_082207	1/3	2.00E-04 - 8.00E-04	2.45E-04	N/A	NVA	3.6E-01 (N)	---	---	No	BSL
	1634-04-4	Methyl tert-butyl ether	3.50E-03	5.30E-03	mg/L	LF003 MW-2_021110	2/9	1.00E-03 - 1.50E-02	5.30E-03	N/A	1.3E-02	---	---	---	No	BSL
	75-09-2	Methylene chloride	9.10E-03	9.50E-03 J	mg/L	LF003-MW1_051010	2/9	4.00E-04 - 5.90E-03	9.50E-03	N/A	5.0E-03	---	---	---	Yes	ASL
	91-20-3	Naphthalene	6.80E-03	9.90E-03	mg/L	LF003 MW-1_021110	3/13	2.00E-04 - 5.05E-03	9.90E-03	N/A	2.0E-02	---	---	---	No	BSL
	104-51-8	n-Butylbenzene	2.70E-02	4.80E-02	mg/L	LF003-MW1_051010	3/9	2.00E-04 - 1.00E-03	4.80E-02	N/A	2.6E-01	---	---	---	No	BSL
	103-65-1	n-Propylbenzene	3.20E-02	4.35E-02	mg/L	LF003-MW1_051010	3/9	2.00E-04 - 1.00E-03	4.35E-02	N/A	2.6E-01	---	---	---	No	BSL
	95-49-8	o-Chlorotoluene	2.10E-03	2.10E-03	mg/L	LF003-MW1_082107	1/9	2.00E-04 - 8.00E-03	2.10E-03	N/A	1.0E-01	---	---	---	No	BSL
	95-47-6	o-Xylene	5.30E-03	1.30E-02	mg/L	LF003 MW-1_021110	4/9	2.00E-04 - 1.00E-03	1.30E-02	N/A	1.0E+01	---	---	---	No	BSL
	130-312	p&m-Xylene	7.50E-03	1.50E-02	mg/L	LF003 MW-1_021110	3/9	2.60E-04 - 2.00E-03	1.50E-02	N/A	1.0E+01	---	---	---	No	BSL
	99-87-6	p-Cymene	1.80E-03 J	3.85E-03 J	mg/L	LF003-MW1_051010	3/9	2.00E-04 - 1.00E-03	3.85E-03	N/A	2.6E-01	---	---	---	No	BSL
	135-98-8	sec-Butylbenzene	7.30E-03	1.10E-02	mg/L	LF003-MW1_051010	3/9	2.00E-04 - 1.00E-03	1.10E-02	N/A	2.6E-01	---	---	---	No	BSL
	75-65-0	tert-Butyl alcohol	6.70E-03 J	2.00E-02	mg/L	LF003-MW2_120709	2/5	2.00E-02 - 2.00E-02	2.00E-02	N/A	4.0E-02	---	---	---	No	BSL
	98-06-6	tert-Butylbenzene	2.26E-03 J	2.26E-03 J	mg/L	LF003-MW1_051010	1/9	2.00E-04 - 2.00E-03	2.26E-03	N/A	2.6E-01	---	---	---	No	BSL
	108-88-3	Toluene	2.40E-04	2.40E-04	mg/L	LF003 MW-2_021110	1/9	2.20E-04 - 8.00E-03	2.40E-04	N/A	1.0E+00	---	---	---	No	BSL
	7440-39-3	Barium	1.26E-02 J	6.82E-02 J	mg/L	LF003-MW1_082107	3/3	N/A	6.82E-02	N/A	2.0E+00	---	---	---	No	BSL
	7440-70-2	Calcium	1.01E+01	2.09E+01	mg/L	PW2_082207	3/3	N/A	2.09E+01	N/A	NVA	NVA	5.00E+02	RDA	No	BSL
	7440-48-4	Cobalt	4.00E-03 J	4.00E-03 J	mg/L	LF003-MW1_082107	1/3	1.00E-03 - 1.00E-03	4.00E-03	N/A	NVA	2.2E-03 (N)	---	---	Yes	ASL
	7440-50-8	Copper	8.00E-02 J	1.18E-01	mg/L	PW2_082207	2/3	1.20E-03 - 1.20E-03	1.18E-01	N/A	1.3E+00	---	---	---	No	BSL
	7439-89-6	Iron	6.31E-01	6.31E-01	mg/L	LF003-MW1_082107	1/3	1.95E-02 - 1.47E-01	6.31E-01	N/A	NVA	5.2E+00 (N)	---	---	No	BSL
	7439-92-1	Lead	2.90E-03 J	2.90E-03 J	mg/L	PW2_082207	1/3	2.10E-03 - 2.10E-03	2.90E-03	N/A	1.5E-02	---	---	---	No	BSL
	7439-95-4	Magnesium	1.27E+00 J	5.30E+00	mg/L	PW2_082207	3/3	N/A	5.30E+00	N/A	NVA	NVA	1.75E+02	RDA	No	BSL
	7439-96-5	Manganese	1.59E-02	1.06E+00	mg/L	LF003-MW1_082107	3/3	N/A	1.06E+00	N/A	8.4E-01	---	---	---	Yes	ASL
	7440-02-0	Nickel	1.40E-03 J	2.70E-03 J	mg/L	PW2_082207	3/3	N/A	2.70E-03	N/A	1.0E-01	---	---	---	No	BSL
	7440-23-5	Sodium	6.12E+01	1.11E+02	mg/L	LF003-MW1_082107	3/3	N/A	1.11E+02	N/A	NVA	NVA	2.00E+01	RDA	Yes	ASL
	7440-66-6	Zinc	9.10E-03 J	1.63E-01	mg/L	PW2_082207	3/3	N/A	1.63E-01	N/A	NVA	2.2E+00 (N)	---	---	No	BSL

(1) Maximum concentration used for screening.
(2) Background values derived from site-specific statistical analysis. See text for supporting information.
(3) New Hampshire Code of Administrative Rules, Chapter Env-Or 603.03, Table 600-1, Ambient Groundwater Quality Standards.
Based on a risk level of 1.0E-06 and a hazard index of 0.2.
(4) USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites, May 2010, tapwater value.
Based on a risk level of 1.0E-06 and a hazard index of 0.2.
(5) ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
(6) Rationale Codes
Selection Reason: Toxicity Information Available (TX)
Above Screening Levels (ASL)
No Toxicity Information (NTX)
Deletion Reason: Infrequent Detection (<= 5%, IFD)
Background Levels (BKG)

Definitions: N/A = Not Applicable or Not Available
NVA = No Value Available
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
RDA = Recommended Daily Allowance
"---" = a preferred alternate screening value available
mg/L = milligrams per liter

Screening Value Hierarchy:
1) NHDES screening value
2) USEPA RSL screening value

Table H.1-3
Occurrence, Distribution and Selection of Chemicals of Potential Concern
New Boston Air Force Station - Site 5

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Background Value (2)	NHDES AGQS (3)	USEPA Tapwater SL (4) (N/C)	Potential ARAR/TBC Value (5)	Potential ARAR/TBC Source (5)	COPC Flag (Y/N)	Rationale for Selection or Deletion (6)
Below Screening and/or ARAR/TBC Level (BSL)									3) ARAR/TBC							

Table H.1-4
Occurrence, Distribution and Selection of Chemicals of Potential Concern
New Boston Air Force Station - Site 5

Scenario Timeframe: Current/Future
Medium: Indoor Air
Exposure Medium: Groundwater to Indoor Air

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	NHDES Groundwater to Indoor Air Screening Levels (2)	COPC Flag (Y/N)	Rationale for Selection or Deletion (3)
Groundwater to Indoor Air	75-35-4	1,1-Dichloroethylene	5.80E-04	5.80E-04 J	mg/L	PW1_082207	1/9	2.00E-04 - 8.00E-03	5.80E-04	1.0E+00	No	BSL
	95-63-6	Benzene, 1,2,4-trimethyl	1.08E-02	2.00E-01	mg/L	LF003-MW1_051010	4/9	2.00E-04 - 2.00E-03	2.00E-01	3.0E+00	No	BSL
	108-67-8	Benzene, 1,3,5-trimethyl-	1.71E-02	7.25E-02	mg/L	LF003-MW1_051010	4/9	2.00E-04 - 2.00E-03	7.25E-02	1.0E+00	No	BSL
	67-66-3	Chloroform	2.28E-03	2.28E-03 J	mg/L	LF003-MW1_051010	1/9	2.00E-04 - 2.00E-03	2.28E-03	1.0E-01	No	BSL
	100-41-4	Ethylbenzene	1.90E-03	1.90E-03 J	mg/L	LF003-MW1_051010	1/9	2.00E-04 - 2.00E-03	1.90E-03	5.0E+01	No	BSL
	1634-04-4	Methyl tert-butyl ether	3.50E-03	5.30E-03	mg/L	LF003 MW-2_021110	2/9	1.00E-03 - 1.50E-02	5.30E-03	1.0E+01	No	BSL
	75-09-2	Methylene chloride	9.10E-03	9.50E-03 J	mg/L	LF003-MW1_051010	2/9	4.00E-04 - 5.90E-03	9.50E-03	1.0E+00	No	BSL
	91-20-3	Naphthalene	6.80E-03	9.90E-03	mg/L	LF003 MW-1_021110	3/13	2.00E-04 - 5.05E-03	9.90E-03	2.0E+00	No	BSL
	95-47-6	o-Xylene	5.30E-03	1.30E-02	mg/L	LF003 MW-1_021110	4/9	2.00E-04 - 1.00E-03	1.30E-02	3.0E+01	No	BSL
	130-312	p&m-Xylene	7.50E-03	1.50E-02	mg/L	LF003 MW-1_021110	3/9	2.60E-04 - 2.00E-03	1.50E-02	3.0E+01	No	BSL
	108-88-3	Toluene	2.40E-04	2.40E-04	mg/L	LF003 MW-2_021110	1/9	2.20E-04 - 8.00E-03	2.40E-04	5.0E+01	No	BSL

(1) Maximum concentration used for screening.
(2) New Hampshire Department of Environmental Services, Vapor Intrusion Screening Levels, Groundwater to Indoor Air.
(3) Rationale Codes
Selection Reason: Above Screening Levels (ASL)
Deletion Reason: Below Screening Level (BSL)

Definitions: N/A = Not Applicable or Not Available
NVA = No Value Available
COPC = Chemical of Potential Concern
mg/L = milligrams per liter

Table H.1-5
Medium-Specific Exposure Point Concentration Summary for Site 5

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

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean of Detects	Multiple Detection Limits? (Yes/No) [1]	95% UCL (Distribution) [2]	Maximum Concentration	Exposure Point Concentration			
							Value	Units	Statistic [3]	Rationale [4]
Groundwater	1,4-Dioxane	mg/L	1.20E-02	N/A	N/A	1.20E-02	1.20E-02	mg/L	Max	Test (8)
	Methylene chloride	mg/L	8.43E-03	N/A	N/A	9.50E-03	9.50E-03	mg/L	Max	Test (8)
	Cobalt	mg/L	4.00E-03	N/A	N/A	4.00E-03	4.00E-03	mg/L	Max	Test (8)
	Manganese	mg/L	2.82E-01	N/A	N/A	1.06E+00	1.06E+00	mg/L	Max	Test (8)
	Sodium	mg/L	7.37E+01	N/A	N/A	1.11E+02	1.11E+02	mg/L	Max	Test (8)

Notes: N/A = Not applicable

[1] ProUCL software (version 4.00.05, USEPA, 2010) recommends use of Kaplan-Meier method if there are multiple detection limits.

[2] Statistical Distribution and 95% UCL as determined by ProUCL (unless otherwise noted): (G) the data were determined to follow gamma distribution; (L) the data were determined to follow lognormal distribution; (NP) the data were determined to be non-parametric; (N) the data were determined to be normally distributed.

[3] Statistic: Maximum Detected Value (Max); 95% KM Chebyshev (95% KM-Cheby); 97.5% KM Chebyshev (97.5% KM-Cheby); 99% KM Chebyshev (99% KM-Cheby); 95% KM Percentile Bootstrap (95% KM-% Btstrp); 95% KM-t (95% KM-t); 95% KM-BCA (95% KM-BCA); 95% H-UCL (95% H-UCL); 95% Chebyshev -Mean, SD- UCL (95% Cheby, Mean, SD); 97.5% Chebyshev -Mean, SD- UCL (97.5% Cheby, Mean, SD); 99% Chebyshev -Mean, SD- UCL (99% Cheby, Mean, SD); 95% UCL of Log-transformed Data (95% UCL-T) 95% Student's-t (95% Student's-t); 95% Modified-t (95% Modified-t); 95% UCL based on bootstrap statistic (95% UCL-Bst); 95% Approximate Gamma UCL (95% Approx. Gamma).

[4] Unless otherwise noted (see footnote 5), ProUCL EPC selection rationale based on, detection limit values, distribution, standard deviation, and sample size (see ProUCL output in appendix for further details):

Test (1): Kaplan-Meier method recommended by ProUCL due to multiple detection limits.
Test (2): 95% UCL recommended by statistical software (e.g., ProUCL) exceeds maximum detected concentration, therefore, maximum concentration used for EPC.
Test (3): Shapiro-Wilk W test, Kolmogorov-Smirnov (K-S), and Anderson-Darling (A-D) tests, indicate data follow nonparametric distribution.
Test (4): Shapiro-Wilk W test indicates data are normally distributed.
Test (5): Shapiro-Wilk W test indicates data are log-normally distributed.
Test (6): Kolmogorov-Smirnov (K-S) and/or Anderson-Darling (A-D) tests indicate data follow gamma distribution.
Test (7): Sample size is less than or equal to 5, therefore, maximum concentration used for EPC.
Test (8): Maximum concentration used for groundwater EPC.

Table H.1-6
Values Used for Daily Intake Calculations - Future Exposures to Groundwater
NBAFS Site 5

Scenario Timeframe:	Future
Medium:	Groundwater (untreated)
Exposure Medium:	Groundwater (untreated)

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Site Worker	Adult	NBAFS Site 5	CW	Chemical Concentration in Groundwater	See site-specific EPC tables	µg/l	See site-specific EPC tables	
				IR-W	Ingestion Rate of Groundwater	1	liters/day	USEPA, 1991	Potential (Lifetime) Average Daily Dose
				EF	Exposure Frequency	250	days/year	NHDES, 1998, 2007	$[(L)ADD_{pot}]$ (mg/kg-day) =
				ED	Exposure Duration	25	years	NHDES, 1998, 2007	
				CF1	Conversion Factor 1	$1/10^3$	mg/µg	---	$\frac{CW \times IR\text{-}W \times EF \times ED \times CF1}{BW \times AT \times CF2}$
				BW	Body Weight	70	kg	NHDES, 1998, 2007	
				AT-C	Averaging Time (Cancer)	70	years	NHDES, 1998, 2007	
				AT-N	Averaging Time (Non-Cancer)	25	years	NHDES, 1998, 2007	
				CF2	Conversion Factor 2	365	days/year	---	

NHDES, 1998: Contaminated Sites Risk Characterization and Management Policy.
NHDES, 2007: Contaminated Sites Risk Characterization and Management Policy. Revised. Appendix A.
USEPA, 1991: Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER 9285.6-03.

Table H.1-7
Values Used for Daily Intake Calculations - Future Exposures to Groundwater - Inhalation
NBAFS Site 5

Scenario Timeframe:	Future
Medium:	Groundwater (untreated)
Exposure Medium:	Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Inhalation	Construction Worker	Adult	NBAFS Site 5	CA	Chemical Concentration in Air	Chemical Specific	mg/m^3	(1)	
				ET	Exposure Time	4	hours	(2)	
				EF	Exposure Frequency	83	days/year	NHDES, 2007 (2)	Intake concentration (mg/m^3) =
				ED	Exposure Duration	1	years	NHDES, 2007 (2)	$\frac{CA*ET*EF*ED}{AT*CF1}$
				AT-C	Averaging Time (Cancer)	25,550	days	USEPA, 2009	
				AT-N	Averaging Time (Non-Cancer)	365	days	USEPA, 2009	
				CF1	Conversion Factor	24	hours/day	USEPA, 2009	

(1) Trench air concentrations were modeled by the Trench Model (VDEQ, 2010
(2) Consistent with EF and ED for soil exposures, the construction scenario is based on a worker working on an excavation project for 83 days/year for 1 year (NHDES, 2007). Based on best professional judgement, it is conservatively assumed that the construction worker works in an excavation or utility trench 4 hours per day.

NHDES, 2007: Contaminated Sites Risk Characterization and Management Policy. Revised. Appendix A
USEPA, 2009: Risk Assessment Guidance for Superfund. Volume I, Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessmen
VDEQ, 2010: Voluntary Remediation Program Risk Assessment Guidance, Virginia Department of Environmental Quality

Table H.1-8
Cancer Toxicity Data - Oral/Dermal
New Boston AFS - Site 5

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (1)	Absorbed Cancer Slope Factor for Dermal (2)		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units		Value	Units		Source	Date (3) (MM/DD/YY)
Organics								
1,4-Dioxane	1.1E-02	$(mg/kg\text{-}day)^{-1}$	100%	1.1E-02	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	7/26/10:9/1/90
Methylene Chloride	7.5E-03	$(mg/kg\text{-}day)^{-1}$	100%	7.5E-03	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	7/26/10:2/1/95
Inorganics								
Cobalt	N/A	N/A	N/A	N/A	N/A	N/A	EPA, 2010	7/26/10:5/17/10
Manganese	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/26/10:12/1/96
Sodium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) Source: Risk Assessment Guidance for Superfund Volume 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final. Section 4.2 and Exhibit 4-1.
(2) The equation for deriving the adjusted dermal cancer slope factors are presented in the text.
(3) For IRIS values, the date IRIS was searched and the date of the most recent review are provided.

Definitions:
N/A = Not Available
IRIS = Integrated Risk Information System
EPA, 2010 = USEPA Regional Screening Values, May 2010

EPA Group:
A - Human carcinogen
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity

Table H.1-9
Non-Cancer Toxicity Data - Oral/Dermal
New Boston AFS - Site 5

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral to Dermal Efficiency for Dermal (1)	Absorbed RfD for Dermal (2)		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Dates of RfD (3): (MM/DD/YY)
Organics										
1,4-Dioxane	Chronic	1.0E-01	mg/kg-day	100%	1.0E-01	mg/kg-day	Liver	100	ATSDR; EPA, 2010	7/26/10:7/06
Methylene Chloride	Chronic	6.0E-02	mg/kg-day	100%	6.0E-02	mg/kg-day	Liver	100	IRIS	7/26/10:3/1/88
Inorganics										
Cobalt	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	N/A	N/A	PPRTV; EPA, 2010	7/26/10:5/17/10
Manganese	Chronic	2.4E-02	mg/kg-day	4%	9.6E-04	mg/kg-day	CNS	3	IRIS	7/26/10:5/1/96
Sodium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) Source: Risk Assessment Guidance for Superfund Volume 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final. Section 4.2 and Exhibit 4-1.
(2) The equation used to derive the adjusted dermal RfD is presented in the text.
(3) For IRIS values, the date IRIS was searched and the date of the most recent review are provided.

Definitions:
N/A = Not Available
ATSDR = Agency for Toxic Substances Disease Registry
IRIS = Integrated Risk Information System
PPRTV = Provisional Peer-Reviewed Toxicity Values
EPA, 2010 = USEPA Regional Screening Values, May 2010
CNS = Central Nervous System

Table H.1-10
Cancer Toxicity Data - Inhalation
New Boston AFS - Site 5

Chemical of Potential Concern	Unit Risk		Weight of Evidence/ Cancer Guideline Description	Unit Risk: Inhalation CSF	
	Value	Units		Source	Date (1) (MM/DD/YY)
Organics					
1,4-Dioxane	7.7E-06	$(ug/m^3)^{-1}$	B2	Cal EPA; EPA, 2010	7/26/10:12/17/08
Methylene Chloride	4.7E-07	$(ug/m^3)^{-1}$	B2	IRIS	7/26/10:9/1/91
Inorganics					
Cobalt	9.0E-03	$(ug/m^3)^{-1}$	N/A	PPRTV; EPA, 2010	7/26/10:5/17/10
Manganese	N/A	N/A	D	IRIS	7/26/10:12/1/96
Sodium	N/A	N/A	N/A	N/A	N/A

(1) For IRIS values, the date IRIS was searched and the date of the most recent review are provided.

EPA Group:
A - Human carcinogen
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity

Definitions:
N/A = Not Available
Cal EPA = California Environmental Protection Agency
IRIS = Integrated Risk Information System
PPRTV = Provisional Peer-Reviewed Toxicity Values
EPA, 2010 = USEPA Regional Screening Values, May 2010

Table H.1-11
Non-Cancer Toxicity Data - Inhalation
New Boston AFS - Site 5

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfC		Primary Target Organ (s)	Combined Uncertainty/ Modifying Factors	RfC:Target Organ(s)	
		Value	Units			Source(s) (2)	Dates of RfD: (MM/DD/YY)
Organics							
1,4-Dioxane	Chronic	3.6E+00	mg/m^3	Liver	30	ATSDR; EPA, 2010	7/26/10: 7/06
Methylene Chloride	Chronic	1.0E+00	mg/m^3	Liver	30	ATSDR; EPA, 2010	7/26/10:9/00
Inorganics							
Cobalt	Chronic	6.0E-06	mg/m^3	N/A	N/A	PPRTV; EPA, 2010	7/26/10:5/17/10
Manganese	Chronic	5.0E-05	mg/m^3	CNS	1,000	IRIS	7/26/10:12/1/93
Sodium	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) The adjusted inhalation RfD was derived from the RfC value assuming a 70 kg adult inhales 20 m^3/day as follows: RfD = RfC * (20 m^3/day / 70 kg).

(2) For NCEA values, the date of the article provided by NCEA is provided For IRIS values, the date IRIS was searched and the date of the most recent review are provided.

Definitions:

N/A = Not Available
ATSDR = Agency for Toxic Substances Disease Registry
IRIS = Integrated Risk Information System
PPRTV = Provisional Peer-Reviewed Toxicity Values
EPA, 2010 - USEPA Regional Screening Valules, May 2010
CNS = Central Nervous System

Table H.1-12
Calculation of Cancer Risks
Reasonable Maximum Exposure
Future - Site Worker - NBAFS Site 5

Scenario Timeframe: Future
Receptor Population: Site Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
							Intake/Exposure Concentration		CSF/Unit Risk		
					Value	Units	Value	Units	Value	Units	Cancer Risk
Total Soil	Total Soil	NBAFS Site 5	**Ingestion**	**Organics** No COPCs **Inorganics** No COPCs							
			Exp. Route Total								0.0E+00
			Dermal Absorption	**Organics** No COPCs **Inorganics** No COPCs							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
	Air (Particulates)	NBAFS Site 5	**Inhalation**	**Organics** No COPCs **Inorganics** No COPCs							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
	Air (Volatiles)	NBAFS Site 5	**Inhalation**	**Organics** No COPCs							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
Total Soil Total											0.0E+00

Table H.1-12
Calculation of Cancer Risks
Reasonable Maximum Exposure
Future - Site Worker - NBAFS Site 5

Scenario Timeframe: Future
Receptor Population: Site Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
							Intake/Exposure Concentration		CSF/Unit Risk		
					Value	Units	Value	Units	Value	Units	Cancer Risk
Groundwater (untreated)	Groundwater	NBAFS Site 5	**Ingestion**	**Organics**							
				Methylene Chloride	9.50E+00	µg/L	3.3E-05	mg/kg-day	7.5E-03	$(mg/kg\text{-}day)^{-1}$	2.5E-07
				1,4-Dioxane	1.20E+01	µg/L	4.2E-05	mg/kg-day	1.1E-02	$(mg/kg\text{-}day)^{-1}$	4.6E-07
				Inorganics							
				Cobalt	4.00E+00	µg/L	1.4E-05	mg/kg-day	N/A	$(mg/kg\text{-}day)^{-1}$	---
				Manganese	1.06E+03	µg/L	3.7E-03	mg/kg-day	N/A	$(mg/kg\text{-}day)^{-1}$	---
				Sodium	1.11E+05	µg/L	3.9E-01	mg/kg-day	N/A	$(mg/kg\text{-}day)^{-1}$	---
			Exp. Route Total								7.1E-07
		Exposure Point Total									7.1E-07
	Exposure Media Total										7.1E-07
	Air	NBAFS Site 5	**Inhalation** (Indoor Air)	**Organics** No COPCs (1)							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
Groundwater Total											7.1E-07
										Total of Receptor Risks Across All Media	7.1E-07

N/A = Not Applicable.

(1) No COPCs in indoor air due to depth to groundwater (e.g., 28 to 39 feet bgs).

Table H.1-13
Calculation of Non-cancer Hazards
Reasonable Maximum Exposure
Future - Site Worker - NBAFS Site 5

Scenario Timeframe: Future
Receptor Population: Site Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
							Intake/Exposure Concentration		RfD/RfC		Hazard
					Value	Units	Value	Units	Value	Units	Quotient
Total Soil	Total Soil	NBAFS Site 5	**Ingestion**	**Organics**							
				No COPCs							
				Inorganics							
				No COPCs							
			Exp. Route Total								0.0E+00
			Dermal Absorption	**Organics**							
				No COPCs							
				Inorganics							
				No COPCs							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
	Air (Particulates)	NBAFS Site 5	**Inhalation**	**Organics**							
				No COPCs							
				Inorganics							
				No COPCs							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
	Air (Volatiles)	NBAFS Site 5	**Inhalation**	**Organics**							
				No COPCs							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
Total Soil Total											0.0E+00
Groundwater (untreated)	Groundwater	NBAFS Site 5	**Ingestion**	**Organics**							
				Methylene Chloride	9.50E+00	µg/L	9.3E-05	mg/kg-day	6.0E-02	mg/kg-day	1.5E-03
				1,4-Dioxane	1.20E+01	µg/L	1.2E-04	mg/kg-day	1.0E-01	mg/kg-day	1.2E-03
				Inorganics							
				Cobalt	4.00E+00	µg/L	3.9E-05	mg/kg-day	3.0E-04	mg/kg-day	1.3E-01
				Manganese	1.06E+03	µg/L	1.0E-02	mg/kg-day	2.4E-02	mg/kg-day	4.3E-01
				Sodium	1.11E+05	µg/L	1.1E+00	mg/kg-day	N/A	mg/kg-day	---
			Exp. Route Total								5.7E-01
		Exposure Point Total									5.7E-01
	Exposure Media Total										5.7E-01
	Air	NBAFS Site 5	**Inhalation** (Indoor Air)	**Organics** No COPCs (1)							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
Groundwater Total											5.7E-01
										Total of Receptor Hazards Across All Media	5.7E-01

N/A = Not Applicable.

(1) No COPCs in indoor air based on depth to groundwater (e.g., 28 to 39 feet bgs).

Table H.1-14
Calculation of Cancer Risks
Reasonable Maximum Exposure
Future - Construction Worker - NBAFS Site 5

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
							Intake/Exposure Concentration		CSF/Unit Risk		
					Value	Units	Value	Units	Value	Units	Cancer Risk
Total Soil	Total Soil	NBAFS Site 5	**Ingestion**	**Organics** No COPCs **Inorganics** No COPCs							
			Exp. Route Total								0.0E+00
			Dermal Absorption	**Organics** No COPCs **Inorganics** No COPCs							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
	Air (Particulates)	NBAFS Site 5	**Inhalation**	**Organics** No COPCs **Inorganics** No COPCs							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
	Air (Volatiles)	NBAFS Site 5	**Inhalation**	**Organics** No COPCs							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
Total Soil Total											0.0E+00
Groundwater (untreated)	Air (Trench Air)	NBAFS Site 5	**Inhalation**	**Organics** Methylene Chloride	4.54E-02	µg/m^3	2.5E-05	µg/m^3	4.7E-07	$(\mu g/m^3)^{-1}$	1.2E-11
			Exp. Route Total								1.2E-11
		Exposure Point Total									1.2E-11
	Exposure Media Total										1.2E-11
Groundwater Total											1.2E-11
										Total of Receptor Risks Across All Media	1.2E-11

N/A = Not Applicable.

Table H.1-15
Calculation of Non-cancer Hazards
Reasonable Maximum Exposure
Future - Construction Worker - NBAFS Site 5

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
							Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
					Value	Units	Value	Units	Value	Units	
Total Soil	Total Soil	NBAFS Site 5	**Ingestion**	**Organics** No COPCs **Inorganics** No COPCs							
			Exp. Route Total								0.0E+00
			Dermal Absorption	**Organics** No COPCs **Inorganics** No COPCs							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
	Air (Particulates)	NBAFS Site 5	**Inhalation**	**Organics** No COPCs **Inorganics** No COPCs							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
	Air (Volatiles)	NBAFS Site 5	**Inhalation**	**Organics** No COPCs							
			Exp. Route Total								0.0E+00
		Exposure Point Total									0.0E+00
	Exposure Media Total										0.0E+00
Total Soil Total											0.0E+00
Groundwater (untreated)	Air (Trench Air)	NBAFS Site 5	**Inhalation**	**Organics** Methylene Chloride	4.54E-05	mg/m³	1.7E-06	mg/m³	1.0E+00	(mg/m³)	1.7E-06
			Exp. Route Total								1.7E-06
		Exposure Point Total									1.7E-06
	Exposure Media Total										1.7E-06
Groundwater Total											1.7E-06
										Total of Receptor Hazards Across All Media	1.7E-06

N/A = Not Applicable.

Table H.1-16
Summary of Receptor Risks and Hazards for COPCs
Reasonable Maximum Exposure
Future - Site Worker
NBAFS Site 5

Scenario Timeframe: Future
Receptor Population: Site Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Total Soil	Total Soil	NBAFS Site 5										
			Chemical Total				0.0E+00					0.00
		Exposure Point Total					0.0E+00					0.00
	Exposure Media Total						0.0E+00					0.00
	Air (Particulates and Volatiles)	NBAFS Site 5										
			Chemical Total				0.0E+00					0.00
		Exposure Point Total					0.0E+00					0.00
	Exposure Media Total						0.0E+00					0.00
Total Soil Total							0.0E+00					0.00
Groundwater (untreated)	Ingestion	NBAFS Site 5	**Organics**									
			Methylene Chloride	2.5E-07			2.5E-07	Liver	1.5E-03			1.5.E-03
			1,4-Dioxane	4.6E-07			4.6E-07	Liver	1.2E-03			1.2.E-03
			Inorganics									
			Cobalt	---			---	N/A	1.3E-01			1.3.E-01
			Manganese	---			---	CNS	4.3E-01			4.3.E-01
			Sodium	---			---	N/A	---			---
			Chemical Total	7.1E-07			7.1E-07		0.57			0.57
		Exposure Point Total					7.1E-07					0.57
	Exposure Media Total						7.1E-07					0.57
	Air (Indoor Air)	NBAFS Site 5										
			Chemical Total				0.0E+00					0.00
		Exposure Point Total					0.0E+00					0.00
	Exposure Media Total						0.0E+00					0.00
Groundwater Total							7.1E-07					0.57
Receptor Total							7.1E-07					0.57

N/A = Not Available.

Total Risk Across All Media = 7.1E-07

Total Hazard Across All Media = 0.57

Total Liver HI Across All Media = 0.0027
Total CNS HI Across All Media = 0.43

Table H.1-17
Summary of Receptor Risks and Hazards for COPCs
Reasonable Maximum Exposure
Future - Construction Worker
NBAFS Site 5

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Total Soil	Total Soil	NBAFS Site 5										
			Chemical Total				0.0E+00					0.00
		Exposure Point Total					0.0E+00					0.00
	Exposure Media Total						0.0E+00					0.00
	Air (Particulates and Volatiles)	NBAFS Site 5										
			Chemical Total				0.0E+00					0.00
		Exposure Point Total					0.0E+00					0.00
	Exposure Media Total						0.0E+00					0.00
Total Soil Total							0.0E+00					0.00
Groundwater (untreated)	Air (Trench Air)	NBAFS Site 5	Methylene Chloride		1.2E-11		1.2E-11	Liver		1.7E-06		1.7.E-06
			Chemical Total		1.2E-11		1.2E-11			1.7E-06		1.7E-06
		Exposure Point Total					1.2E-11					1.7E-06
	Exposure Media Total						1.2E-11					1.7E-06
Groundwater Total							1.2E-11					1.7E-06
Receptor Total							1.2E-11					1.7E-06

N/A = Not Available.

Total Risk Across All Media = 1.2E-11

Total Hazard Across All Media = 1.7E-06

Total Liver HI Across All Media = 1.7E-06

Table H.1-18
Risk Assessment Summary
Reasonable Maximum Exposure
Future - Site Worker
NBAFS Site 5

Scenario Timeframe: Future
Receptor Population: Site Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Total Soil	Total Soil	NBAFS Site 5										
			Chemical Total				<1.0E-06					<1
		Exposure Point Total					<1.0E-06					<1
	Exposure Media Total						<1.0E-06					<1
	Air (Particulates and Volatiles)	NBAFS Site 5										
			Chemical Total				<1.0E-06					<1
		Exposure Point Total					<1.0E-06					<1
	Exposure Media Total						<1.0E-06					<1
Total Soil Total							<1.0E-06					<1
Groundwater (treeated)	Ingestion	NBAFS Site 5										
			Chemical Total				<1.0E-06					<1
		Exposure Point Total					<1.0E-06					<1
	Exposure Media Total						<1.0E-06					<1
	Air (Indoor Air)	NBAFS Site 5										
			Chemical Total				<1.0E-06					<1
		Exposure Point Total					<1.0E-06					<1
	Exposure Media Total						<1.0E-06					<1
Groundwater Total							<1.0E-06					
Receptor Total[a]							<1.0E-06					<1

Total Risk Across All Media = <1.0E-06

Total Hazard Across All Media = <1

Table H.1-19
Risk Assessment Summary
Reasonable Maximum Exposure
Future - Construction Worker
NBAFS Site 5

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Total Soil	Total Soil	NBAFS Site 5										
			Chemical Total				<1.0E-06					<1
		Exposure Point Total					<1.0E-06					<1
	Exposure Media Total						<1.0E-06					<1
	Air (Particulates and Volatiles)	NBAFS Site 5										
			Chemical Total				<1.0E-06					<1
		Exposure Point Total					<1.0E-06					<1
	Exposure Media Total						<1.0E-06					<1
Total Soil Total							<1.0E-06					<1
Groundwater	Air (Trench Air)	NBAFS Site 5										
			Chemical Total				<1.0E-06					<1
		Exposure Point Total					<1.0E-06					<1
	Exposure Media Total						<1.0E-06					<1
Groundwater Total							<1.0E-06					<1
Receptor Total							<1.0E-06					<1

Total Risk Across All Media = <1.0E-06

Total Hazard Across All Media = <1

Table J-1
Data Used to Model Exposure[a] in the Indicator Wildlife Species

Indicator Species	Body Weight Range (average) (kg)	Average Home Range (ha) [ac]	Maximum Dietary Intake[b] (kg[dw]/day)	Average Dietary Intake[c] (kg[dw]/day)	Soil/Sed. Intake[d] (%Diet) (Avg – Max) (kg[dw]/day)	Maximum Water Intake[b] (L/day)	Average Water Intake[c] (L/day)	Trophic Level	Dietary Composition
Meadow vole (*Microtus pennsylvanicus*)	0.0170-0.0524 (0.037)	0.036 [0.089]	0.010	0.0080	(2.4%) 0.00019-0.00024	0.0070	0.0051	Herbivore	Plants: 100%
Short-tailed shrew *(Blarina brevicauda)*	0.0125-0.0225 (0.015)	0.39 [0.96]	0.0030	0.0022	(10.4%) 0.00023-0.00031	0.0033	0.0023	Insectivore	Terr. Inverts: 100%
American robin *(Turdus migratorius)*	0.0635-0.103 (0.0773)	0.48 [1.2]	0.020	0.016	(4%) 0.00064-0.00080	0.013	0.011	Omnivore	Plants: 62% Terr Inverts: 38%
Red-tailed hawk (*Buteo jamaicensis*)	0.957-1.235 (1.134)	842 [2081]	0.063	0.059	(0%)	0.068	0.064	Carnivore	Mammals: 76% Birds: 24%
Red fox *(Vulpes vulpes)*	2.95-7.04 (4.53)	892 [2204]	0.34	0.24	(2.8%) 0.0067-0.0095	0.57	0.39	Carnivore	Mammals: 65% Birds: 14% Plants: 17% Terr. Inverts: 4%
Great blue heron (*Ardea herodias*)	2.20-2.58 (2.34)	8.4 [21]	0.11	0.10	(2%) 0.0020-0.0022	0.11	0.10	Piscivore	Fish: 96% Aq. Inverts: 4%
Mink *(Mustela vison)*	0.55-1.73 (1.02)	14.1 [35]	0.11	0.070	(2%) 0.0014-0.0022	0.16	0.10	Omnivore	Plants: 18% Fish: 65% Aq. Inverts: 12% Birds: 2.5% Mammals: 2.5%

[a] From USEPA (1993), except as noted.
[b] Maximum dietary and water intake based on appropriate allometric equation using maximum body weight.
[c] Average dietary and water intake based on appropriate allometric equation using average body weight.
[d] Soil/sediment ingestion rate based on estimated percent soil in diet (dry weight), and maximum or average dietary intake.

Allometric equations for mammals and birds from USEPA (1993), as follows, where FI = food ingestion (dry weight [dw]), WI = water ingestion, Wt = body weight, kg = kilogram, L = liter, and g = gram:

Table J-1 (Continued)

FI (kg/day) = 0.0687 $Wt^{0.822}$ for mammals (shrew, red fox, and mink),
FI (g/day) = 0.577 $Wt^{0.727}$ for herbivores (meadow vole),
FI (g/day) = 0.301 $Wt^{0.751}$ for non-passerine birds (red-tail hawk, great blue heron),
FI (g/day) = 0.398 $Wt^{0.850}$ for passerine birds (American robin).
WI (L/day) = 0.099 $Wt^{0.90}$ (Wt in kg) for mammals,
WI (L/day) = 0.059 $Wt^{0.67}$ (Wt in kg) for birds.

ha = hectare
ac = acre, and a hectare = 2.471 acres.

Notes:
The soil ingestion rate for the shrew set equal to the rate for the American woodcock (10.4% of diet), as both species feed predominantly on earthworms.
The soil ingestion rate for the American robin set equal to 48% of the American woodcock value (0.38 x 10.4% = 4%), based on a robin diet of 38% invertebrates (earthworms).

TABLE J-2
TIER 1 CHEMICALS OF POTENTIAL CONCERN EEQs AND HAZARD INDICES FOR MEADOW VOLES AT SITE 18

Hazard Estimate - Tier 1
Meadow Vole

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
							---------- unitless ----------						mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.07E-01	mg/kg	NA	NA	1.47E+00	2.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-03	NA	NA	0.00E+00	1.53E-02	0.00E+00	0.00E+00	1.68E-02	8	6.15E-01	7.69E-02	2.19E-01	8	3.07E+00	3.84E-01	4.38E-02
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-03	NA	NA	0.00E+00	2.31E-02	0.00E+00	0.00E+00	2.42E-02	8	6.15E-01	7.69E-02	3.14E-01	8	3.07E+00	3.84E-01	6.29E-02
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	9.66E-01	mg/kg	NA	NA	2.42E+00	3.75E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-02	NA	NA	0.00E+00	2.13E-01	0.00E+00	0.00E+00	2.27E-01	8	6.15E-01	7.69E-02	2.95E+00	8	3.07E+00	3.84E-01	5.91E-01
Aroclor 1254	0.00E+00	mg/L	1.03E+00	mg/kg	5.10E-01	mg/kg	NA	2.19E+01	6.52E+01	8.70E-02	1.00E+00	1.00E+00	0.00E+00	0.00E+00	7.20E-03	NA	0.00E+00	0.00E+00	2.61E-02	0.00E+00	0.00E+00	3.33E-02	8	1.40E-01	1.75E-02	1.90E+00	8	6.80E-01	8.50E-02	3.92E-01
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.59E+00	mg/kg	NA	NA	1.59E+00	4.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.66E-02	NA	NA	0.00E+00	6.91E-02	0.00E+00	0.00E+00	1.06E-01	8	6.15E-01	7.69E-02	1.37E+00	8	3.07E+00	3.84E-01	2.75E-01
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.64E+00	mg/kg	NA	NA	1.33E+00	1.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.32E-02	NA	NA	0.00E+00	1.21E-01	0.00E+00	0.00E+00	1.44E-01	8	1.00E+00	1.25E-01	1.16E+00	8	1.00E+01	1.25E+00	1.16E-01
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.42E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.42E-02	NA	NA	0.00E+00	4.41E-01	0.00E+00	0.00E+00	4.75E-01	8	6.15E-01	7.69E-02	6.18E+00	8	3.07E+00	3.84E-01	1.24E+00
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	6.77E-01	mg/kg	NA	NA	2.94E+00	3.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.56E-03	NA	NA	0.00E+00	1.46E-01	0.00E+00	0.00E+00	1.56E-01	8	6.15E-01	7.69E-02	2.03E+00	8	3.07E+00	3.84E-01	4.06E-01
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.85E-01	mg/kg	NA	NA	2.60E+00	1.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-02	NA	NA	0.00E+00	6.12E-02	0.00E+00	0.00E+00	7.37E-02	8	6.15E-01	7.69E-02	9.59E-01	8	3.07E+00	3.84E-01	1.92E-01
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	2.43E+00	mg/kg	NA	NA	2.29E+00	4.65E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.43E-02	NA	NA	0.00E+00	6.65E-02	0.00E+00	0.00E+00	1.01E-01	8	6.15E-01	7.69E-02	1.31E+00	8	3.07E+00	3.84E-01	2.63E-01
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.06E-03	NA	NA	0.00E+00	1.66E-02	0.00E+00	0.00E+00	1.97E-02	8	6.15E-01	7.69E-02	2.56E-01	8	3.07E+00	3.84E-01	5.12E-02
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	6.53E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.22E-02	NA	NA	0.00E+00	1.92E+00	0.00E+00	0.00E+00	2.01E+00	8	6.15E-01	7.69E-02	2.62E+01	8	3.07E+00	3.84E-01	5.25E+00
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	9.57E+00	7.54E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.84E-03	NA	NA	0.00E+00	8.92E-03	0.00E+00	0.00E+00	1.18E-02	8	6.15E-01	7.69E-02	1.53E-01	8	3.07E+00	3.84E-01	3.06E-02
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.68E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.37E-03	NA	NA	0.00E+00	1.09E-02	0.00E+00	0.00E+00	1.32E-02	8	6.15E-01	7.69E-02	1.72E-01	8	3.07E+00	3.84E-01	3.45E-02
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	3.67E+00	mg/kg	NA	NA	1.72E+00	5.17E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.18E-02	NA	NA	0.00E+00	1.12E+00	0.00E+00	0.00E+00	1.17E+00	8	6.15E-01	7.69E-02	1.52E+01	8	3.07E+00	3.84E-01	3.04E+00
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.83E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.82E-02	NA	NA	0.00E+00	2.05E+00	0.00E+00	0.00E+00	2.11E+00	8	6.15E-01	7.69E-02	2.75E+01	8	3.07E+00	3.84E-01	5.51E+00
Copper	5.62E-01	mg/L	2.65E+03	mg/kg	2.81E+03	mg/kg	5.92E+03	NA	5.15E-01	1.59E-02	8.60E-03	8.60E-03	2.31E-01	0.00E+00	3.97E+01	0.00E+00	NA	0.00E+00	2.62E+01	0.00E+00	0.00E+00	6.61E+01	8	1.17E+01	1.46E+00	4.52E+01	8	1.51E+01	1.89E+00	3.50E+01
Mercury	0.00E+00	mg/L	2.20E+00	mg/kg	1.30E+00	mg/kg	NA	2.87E+00	3.30E+01	3.26E-01	1.05E+00	1.05E+00	0.00E+00	0.00E+00	1.84E-02	NA	0.00E+00	0.00E+00	2.49E-01	0.00E+00	0.00E+00	2.68E-01	8	1.00E+00	1.25E-01	2.14E+00	8	5.00E+00	6.25E-01	4.28E-01
																						Hazard Index (Total EEQ):			1.4E+02				5.3E+01

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used a default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	1	unitless
Fish diet fraction =	0	unitless
Aq. Invert diet fraction =	0	unitless
Terr. Invert diet fraction =	0	unitless
Mammal diet fraction =	0	unitless
Bird diet fraction =	0	unitless
Soil ingestion rate =	0.00024	kg/d
Sediment ingestion rate =	0	kg/d
Food ingestion rate =	0.01	kg/d
Body weight =	0.017	kg
Home range =	0.089	acres
Water intake rate =	**0.007**	**L/d**
Site Area =	2.6	acres
Frac. home range (FHR) =	1.00E+00	unitless

TABLE J-3
TIER 2 CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN EEQs AND HAZARD INDICES FOR MEADOW VOLES AT SITE 18

Hazard Estimate - Tier 2
Meadow Vole

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
							---------- unitless ----------						mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.63E-02	mg/kg	NA	NA	1.47E+00	3.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.43E-04	NA	NA	0.00E+00	6.76E-03	0.00E+00	0.00E+00	7.20E-03	8	6.15E-01	7.69E-02	9.37E-02	8	3.07E+00	3.84E-01	1.88E-02
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.65E-04	NA	NA	0.00E+00	8.51E-03	0.00E+00	0.00E+00	8.87E-03	8	6.15E-01	7.69E-02	1.15E-01	8	3.07E+00	3.84E-01	2.31E-02
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.85E-01	mg/kg	NA	NA	2.42E+00	5.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.51E-04	NA	NA	0.00E+00	2.16E-02	0.00E+00	0.00E+00	2.26E-02	8	6.15E-01	7.69E-02	2.94E-01	8	3.07E+00	3.84E-01	5.89E-02
Aroclor 1254	0.00E+00	mg/L	3.16E-01	mg/kg	2.69E-01	mg/kg	NA	4.67E+00	4.09E+00	8.70E-02	5.00E-01	5.00E-01	0.00E+00	0.00E+00	1.38E-03	NA	0.00E+00	0.00E+00	5.06E-03	0.00E+00	0.00E+00	6.44E-03	8	1.40E-01	1.75E-02	3.68E-01	8	6.80E-01	8.50E-02	7.58E-02
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.95E+00	mg/kg	NA	NA	1.59E+00	5.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-02	NA	NA	0.00E+00	2.14E-02	0.00E+00	0.00E+00	3.14E-02	8	6.15E-01	7.69E-02	4.09E-01	8	3.07E+00	3.84E-01	8.19E-02
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.04E-01	mg/kg	NA	NA	1.33E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-03	NA	NA	0.00E+00	1.14E-02	0.00E+00	0.00E+00	1.34E-02	8	1.00E+00	1.25E-01	1.08E-01	8	1.00E+01	1.25E+00	1.08E-02
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.26E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.44E-03	NA	NA	0.00E+00	8.41E-02	0.00E+00	0.00E+00	9.06E-02	8	6.15E-01	7.69E-02	1.18E+00	8	3.07E+00	3.84E-01	2.36E-01
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	2.94E+00	2.94E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-03	NA	NA	0.00E+00	1.28E-02	0.00E+00	0.00E+00	1.38E-02	8	6.15E-01	7.69E-02	1.80E-01	8	3.07E+00	3.84E-01	3.60E-02
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.51E-01	mg/kg	NA	NA	2.60E+00	1.40E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-03	NA	NA	0.00E+00	7.62E-03	0.00E+00	0.00E+00	8.91E-03	8	6.15E-01	7.69E-02	1.16E-01	8	3.07E+00	3.84E-01	2.32E-02
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	5.87E-01	mg/kg	NA	NA	2.29E+00	8.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.01E-03	NA	NA	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.35E-02	8	6.15E-01	7.69E-02	1.76E-01	8	3.07E+00	3.84E-01	3.52E-02
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-03	NA	NA	0.00E+00	6.10E-03	0.00E+00	0.00E+00	7.21E-03	8	6.15E-01	7.69E-02	9.38E-02	8	3.07E+00	3.84E-01	1.88E-02
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	3.29E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-02	NA	NA	0.00E+00	3.56E-01	0.00E+00	0.00E+00	3.73E-01	8	6.15E-01	7.69E-02	4.85E+00	8	3.07E+00	3.84E-01	9.72E-01
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	9.45E-02	mg/kg	NA	NA	9.57E+00	3.06E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.85E-04	NA	NA	0.00E+00	6.25E-03	0.00E+00	0.00E+00	6.74E-03	8	6.15E-01	7.69E-02	8.77E-02	8	3.07E+00	3.84E-01	1.76E-02
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.00E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.14E-04	NA	NA	0.00E+00	2.38E-03	0.00E+00	0.00E+00	2.89E-03	8	6.15E-01	7.69E-02	3.76E-02	8	3.07E+00	3.84E-01	7.54E-03
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.87E+00	mg/kg	NA	NA	1.72E+00	6.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.61E-03	NA	NA	0.00E+00	2.70E-01	0.00E+00	0.00E+00	2.80E-01	8	6.15E-01	7.69E-02	3.64E+00	8	3.07E+00	3.84E-01	7.29E-01
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	2.44E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-02	NA	NA	0.00E+00	3.80E-01	0.00E+00	0.00E+00	3.92E-01	8	6.15E-01	7.69E-02	5.10E+00	8	3.07E+00	3.84E-01	1.02E+00
Copper	1.52E-01	mg/L	2.43E+03	mg/kg	1.14E+03	mg/kg	2.00E+02	NA	5.15E-01	2.75E-02	1.87E-02	1.87E-02	2.10E-02	0.00E+00	5.83E+00	0.00E+00	NA	0.00E+00	6.74E+00	0.00E+00	0.00E+00	1.26E+01	8	1.17E+01	1.46E+00	8.61E+00	8	1.51E+01	1.89E+00	6.67E+00
Mercury	0.00E+00	mg/L	1.12E+00	mg/kg	6.14E-01	mg/kg	NA	1.14E+00	1.50E+00	4.60E-01	1.92E-01	1.92E-01	0.00E+00	0.00E+00	3.15E-03	NA	0.00E+00	0.00E+00	6.11E-02	0.00E+00	0.00E+00	6.43E-02	8	1.00E+00	1.25E-01	5.14E-01	8	5.00E+00	6.25E-01	1.03E-01
																						Hazard Index (Total EEQ):			2.6E+01				1.0E+01

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used as default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	1	unitless
Fish diet fraction =	0	unitless
Aq. Invert diet fraction =	0	unitless
Terr. Invert diet fraction =	0	unitless
Mammal diet fraction =	0	unitless
Bird diet fraction =	0	unitless
Soil ingestion rate =	0.00019	kg/d
Sediment ingestion rate =	0	kg/d
Food ingestion rate =	0.008	kg/d
Body weight =	0.037	kg
Home range =	0.089	acres
Water intake rate =	0.0051	L/d
Site Area =	2.6	acres
Frac. home range (FHR) =	1.00E+00	unitless

TABLE J-4
TIER 1 CHEMICALS OF POTENTIAL CONCERN EEQs AND HAZARD INDICES FOR SHORT-TAILED SHREWS AT SITE 18

Hazard Estimate - Tier 1
Short-tailed Shrew

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
							---------- unitless ----------						mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.07E-01	mg/kg	NA	NA	1.47E+00	2.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.65E-03	NA	NA	3.77E-02	0.00E+00	0.00E+00	0.00E+00	4.04E-02	8	6.15E-01	7.69E-02	5.26E-01	8	3.07E+00	3.84E-01	1.05E-01
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E-03	NA	NA	3.91E-01	0.00E+00	0.00E+00	0.00E+00	3.93E-01	8	6.15E-01	7.69E-02	5.11E+00	8	3.07E+00	3.84E-01	1.02E+00
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	9.66E-01	mg/kg	NA	NA	2.42E+00	3.75E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.40E-02	NA	NA	5.61E-01	0.00E+00	0.00E+00	0.00E+00	5.85E-01	8	6.15E-01	7.69E-02	7.61E+00	8	3.07E+00	3.84E-01	1.52E+00
Aroclor 1254	0.00E+00	mg/L	1.03E+00	mg/kg	5.10E-01	mg/kg	NA	2.19E+01	6.52E+01	8.70E-02	1.00E+00	1.00E+00	0.00E+00	0.00E+00	1.26E-02	NA	0.00E+00	7.98E+00	0.00E+00	0.00E+00	0.00E+00	8.00E+00	8	1.40E-01	1.75E-02	4.57E+02	8	6.80E-01	8.50E-02	9.41E+01
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.59E+00	mg/kg	NA	NA	1.59E+00	4.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.42E-02	NA	NA	9.88E-01	0.00E+00	0.00E+00	0.00E+00	1.05E+00	8	6.15E-01	7.69E-02	1.37E+01	8	3.07E+00	3.84E-01	2.74E+00
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.64E+00	mg/kg	NA	NA	1.33E+00	1.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.07E-02	NA	NA	5.23E-01	0.00E+00	0.00E+00	0.00E+00	5.64E-01	8	1.00E+00	1.25E-01	4.51E+00	8	1.00E+01	1.25E+00	4.51E-01
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.42E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.00E-02	NA	NA	1.51E+00	0.00E+00	0.00E+00	0.00E+00	1.57E+00	8	6.15E-01	7.69E-02	2.04E+01	8	3.07E+00	3.84E-01	4.09E+00
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	6.77E-01	mg/kg	NA	NA	2.94E+00	3.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E-02	NA	NA	4.78E-01	0.00E+00	0.00E+00	0.00E+00	4.94E-01	8	6.15E-01	7.69E-02	6.43E+00	8	3.07E+00	3.84E-01	1.29E+00
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.85E-01	mg/kg	NA	NA	2.60E+00	1.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-02	NA	NA	5.52E-01	0.00E+00	0.00E+00	0.00E+00	5.74E-01	8	6.15E-01	7.69E-02	7.47E+00	8	3.07E+00	3.84E-01	1.50E+00
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	2.43E+00	mg/kg	NA	NA	2.29E+00	4.65E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.03E-02	NA	NA	1.34E+00	0.00E+00	0.00E+00	0.00E+00	1.40E+00	8	6.15E-01	7.69E-02	1.82E+01	8	3.07E+00	3.84E-01	3.64E+00
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.38E-03	NA	NA	1.20E-01	0.00E+00	0.00E+00	0.00E+00	1.26E-01	8	6.15E-01	7.69E-02	1.63E+00	8	3.07E+00	3.84E-01	3.28E-01
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	6.53E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E-01	NA	NA	4.76E+00	0.00E+00	0.00E+00	0.00E+00	4.93E+00	8	6.15E-01	7.69E-02	6.41E+01	8	3.07E+00	3.84E-01	1.28E+01
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	9.57E+00	7.54E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.98E-03	NA	NA	4.62E-01	0.00E+00	0.00E+00	0.00E+00	4.67E-01	8	6.15E-01	7.69E-02	6.07E+00	8	3.07E+00	3.84E-01	1.22E+00
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.68E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.17E-03	NA	NA	1.15E-01	0.00E+00	0.00E+00	0.00E+00	1.19E-01	8	6.15E-01	7.69E-02	1.55E+00	8	3.07E+00	3.84E-01	3.11E-01
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	3.67E+00	mg/kg	NA	NA	1.72E+00	5.17E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.10E-02	NA	NA	1.51E+00	0.00E+00	0.00E+00	0.00E+00	1.61E+00	8	6.15E-01	7.69E-02	2.09E+01	8	3.07E+00	3.84E-01	4.18E+00
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.83E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-01	NA	NA	2.03E+00	0.00E+00	0.00E+00	0.00E+00	2.15E+00	8	6.15E-01	7.69E-02	2.79E+01	8	3.07E+00	3.84E-01	5.60E+00
Copper	5.62E-01	mg/L	2.65E+03	mg/kg	2.81E+03	mg/kg	5.92E+03	NA	5.15E-01	1.59E-02	8.60E-03	8.60E-03	1.48E-01	0.00E+00	6.97E+01	0.00E+00	NA	3.47E+02	0.00E+00	0.00E+00	0.00E+00	4.17E+02	8	1.17E+01	1.46E+00	2.85E+02	8	1.51E+01	1.89E+00	2.21E+02
Mercury	0.00E+00	mg/L	2.20E+00	mg/kg	1.30E+00	mg/kg	NA	2.87E+00	3.30E+01	3.26E-01	1.05E+00	1.05E+00	0.00E+00	0.00E+00	3.22E-02	NA	0.00E+00	1.03E+01	0.00E+00	0.00E+00	0.00E+00	1.03E+01	8	1.00E+00	1.25E-01	8.26E+01	8	5.00E+00	6.25E-01	1.65E+01
																					Hazard Index (Total EEQ):				1.0E+03				3.7E+02

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used a default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	0	unitless
Fish diet fraction =	0	unitless
Aq. Invert diet fraction =	0	unitless
Terr. Invert diet fraction =	1	unitless
Mammal diet fraction =	0	unitless
Bird diet fraction =	0	unitless
Soil ingestion rate =	0.00031	kg/d
Sediment ingestion rate =	0	kg/d
Food ingestion rate =	0.003	kg/d
Body weight =	0.0125	kg
Home range =	0.96	acres
Water intake rate =	0.0033	L/d
Site Area =	2.6	acres
Frac. home range (FHR) =	1.00E+00	unitless

TABLE J-5
TIER 2 CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN EEQs AND HAZARD INDICES FOR SHORT-TAILED SHREWS AT SITE 18

Hazard Estimate - Tier 2
Short-tailed Shrew

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
	---------- unitless ----------												mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.63E-02	mg/kg	NA	NA	1.47E+00	3.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E-03	NA	NA	1.86E-02	0.00E+00	0.00E+00	0.00E+00	1.99E-02	8	6.15E-01	7.69E-02	2.59E-01	8	3.07E+00	3.84E-01	5.19E-02
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-03	NA	NA	2.39E-01	0.00E+00	0.00E+00	0.00E+00	2.40E-01	8	6.15E-01	7.69E-02	3.12E+00	8	3.07E+00	3.84E-01	6.25E-01
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.85E-01	mg/kg	NA	NA	2.42E+00	5.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.84E-03	NA	NA	6.57E-02	0.00E+00	0.00E+00	0.00E+00	6.85E-02	8	6.15E-01	7.69E-02	8.92E-01	8	3.07E+00	3.84E-01	1.79E-01
Aroclor 1254	0.00E+00	mg/L	3.16E-01	mg/kg	2.69E-01	mg/kg	NA	4.67E+00	4.09E+00	8.70E-02	5.00E-01	5.00E-01	0.00E+00	0.00E+00	4.12E-03	NA	0.00E+00	1.61E-01	0.00E+00	0.00E+00	0.00E+00	1.66E-01	8	1.40E-01	1.75E-02	9.46E+00	8	6.80E-01	8.50E-02	1.95E+00
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.95E+00	mg/kg	NA	NA	1.59E+00	5.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.99E-02	NA	NA	4.55E-01	0.00E+00	0.00E+00	0.00E+00	4.84E-01	8	6.15E-01	7.69E-02	6.30E+00	8	3.07E+00	3.84E-01	1.26E+00
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.04E-01	mg/kg	NA	NA	1.33E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.19E-03	NA	NA	7.88E-02	0.00E+00	0.00E+00	0.00E+00	8.50E-02	8	1.00E+00	1.25E-01	6.80E-01	8	1.00E+01	1.25E+00	6.80E-02
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.26E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-02	NA	NA	4.79E-01	0.00E+00	0.00E+00	0.00E+00	4.98E-01	8	6.15E-01	7.69E-02	6.48E+00	8	3.07E+00	3.84E-01	1.30E+00
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	2.94E+00	2.94E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.08E-03	NA	NA	8.67E-02	0.00E+00	0.00E+00	0.00E+00	8.98E-02	8	6.15E-01	7.69E-02	1.17E+00	8	3.07E+00	3.84E-01	2.34E-01
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.51E-01	mg/kg	NA	NA	2.60E+00	1.40E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.85E-03	NA	NA	9.57E-02	0.00E+00	0.00E+00	0.00E+00	9.96E-02	8	6.15E-01	7.69E-02	1.30E+00	8	3.07E+00	3.84E-01	2.59E-01
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	5.87E-01	mg/kg	NA	NA	2.29E+00	8.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.00E-03	NA	NA	1.97E-01	0.00E+00	0.00E+00	0.00E+00	2.06E-01	8	6.15E-01	7.69E-02	2.68E+00	8	3.07E+00	3.84E-01	5.37E-01
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-03	NA	NA	7.35E-02	0.00E+00	0.00E+00	0.00E+00	7.68E-02	8	6.15E-01	7.69E-02	1.00E+00	8	3.07E+00	3.84E-01	2.00E-01
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	3.29E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.05E-02	NA	NA	1.47E+00	0.00E+00	0.00E+00	0.00E+00	1.52E+00	8	6.15E-01	7.69E-02	1.98E+01	8	3.07E+00	3.84E-01	3.96E+00
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	9.45E-02	mg/kg	NA	NA	9.57E+00	3.06E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-03	NA	NA	1.33E-01	0.00E+00	0.00E+00	0.00E+00	1.34E-01	8	6.15E-01	7.69E-02	1.74E+00	8	3.07E+00	3.84E-01	3.49E-01
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.00E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-03	NA	NA	4.19E-02	0.00E+00	0.00E+00	0.00E+00	4.35E-02	8	6.15E-01	7.69E-02	5.66E-01	8	3.07E+00	3.84E-01	1.13E-01
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.87E+00	mg/kg	NA	NA	1.72E+00	6.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.87E-02	NA	NA	4.72E-01	0.00E+00	0.00E+00	0.00E+00	5.01E-01	8	6.15E-01	7.69E-02	6.52E+00	8	3.07E+00	3.84E-01	1.31E+00
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	2.44E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.74E-02	NA	NA	6.26E-01	0.00E+00	0.00E+00	0.00E+00	6.64E-01	8	6.15E-01	7.69E-02	8.63E+00	8	3.07E+00	3.84E-01	1.73E+00
Copper	1.52E-01	mg/L	2.43E+03	mg/kg	1.14E+03	mg/kg	2.00E+02	NA	5.15E-01	2.75E-02	1.87E-02	1.87E-02	2.33E-02	0.00E+00	1.74E+01	0.00E+00	NA	8.57E+01	0.00E+00	0.00E+00	0.00E+00	1.03E+02	8	1.17E+01	1.46E+00	7.05E+01	8	1.51E+01	1.89E+00	5.47E+01
Mercury	0.00E+00	mg/L	1.12E+00	mg/kg	6.14E-01	mg/kg	NA	1.14E+00	1.50E+00	4.60E-01	1.92E-01	1.92E-01	0.00E+00	0.00E+00	9.41E-03	NA	0.00E+00	1.35E-01	0.00E+00	0.00E+00	0.00E+00	1.44E-01	8	1.00E+00	1.25E-01	1.16E+00	8	5.00E+00	6.25E-01	2.31E-01
																						Hazard Index (Total EEQ):			1.4E+02				6.9E+01

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used as default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	0	unitless
Fish diet fraction =	0	unitless
Aq. Invert diet fraction =	0	unitless
Terr. Invert diet fraction =	1	unitless
Mammal diet fraction =	0	unitless
Bird diet fraction =	0	unitless
Soil ingestion rate =	0.00023	kg/d
Sediment ingestion rate =	0	kg/d
Food ingestion rate =	0.0022	kg/d
Body weight =	0.015	kg
Home range =	0.96	acres
Water intake rate =	0.0023	L/d
Site Area =	2.6	acres
Frac. home range (FHR) =	1.00E+00	unitless

TABLE J-6
TIER 1 CHEMICALS OF POTENTIAL CONCERN EEQs AND HAZARD INDICES FOR AMERICAN ROBINS AT SITE 18

Hazard Estimate - Tier 1
American Robin

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
	---------- unitless ----------												mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.07E-01	mg/kg	NA	NA	1.47E+00	2.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-03	NA	NA	1.88E-02	5.08E-03	0.00E+00	0.00E+00	2.52E-02	8	5.53E+02	6.91E+01	3.65E-04	8	2.77E+03	3.46E+02	7.29E-05
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.96E-04	NA	NA	1.95E-01	7.69E-03	0.00E+00	0.00E+00	2.03E-01	8	5.53E+02	6.91E+01	2.94E-03	8	2.77E+03	3.46E+02	5.88E-04
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	9.66E-01	mg/kg	NA	NA	2.42E+00	3.75E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-02	NA	NA	2.80E-01	7.07E-02	0.00E+00	0.00E+00	3.63E-01	8	5.53E+02	6.91E+01	5.25E-03	8	2.77E+03	3.46E+02	1.05E-03
Aroclor 1254	0.00E+00	mg/L	1.03E+00	mg/kg	5.10E-01	mg/kg	NA	2.19E+01	6.52E+01	8.70E-02	1.00E+00	1.00E+00	0.00E+00	0.00E+00	6.43E-03	NA	0.00E+00	3.98E+00	8.66E-03	0.00E+00	0.00E+00	4.00E+00	8	1.80E-01	2.25E-02	1.78E+02	8	1.80E+00	2.25E-01	1.78E+01
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.59E+00	mg/kg	NA	NA	1.59E+00	4.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.26E-02	NA	NA	4.93E-01	2.29E-02	0.00E+00	0.00E+00	5.48E-01	8	5.53E+02	6.91E+01	7.93E-03	8	2.77E+03	3.46E+02	1.58E-03
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.64E+00	mg/kg	NA	NA	1.33E+00	1.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-02	NA	NA	2.61E-01	4.03E-02	0.00E+00	0.00E+00	3.22E-01	8	5.53E+02	6.91E+01	4.66E-03	8	2.77E+03	3.46E+02	9.30E-04
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.42E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.05E-02	NA	NA	7.53E-01	1.46E-01	0.00E+00	0.00E+00	9.30E-01	8	5.53E+02	6.91E+01	1.35E-02	8	2.77E+03	3.46E+02	2.69E-03
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	6.77E-01	mg/kg	NA	NA	2.94E+00	3.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.53E-03	NA	NA	2.38E-01	4.85E-02	0.00E+00	0.00E+00	2.95E-01	8	5.53E+02	6.91E+01	4.27E-03	8	2.77E+03	3.46E+02	8.53E-04
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.85E-01	mg/kg	NA	NA	2.60E+00	1.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-02	NA	NA	2.75E-01	2.03E-02	0.00E+00	0.00E+00	3.07E-01	8	5.53E+02	6.91E+01	4.44E-03	8	2.77E+03	3.46E+02	8.86E-04
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	2.43E+00	mg/kg	NA	NA	2.29E+00	4.65E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.06E-02	NA	NA	6.66E-01	2.21E-02	0.00E+00	0.00E+00	7.19E-01	8	5.53E+02	6.91E+01	1.04E-02	8	2.77E+03	3.46E+02	2.08E-03
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-03	NA	NA	6.00E-02	5.51E-03	0.00E+00	0.00E+00	6.82E-02	8	5.53E+02	6.91E+01	9.87E-04	8	2.77E+03	3.46E+02	1.97E-04
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	6.53E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.23E-02	NA	NA	2.38E+00	6.38E-01	0.00E+00	0.00E+00	3.10E+00	8	5.53E+02	6.91E+01	4.48E-02	8	2.77E+03	3.46E+02	8.94E-03
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	9.57E+00	7.54E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.53E-03	NA	NA	2.30E-01	2.96E-03	0.00E+00	0.00E+00	2.36E-01	8	5.53E+02	6.91E+01	3.41E-03	8	2.77E+03	3.46E+02	6.81E-04
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.68E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.12E-03	NA	NA	5.75E-02	3.61E-03	0.00E+00	0.00E+00	6.32E-02	8	5.53E+02	6.91E+01	9.15E-04	8	2.77E+03	3.46E+02	1.83E-04
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	3.67E+00	mg/kg	NA	NA	1.72E+00	5.17E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-02	NA	NA	7.55E-01	3.70E-01	0.00E+00	0.00E+00	1.17E+00	8	5.53E+02	6.91E+01	1.70E-02	8	2.77E+03	3.46E+02	3.39E-03
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.83E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.09E-02	NA	NA	1.01E+00	6.79E-01	0.00E+00	0.00E+00	1.75E+00	8	5.53E+02	6.91E+01	2.53E-02	8	2.77E+03	3.46E+02	5.06E-03
Copper	5.62E-01	mg/L	2.65E+03	mg/kg	2.81E+03	mg/kg	5.92E+03	NA	5.15E-01	1.59E-02	8.60E-03	8.60E-03	1.15E-01	0.00E+00	3.54E+01	0.00E+00	NA	1.73E+02	8.70E+00	0.00E+00	0.00E+00	2.17E+02	8	4.70E+01	5.88E+00	3.70E+01	8	6.20E+01	7.75E+00	2.81E+01
Mercury	0.00E+00	mg/L	2.20E+00	mg/kg	1.30E+00	mg/kg	NA	2.87E+00	3.30E+01	3.26E-01	1.05E+00	1.05E+00	0.00E+00	0.00E+00	1.64E-02	NA	0.00E+00	5.13E+00	8.28E-02	0.00E+00	0.00E+00	5.23E+00	8	4.50E-01	5.63E-02	9.30E+01	8	9.00E-01	1.13E-01	4.65E+01
																					Hazard Index (Total EEQ):				3.1E+02				9.2E+01

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used a default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	0.62	unitless
Fish diet fraction =	0	unitless
Aq. Invert diet fraction =	0	unitless
Terr. Invert diet fraction =	0.38	unitless
Mammal diet fraction =	0	unitless
Bird diet fraction =	0	unitless
Soil ingestion rate =	0.0008	kg/d
Sediment ingestion rate =	0	kg/d
Food ingestion rate =	0.02	kg/d
Body weight =	0.0635	kg
Home range =	1.2	acres
Water intake rate =	**0.013**	**L/d**
Site Area =	2.6	acres
Frac. home range (FHR) =	1.00E+00	unitless

TABLE J-7
TIER 2 CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN EEQs AND HAZARD INDICES FOR AMERICAN ROBINS AT SITE 18

Hazard Estimate - Tier 2
American Robin

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
							---------- unitless ----------						mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.63E-02	mg/kg	NA	NA	1.47E+00	3.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.14E-04	NA	NA	9.97E-03	4.01E-03	0.00E+00	0.00E+00	1.47E-02	8	5.53E+02	6.91E+01	2.13E-04	8	2.77E+03	3.46E+02	4.25E-05
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.89E-04	NA	NA	1.28E-01	5.05E-03	0.00E+00	0.00E+00	1.34E-01	8	5.53E+02	6.91E+01	1.93E-03	8	2.77E+03	3.46E+02	3.86E-04
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.85E-01	mg/kg	NA	NA	2.42E+00	5.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-03	NA	NA	3.52E-02	1.28E-02	0.00E+00	0.00E+00	4.96E-02	8	5.53E+02	6.91E+01	7.18E-04	8	2.77E+03	3.46E+02	1.43E-04
Aroclor 1254	0.00E+00	mg/L	3.16E-01	mg/kg	2.69E-01	mg/kg	NA	4.67E+00	4.09E+00	8.70E-02	5.00E-01	5.00E-01	0.00E+00	0.00E+00	2.23E-03	NA	0.00E+00	8.66E-02	3.00E-03	0.00E+00	0.00E+00	9.18E-02	8	1.80E-01	2.25E-02	4.08E+00	8	1.80E+00	2.25E-01	4.08E-01
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.95E+00	mg/kg	NA	NA	1.59E+00	5.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-02	NA	NA	2.44E-01	1.27E-02	0.00E+00	0.00E+00	2.73E-01	8	5.53E+02	6.91E+01	3.94E-03	8	2.77E+03	3.46E+02	7.87E-04
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.04E-01	mg/kg	NA	NA	1.33E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.34E-03	NA	NA	4.23E-02	6.75E-03	0.00E+00	0.00E+00	5.24E-02	8	5.53E+02	6.91E+01	7.57E-04	8	2.77E+03	3.46E+02	1.51E-04
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.26E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-02	NA	NA	2.57E-01	4.99E-02	0.00E+00	0.00E+00	3.17E-01	8	5.53E+02	6.91E+01	4.59E-03	8	2.77E+03	3.46E+02	9.15E-04
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	2.94E+00	2.94E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.66E-03	NA	NA	4.65E-02	7.58E-03	0.00E+00	0.00E+00	5.57E-02	8	5.53E+02	6.91E+01	8.06E-04	8	2.77E+03	3.46E+02	1.61E-04
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.51E-01	mg/kg	NA	NA	2.60E+00	1.40E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.08E-03	NA	NA	5.13E-02	4.52E-03	0.00E+00	0.00E+00	5.79E-02	8	5.53E+02	6.91E+01	8.38E-04	8	2.77E+03	3.46E+02	1.67E-04
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	5.87E-01	mg/kg	NA	NA	2.29E+00	8.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.86E-03	NA	NA	1.06E-01	6.23E-03	0.00E+00	0.00E+00	1.17E-01	8	5.53E+02	6.91E+01	1.69E-03	8	2.77E+03	3.46E+02	3.37E-04
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-03	NA	NA	3.94E-02	3.62E-03	0.00E+00	0.00E+00	4.48E-02	8	5.53E+02	6.91E+01	6.49E-04	8	2.77E+03	3.46E+02	1.30E-04
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	3.29E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-02	NA	NA	7.87E-01	2.11E-01	0.00E+00	0.00E+00	1.03E+00	8	5.53E+02	6.91E+01	1.48E-02	8	2.77E+03	3.46E+02	2.96E-03
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	9.45E-02	mg/kg	NA	NA	9.57E+00	3.06E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.82E-04	NA	NA	7.11E-02	3.71E-03	0.00E+00	0.00E+00	7.56E-02	8	5.53E+02	6.91E+01	1.09E-03	8	2.77E+03	3.46E+02	2.18E-04
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.00E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.28E-04	NA	NA	2.25E-02	1.41E-03	0.00E+00	0.00E+00	2.47E-02	8	5.53E+02	6.91E+01	3.58E-04	8	2.77E+03	3.46E+02	7.14E-05
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.87E+00	mg/kg	NA	NA	1.72E+00	6.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-02	NA	NA	2.53E-01	1.60E-01	0.00E+00	0.00E+00	4.29E-01	8	5.53E+02	6.91E+01	6.21E-03	8	2.77E+03	3.46E+02	1.24E-03
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	2.44E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.02E-02	NA	NA	3.36E-01	2.25E-01	0.00E+00	0.00E+00	5.82E-01	8	5.53E+02	6.91E+01	8.41E-03	8	2.77E+03	3.46E+02	1.68E-03
Copper	1.52E-01	mg/L	2.43E+03	mg/kg	1.14E+03	mg/kg	2.00E+02	NA	5.15E-01	2.75E-02	1.87E-02	1.87E-02	2.16E-02	0.00E+00	9.40E+00	0.00E+00	NA	4.60E+01	4.00E+00	0.00E+00	0.00E+00	5.94E+01	8	4.70E+01	5.88E+00	1.01E+01	8	6.20E+01	7.75E+00	7.66E+00
Mercury	0.00E+00	mg/L	1.12E+00	mg/kg	6.14E-01	mg/kg	NA	1.14E+00	1.50E+00	4.60E-01	1.92E-01	1.92E-01	0.00E+00	0.00E+00	5.08E-03	NA	0.00E+00	7.24E-02	3.63E-02	0.00E+00	0.00E+00	1.14E-01	8	4.50E-01	5.63E-02	2.02E+00	8	9.00E-01	1.13E-01	1.01E+00
																							Hazard Index (Total EEQ):			1.6E+01				9.1E+00

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used as default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	0.62	unitless
Fish diet fraction =	0	unitless
Aq. Invert diet fraction =	0	unitless
Terr. Invert diet fraction =	0.38	unitless
Mammal diet fraction =	0	unitless
Bird diet fraction =	0	unitless
Soil ingestion rate =	0.00064	kg/d
Sediment ingestion rate =	0	kg/d
Food ingestion rate =	0.016	kg/d
Body weight =	0.0773	kg
Home range =	1.2	acres
Water intake rate =	**0.011**	**L/d**
Site Area =	2.6	acres
Frac. home range (FHR) =	1.00E+00	unitless

TABLE J-8
TIER 1 CHEMICALS OF POTENTIAL CONCERN EEQs AND HAZARD INDICES FOR RED-TAILED HAWKS AT SITE 18

Hazard Estimate - Tier 1
Red-tailed Hawk

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
	---------- unitless ----------												mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.07E-01	mg/kg	NA	NA	1.47E+00	2.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	9.66E-01	mg/kg	NA	NA	2.42E+00	3.75E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Aroclor 1254	0.00E+00	mg/L	1.03E+00	mg/kg	5.10E-01	mg/kg	NA	2.19E+01	6.52E+01	8.70E-02	1.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	2.55E-02	8.06E-03	3.36E-02	8	1.80E-01	2.25E-02	1.49E+00	8	1.80E+00	2.25E-01	1.49E-01
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.59E+00	mg/kg	NA	NA	1.59E+00	4.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.64E+00	mg/kg	NA	NA	1.33E+00	1.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.42E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	6.77E-01	mg/kg	NA	NA	2.94E+00	3.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.85E-01	mg/kg	NA	NA	2.60E+00	1.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	2.43E+00	mg/kg	NA	NA	2.29E+00	4.65E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	6.53E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	9.57E+00	7.54E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.68E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	3.67E+00	mg/kg	NA	NA	1.72E+00	5.17E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.83E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Copper	5.62E-01	mg/L	2.65E+03	mg/kg	2.81E+03	mg/kg	5.92E+03	NA	5.15E-01	1.59E-02	8.60E-03	8.60E-03	3.99E-02	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	1.21E+00	3.82E-01	1.63E+00	8	4.70E+01	5.88E+00	2.78E-01	8	6.20E+01	7.75E+00	2.11E-01
Mercury	0.00E+00	mg/L	2.20E+00	mg/kg	1.30E+00	mg/kg	NA	2.87E+00	3.30E+01	3.26E-01	1.05E+00	1.05E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.80E-02	2.15E-02	8.95E-02	8	4.50E-01	5.63E-02	1.59E+00	8	9.00E-01	1.13E-01	7.96E-01
																									Hazard Index (Total EEQ):			3.4E+00				1.2E+00

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used a default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	0	unitless
Fish diet fraction =	0	unitless
Aq. Invert diet fraction =	0	unitless
Terr. Invert diet fraction =	0	unitless
Mammal diet fraction =	0.76	unitless
Bird diet fraction =	0.24	unitless
Soil ingestion rate =	0	kg/d
Sediment ingestion rate =	0	kg/d
Food ingestion rate =	0.063	kg/d
Body weight =	0.957	kg
Home range =	2081	acres
Water intake rate =	0.068	L/d
Site Area =	2.6	acres
Frac. home range (FHR) =	1.00E+00	unitless

TABLE J-9
TIER 2 CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN EEQs AND HAZARD INDICES FOR RED -TAILED HAWKS AT SITE 18

Hazard Estimate - Tier 2
Red-tailed Hawk

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
							---------- unitless ----------						mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.63E-02	mg/kg	NA	NA	1.47E+00	3.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.85E-01	mg/kg	NA	NA	2.42E+00	5.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Aroclor 1254	0.00E+00	mg/L	3.16E-01	mg/kg	2.69E-01	mg/kg	NA	4.67E+00	4.09E+00	8.70E-02	5.00E-01	5.00E-01	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	6.64E-06	2.10E-06	8.74E-06	8	1.80E-01	2.25E-02	3.89E-04	8	1.80E+00	2.25E-01	3.89E-05
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.95E+00	mg/kg	NA	NA	1.59E+00	5.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.04E-01	mg/kg	NA	NA	1.33E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.26E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	2.94E+00	2.94E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.51E-01	mg/kg	NA	NA	2.60E+00	1.40E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	5.87E-01	mg/kg	NA	NA	2.29E+00	8.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	3.29E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	9.45E-02	mg/kg	NA	NA	9.57E+00	3.06E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.00E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.87E+00	mg/kg	NA	NA	1.72E+00	6.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	2.44E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Copper	1.52E-01	mg/L	2.43E+03	mg/kg	1.14E+03	mg/kg	2.00E+02	NA	5.15E-01	2.75E-02	1.87E-02	1.87E-02	1.07E-05	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	1.05E-03	3.31E-04	1.39E-03	8	4.70E+01	5.88E+00	2.37E-04	8	6.20E+01	7.75E+00	1.79E-04
Mercury	0.00E+00	mg/L	1.12E+00	mg/kg	6.14E-01	mg/kg	NA	1.14E+00	1.50E+00	4.60E-01	1.92E-01	1.92E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.82E-06	1.84E-06	7.66E-06	8	4.50E-01	5.63E-02	1.36E-04	8	9.00E-01	1.13E-01	6.81E-05
																									Hazard Index (Total EEQ):			7.6E-04				2.9E-04

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used as default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	0	unitless
Fish diet fraction =	0	unitless
Aq. Invert diet fraction =	0	unitless
Terr. Invert diet fraction =	0	unitless
Mammal diet fraction =	0.76	unitless
Bird diet fraction =	0.24	unitless
Soil ingestion rate =	0	kg/d
Sediment ingestion rate =	0	kg/d
Food ingestion rate =	0.059	kg/d
Body weight =	1.134	kg
Home range =	2081	acres
Water intake rate =	**0.064**	**L/d**
Site Area =	2.6	acres
Frac. home range (FHR) =	1.25E-03	unitless

TABLE J-10
TIER 1 CHEMICALS OF POTENTIAL CONCERN EEQs AND HAZARD INDICES FOR RED FOXES AT SITE 18

Hazard Estimate - Tier 1
Red Fox

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
							---------- unitless ----------						mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.07E-01	mg/kg	NA	NA	1.47E+00	2.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.45E-04	NA	NA	7.25E-04	5.09E-04	0.00E+00	0.00E+00	1.58E-03	8	6.15E-01	7.69E-02	2.05E-02	8	3.07E+00	3.84E-01	4.11E-03
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.29E-04	NA	NA	7.51E-03	7.71E-04	0.00E+00	0.00E+00	8.51E-03	8	6.15E-01	7.69E-02	1.11E-01	8	3.07E+00	3.84E-01	2.22E-02
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	9.66E-01	mg/kg	NA	NA	2.42E+00	3.75E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.11E-03	NA	NA	1.08E-02	7.10E-03	0.00E+00	0.00E+00	2.10E-02	8	6.15E-01	7.69E-02	2.73E-01	8	3.07E+00	3.84E-01	5.47E-02
Aroclor 1254	0.00E+00	mg/L	1.03E+00	mg/kg	5.10E-01	mg/kg	NA	2.19E+01	6.52E+01	8.70E-02	1.00E+00	1.00E+00	0.00E+00	0.00E+00	1.64E-03	NA	0.00E+00	1.53E-01	8.69E-04	3.82E-02	8.23E-03	2.02E-01	8	1.40E-01	1.75E-02	1.16E+01	8	6.80E-01	8.50E-02	2.38E+00
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.59E+00	mg/kg	NA	NA	1.59E+00	4.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.34E-03	NA	NA	1.90E-02	2.30E-03	0.00E+00	0.00E+00	2.96E-02	8	6.15E-01	7.69E-02	3.85E-01	8	3.07E+00	3.84E-01	7.72E-02
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.64E+00	mg/kg	NA	NA	1.33E+00	1.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.28E-03	NA	NA	1.01E-02	4.04E-03	0.00E+00	0.00E+00	1.94E-02	8	1.00E+00	1.25E-01	1.55E-01	8	1.00E+01	1.25E+00	1.55E-02
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.42E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.79E-03	NA	NA	2.90E-02	1.47E-02	0.00E+00	0.00E+00	5.15E-02	8	6.15E-01	7.69E-02	6.70E-01	8	3.07E+00	3.84E-01	1.34E-01
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	6.77E-01	mg/kg	NA	NA	2.94E+00	3.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.18E-03	NA	NA	9.18E-03	4.87E-03	0.00E+00	0.00E+00	1.62E-02	8	6.15E-01	7.69E-02	2.11E-01	8	3.07E+00	3.84E-01	4.23E-02
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.85E-01	mg/kg	NA	NA	2.60E+00	1.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.85E-03	NA	NA	1.06E-02	2.04E-03	0.00E+00	0.00E+00	1.55E-02	8	6.15E-01	7.69E-02	2.02E-01	8	3.07E+00	3.84E-01	4.04E-02
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	2.43E+00	mg/kg	NA	NA	2.29E+00	4.65E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.83E-03	NA	NA	2.57E-02	2.21E-03	0.00E+00	0.00E+00	3.57E-02	8	6.15E-01	7.69E-02	4.64E-01	8	3.07E+00	3.84E-01	9.30E-02
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.99E-04	NA	NA	2.31E-03	5.53E-04	0.00E+00	0.00E+00	3.56E-03	8	6.15E-01	7.69E-02	4.63E-02	8	3.07E+00	3.84E-01	9.28E-03
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	6.53E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.10E-02	NA	NA	9.15E-02	6.40E-02	0.00E+00	0.00E+00	1.77E-01	8	6.15E-01	7.69E-02	2.30E+00	8	3.07E+00	3.84E-01	4.60E-01
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	9.57E+00	7.54E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.47E-04	NA	NA	8.87E-03	2.97E-04	0.00E+00	0.00E+00	9.81E-03	8	6.15E-01	7.69E-02	1.28E-01	8	3.07E+00	3.84E-01	2.56E-02
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.68E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.41E-04	NA	NA	2.22E-03	3.62E-04	0.00E+00	0.00E+00	3.12E-03	8	6.15E-01	7.69E-02	4.06E-02	8	3.07E+00	3.84E-01	8.13E-03
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	3.67E+00	mg/kg	NA	NA	1.72E+00	5.17E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-02	NA	NA	2.91E-02	3.72E-02	0.00E+00	0.00E+00	7.81E-02	8	6.15E-01	7.69E-02	1.02E+00	8	3.07E+00	3.84E-01	2.03E-01
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.83E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-02	NA	NA	3.90E-02	6.81E-02	0.00E+00	0.00E+00	1.23E-01	8	6.15E-01	7.69E-02	1.60E+00	8	3.07E+00	3.84E-01	3.20E-01
Copper	5.62E-01	mg/L	2.65E+03	mg/kg	2.81E+03	mg/kg	5.92E+03	NA	5.15E-01	1.59E-02	8.60E-03	8.60E-03	1.09E-01	0.00E+00	9.05E+00	0.00E+00	NA	6.67E+00	8.73E-01	1.81E+00	3.90E-01	1.89E+01	8	1.17E+01	1.46E+00	1.29E+01	8	1.51E+01	1.89E+00	1.00E+01
Mercury	0.00E+00	mg/L	2.20E+00	mg/kg	1.30E+00	mg/kg	NA	2.87E+00	3.30E+01	3.26E-01	1.05E+00	1.05E+00	0.00E+00	0.00E+00	4.19E-03	NA	0.00E+00	1.98E-01	8.31E-03	1.02E-01	2.19E-02	3.34E-01	8	1.00E+00	1.25E-01	2.67E+00	8	5.00E+00	6.25E-01	5.35E-01
																					Hazard Index (Total EEQ):				3.5E+01				1.4E+01

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used a default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	0.17	unitless
Fish diet fraction =	0	unitless
Aq. Invert diet fraction =	0	unitless
Terr. Invert diet fraction =	0.04	unitless
Mammal diet fraction =	0.65	unitless
Bird diet fraction =	0.14	unitless
Soil ingestion rate =	0.0095	kg/d
Sediment ingestion rate =	0	kg/d
Food ingestion rate =	0.34	kg/d
Body weight =	2.95	kg
Home range =	2204	acres
Water intake rate =	0.57	L/d
Site Area =	2.6	acres
Frac. home range (FHR) =	1.00E+00	unitless

TABLE J-11
TIER 2 CHEMICALS OF POTENTIAL CONCERN EEQs AND HAZARD INDICES FOR RED FOXES AT SITE 18

Hazard Estimate - Tier 2
Red Fox

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
							---------- unitless ----------						mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.63E-02	mg/kg	NA	NA	1.47E+00	3.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-07	NA	NA	3.17E-07	3.32E-07	0.00E+00	0.00E+00	8.00E-07	8	6.15E-01	7.69E-02	1.04E-05	8	3.07E+00	3.84E-01	2.08E-06
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-07	NA	NA	4.07E-06	4.18E-07	0.00E+00	0.00E+00	4.61E-06	8	6.15E-01	7.69E-02	6.00E-05	8	3.07E+00	3.84E-01	1.20E-05
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.85E-01	mg/kg	NA	NA	2.42E+00	5.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.23E-07	NA	NA	1.12E-06	1.06E-06	0.00E+00	0.00E+00	2.51E-06	8	6.15E-01	7.69E-02	3.26E-05	8	3.07E+00	3.84E-01	6.53E-06
Aroclor 1254	0.00E+00	mg/L	3.16E-01	mg/kg	2.69E-01	mg/kg	NA	4.67E+00	4.09E+00	8.70E-02	5.00E-01	5.00E-01	0.00E+00	0.00E+00	4.69E-07	NA	0.00E+00	2.75E-06	2.49E-07	5.46E-06	1.18E-06	1.01E-05	8	1.40E-01	1.75E-02	5.78E-04	8	6.80E-01	8.50E-02	1.19E-04
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.95E+00	mg/kg	NA	NA	1.59E+00	5.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.40E-06	NA	NA	7.75E-06	1.05E-06	0.00E+00	0.00E+00	1.22E-05	8	6.15E-01	7.69E-02	1.59E-04	8	3.07E+00	3.84E-01	3.18E-05
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.04E-01	mg/kg	NA	NA	1.33E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.05E-07	NA	NA	1.34E-06	5.59E-07	0.00E+00	0.00E+00	2.61E-06	8	1.00E+00	1.25E-01	2.09E-05	8	1.00E+01	1.25E+00	2.09E-06
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.26E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-06	NA	NA	8.16E-06	4.13E-06	0.00E+00	0.00E+00	1.45E-05	8	6.15E-01	7.69E-02	1.88E-04	8	3.07E+00	3.84E-01	3.77E-05
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	2.94E+00	2.94E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.51E-07	NA	NA	1.48E-06	6.28E-07	0.00E+00	0.00E+00	2.46E-06	8	6.15E-01	7.69E-02	3.19E-05	8	3.07E+00	3.84E-01	6.40E-06
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.51E-01	mg/kg	NA	NA	2.60E+00	1.40E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.38E-07	NA	NA	1.63E-06	3.74E-07	0.00E+00	0.00E+00	2.44E-06	8	6.15E-01	7.69E-02	3.18E-05	8	3.07E+00	3.84E-01	6.37E-06
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	5.87E-01	mg/kg	NA	NA	2.29E+00	8.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-06	NA	NA	3.36E-06	5.16E-07	0.00E+00	0.00E+00	4.90E-06	8	6.15E-01	7.69E-02	6.38E-05	8	3.07E+00	3.84E-01	1.28E-05
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.79E-07	NA	NA	1.25E-06	3.00E-07	0.00E+00	0.00E+00	1.93E-06	8	6.15E-01	7.69E-02	2.51E-05	8	3.07E+00	3.84E-01	5.03E-06
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	3.29E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.75E-06	NA	NA	2.50E-05	1.75E-05	0.00E+00	0.00E+00	4.83E-05	8	6.15E-01	7.69E-02	6.28E-04	8	3.07E+00	3.84E-01	1.26E-04
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	9.45E-02	mg/kg	NA	NA	9.57E+00	3.06E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-07	NA	NA	2.26E-06	3.07E-07	0.00E+00	0.00E+00	2.73E-06	8	6.15E-01	7.69E-02	3.55E-05	8	3.07E+00	3.84E-01	7.12E-06
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.00E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-07	NA	NA	7.15E-07	1.17E-07	0.00E+00	0.00E+00	1.01E-06	8	6.15E-01	7.69E-02	1.31E-05	8	3.07E+00	3.84E-01	2.62E-06
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.87E+00	mg/kg	NA	NA	1.72E+00	6.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.27E-06	NA	NA	8.05E-06	1.33E-05	0.00E+00	0.00E+00	2.46E-05	8	6.15E-01	7.69E-02	3.20E-04	8	3.07E+00	3.84E-01	6.41E-05
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	2.44E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.26E-06	NA	NA	1.07E-05	1.87E-05	0.00E+00	0.00E+00	3.36E-05	8	6.15E-01	7.69E-02	4.37E-04	8	3.07E+00	3.84E-01	8.76E-05
Copper	1.52E-01	mg/L	2.43E+03	mg/kg	1.14E+03	mg/kg	2.00E+02	NA	5.15E-01	2.75E-02	1.87E-02	1.87E-02	1.54E-05	0.00E+00	1.98E-03	0.00E+00	NA	1.46E-03	3.31E-04	8.62E-04	1.86E-04	4.84E-03	8	1.17E+01	1.46E+00	3.31E-03	8	1.51E+01	1.89E+00	2.56E-03
Mercury	0.00E+00	mg/L	1.12E+00	mg/kg	6.14E-01	mg/kg	NA	1.14E+00	1.50E+00	4.60E-01	1.92E-01	1.92E-01	0.00E+00	0.00E+00	1.07E-06	NA	0.00E+00	2.30E-06	3.00E-06	4.79E-06	1.03E-06	1.22E-05	8	1.00E+00	1.25E-01	9.76E-05	8	5.00E+00	6.25E-01	1.95E-05
																					Hazard Index (Total EEQ):				6.0E-03				3.1E-03

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used as default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	0.17	unitless
Fish diet fraction =	0	unitless
Aq. Invert diet fraction =	0	unitless
Terr. Invert diet fraction =	0.04	unitless
Mammal diet fraction =	0.65	unitless
Bird diet fraction =	0.14	unitless
Soil ingestion rate =	0.0067	kg/d
Sediment ingestion rate =	0	kg/d
Food ingestion rate =	0.24	kg/d
Body weight =	4.53	kg
Home range =	2204	acres
Water intake rate =	0.39	L/d
Site Area =	2.6	acres
Frac. home range (FHR) =	1.18E-03	unitless

TABLE J-12
TIER 1 CHEMICALS OF POTENTIAL CONCERN EEQs AND HAZARD INDICES FOR MINKS AT SITE 18

Hazard Estimate - Tier 1
Mink

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
							---------- unitless ----------						mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.07E-01	mg/kg	NA	NA	1.47E+00	2.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	9.36E-04	0.00E+00	0.00E+00	9.36E-04	8	6.15E-01	7.69E-02	1.22E-02	8	3.07E+00	3.84E-01	2.44E-03
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	1.42E-03	0.00E+00	0.00E+00	1.42E-03	8	6.15E-01	7.69E-02	1.84E-02	8	3.07E+00	3.84E-01	3.69E-03
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	9.66E-01	mg/kg	NA	NA	2.42E+00	3.75E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	1.30E-02	0.00E+00	0.00E+00	1.30E-02	8	6.15E-01	7.69E-02	1.70E-01	8	3.07E+00	3.84E-01	3.40E-02
Aroclor 1254	0.00E+00	mg/L	1.03E+00	mg/kg	5.10E-01	mg/kg	NA	2.19E+01	6.52E+01	8.70E-02	1.00E+00	1.00E+00	0.00E+00	4.10E-03	0.00E+00	NA	5.38E-01	0.00E+00	1.60E-03	2.55E-03	2.55E-03	5.49E-01	1	1.40E-01	1.40E-01	3.92E+00	8	6.80E-01	8.50E-02	6.46E+00
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.59E+00	mg/kg	NA	NA	1.59E+00	4.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	4.23E-03	0.00E+00	0.00E+00	4.23E-03	8	6.15E-01	7.69E-02	5.50E-02	8	3.07E+00	3.84E-01	1.10E-02
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.64E+00	mg/kg	NA	NA	1.33E+00	1.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	7.42E-03	0.00E+00	0.00E+00	7.42E-03	8	1.00E+00	1.25E-01	5.94E-02	8	1.00E+01	1.25E+00	5.94E-03
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.42E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	2.70E-02	0.00E+00	0.00E+00	2.70E-02	8	6.15E-01	7.69E-02	3.51E-01	8	3.07E+00	3.84E-01	7.04E-02
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	6.77E-01	mg/kg	NA	NA	2.94E+00	3.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	8.94E-03	0.00E+00	0.00E+00	8.94E-03	8	6.15E-01	7.69E-02	1.16E-01	8	3.07E+00	3.84E-01	2.33E-02
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.85E-01	mg/kg	NA	NA	2.60E+00	1.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	3.75E-03	0.00E+00	0.00E+00	3.75E-03	8	6.15E-01	7.69E-02	4.87E-02	8	3.07E+00	3.84E-01	9.76E-03
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	2.43E+00	mg/kg	NA	NA	2.29E+00	4.65E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	4.07E-03	0.00E+00	0.00E+00	4.07E-03	8	6.15E-01	7.69E-02	5.29E-02	8	3.07E+00	3.84E-01	1.06E-02
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	1.02E-03	0.00E+00	0.00E+00	1.02E-03	8	6.15E-01	7.69E-02	1.32E-02	8	3.07E+00	3.84E-01	2.65E-03
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	6.53E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	1.18E-01	0.00E+00	0.00E+00	1.18E-01	8	6.15E-01	7.69E-02	1.53E+00	8	3.07E+00	3.84E-01	3.06E-01
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	9.57E+00	7.54E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	5.46E-04	0.00E+00	0.00E+00	5.46E-04	8	6.15E-01	7.69E-02	7.10E-03	8	3.07E+00	3.84E-01	1.42E-03
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.68E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	6.65E-04	0.00E+00	0.00E+00	6.65E-04	8	6.15E-01	7.69E-02	8.65E-03	8	3.07E+00	3.84E-01	1.73E-03
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	3.67E+00	mg/kg	NA	NA	1.72E+00	5.17E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	6.83E-02	0.00E+00	0.00E+00	6.83E-02	8	6.15E-01	7.69E-02	8.88E-01	8	3.07E+00	3.84E-01	1.78E-01
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.83E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	1.25E-01	0.00E+00	0.00E+00	1.25E-01	8	6.15E-01	7.69E-02	1.63E+00	8	3.07E+00	3.84E-01	3.26E-01
Copper	5.62E-01	mg/L	2.65E+03	mg/kg	2.81E+03	mg/kg	5.92E+03	NA	5.15E-01	1.59E-02	8.60E-03	8.60E-03	1.63E-01	1.06E+01	0.00E+00	4.32E+02	NA	0.00E+00	1.60E+00	1.21E-01	1.21E-01	4.45E+02	1	1.17E+01	1.17E+01	3.80E+01	1	1.51E+01	1.51E+01	2.95E+01
Methylmercury	0.00E+00	mg/L	2.20E+00	mg/kg	1.30E+00	mg/kg	NA	2.87E+00	3.30E+01	3.26E-01	1.05E+00	1.05E+00	0.00E+00	8.80E-03	0.00E+00	NA	1.51E-01	0.00E+00	1.53E-02	6.80E-03	6.80E-03	1.89E-01	1	1.50E-02	1.50E-02	1.26E+01	1	2.50E-02	2.50E-02	7.56E+00
																						Hazard Index (Total EEQ):			5.9E+01				4.4E+01

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used a default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	0.18	unitless
Fish diet fraction =	0.65	unitless
Aq. Invert diet fraction =	0.12	unitless
Terr. Invert diet fraction =	0	unitless
Mammal diet fraction =	0.025	unitless
Bird diet fraction =	0.025	unitless
Soil ingestion rate =	0	kg/d
Sediment ingestion rate =	0.0022	kg/d
Food ingestion rate =	0.11	kg/d
Body weight =	0.55	kg
Home range =	35	acres
Water intake rate =	**0.16**	**L/d**
Site Area =	2.5	acres
Frac. home range (FHR) =	1.00E+00	unitless

TABLE J-13
TIER 2 CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN EEQs AND HAZARD INDICES FOR MINKS AT SITE 18

Hazard Estimate - Tier 2
Mink

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
							---------- unitless ----------						mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.63E-02	mg/kg	NA	NA	1.47E+00	3.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	2.76E-05	0.00E+00	0.00E+00	2.76E-05	8	6.15E-01	7.69E-02	3.59E-04	8	3.07E+00	3.84E-01	7.19E-05
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	3.47E-05	0.00E+00	0.00E+00	3.47E-05	8	6.15E-01	7.69E-02	4.52E-04	8	3.07E+00	3.84E-01	9.05E-05
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.85E-01	mg/kg	NA	NA	2.42E+00	5.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	8.83E-05	0.00E+00	0.00E+00	8.83E-05	8	6.15E-01	7.69E-02	1.15E-03	8	3.07E+00	3.84E-01	2.30E-04
Aroclor 1254	0.00E+00	mg/L	3.16E-01	mg/kg	2.69E-01	mg/kg	NA	4.67E+00	4.09E+00	8.70E-02	5.00E-01	5.00E-01	0.00E+00	3.10E-05	0.00E+00	NA	8.69E-04	0.00E+00	2.06E-05	1.65E-05	1.65E-05	9.54E-04	1	1.40E-01	1.40E-01	6.81E-03	8	6.80E-01	8.50E-02	1.12E-02
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.95E+00	mg/kg	NA	NA	1.59E+00	5.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	8.75E-05	0.00E+00	0.00E+00	8.75E-05	8	6.15E-01	7.69E-02	1.14E-03	8	3.07E+00	3.84E-01	2.28E-04
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.04E-01	mg/kg	NA	NA	1.33E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	4.64E-05	0.00E+00	0.00E+00	4.64E-05	8	1.00E+00	1.25E-01	3.71E-04	8	1.00E+01	1.25E+00	3.71E-05
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.26E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	3.43E-04	0.00E+00	0.00E+00	3.43E-04	8	6.15E-01	7.69E-02	4.47E-03	8	3.07E+00	3.84E-01	8.95E-04
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	2.94E+00	2.94E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	5.21E-05	0.00E+00	0.00E+00	5.21E-05	8	6.15E-01	7.69E-02	6.78E-04	8	3.07E+00	3.84E-01	1.36E-04
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.51E-01	mg/kg	NA	NA	2.60E+00	1.40E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	3.11E-05	0.00E+00	0.00E+00	3.11E-05	8	6.15E-01	7.69E-02	4.04E-04	8	3.07E+00	3.84E-01	8.10E-05
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	5.87E-01	mg/kg	NA	NA	2.29E+00	8.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	4.29E-05	0.00E+00	0.00E+00	4.29E-05	8	6.15E-01	7.69E-02	5.58E-04	8	3.07E+00	3.84E-01	1.12E-04
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	2.49E-05	0.00E+00	0.00E+00	2.49E-05	8	6.15E-01	7.69E-02	3.24E-04	8	3.07E+00	3.84E-01	6.49E-05
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	3.29E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	1.45E-03	0.00E+00	0.00E+00	1.45E-03	8	6.15E-01	7.69E-02	1.89E-02	8	3.07E+00	3.84E-01	3.79E-03
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	9.45E-02	mg/kg	NA	NA	9.57E+00	3.06E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	2.55E-05	0.00E+00	0.00E+00	2.55E-05	8	6.15E-01	7.69E-02	3.32E-04	8	3.07E+00	3.84E-01	6.65E-05
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.00E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	9.71E-06	0.00E+00	0.00E+00	9.71E-06	8	6.15E-01	7.69E-02	1.26E-04	8	3.07E+00	3.84E-01	2.53E-05
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.87E+00	mg/kg	NA	NA	1.72E+00	6.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	1.10E-03	0.00E+00	0.00E+00	1.10E-03	8	6.15E-01	7.69E-02	1.43E-02	8	3.07E+00	3.84E-01	2.87E-03
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	2.44E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	1.55E-03	0.00E+00	0.00E+00	1.55E-03	8	6.15E-01	7.69E-02	2.02E-02	8	3.07E+00	3.84E-01	4.04E-03
Copper	1.52E-01	mg/L	2.43E+03	mg/kg	1.14E+03	mg/kg	2.00E+02	NA	5.15E-01	2.75E-02	1.87E-02	1.87E-02	1.06E-03	2.38E-01	0.00E+00	9.69E-02	NA	0.00E+00	2.75E-02	2.60E-03	2.60E-03	3.69E-01	1	1.17E+01	1.17E+01	3.15E-02	1	1.51E+01	1.51E+01	2.44E-02
Methylmercury	0.00E+00	mg/L	1.12E+00	mg/kg	6.14E-01	mg/kg	NA	1.14E+00	1.50E+00	4.60E-01	1.92E-01	1.92E-01	0.00E+00	1.10E-04	0.00E+00	NA	7.47E-04	0.00E+00	2.49E-04	1.44E-05	1.44E-05	1.14E-03	1	1.50E-02	1.50E-02	7.57E-02	1	2.50E-02	2.50E-02	4.54E-02
																									Hazard Index (Total EEQ):			1.8E-01				9.4E-02

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:

Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:

Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used as default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	0.18	unitless
Fish diet fraction =	0.65	unitless
Aq. Invert diet fraction =	0.12	unitless
Terr. Invert diet fraction =	0	unitless
Mammal diet fraction =	0.025	unitless
Bird diet fraction =	0.025	unitless
Soil ingestion rate =	0	kg/d
Sediment ingestion rate =	0.0014	kg/d
Food ingestion rate =	0.07	kg/d
Body weight =	1.02	kg
Home range =	35	acres
Water intake rate =	0.1	L/d
Site Area =	2.5	acres
Frac. home range (FHR) =	7.14E-02	unitless

TABLE J-14
TIER 1 CHEMICALS OF POTENTIAL CONCERN EEQs AND HAZARD INDICES FOR GREAT BLUE HERONS AT SITE 18

Hazard Estimate - Tier 1
Great Blue Heron

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
							---------- unitless ----------						mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.07E-01	mg/kg	NA	NA	1.47E+00	2.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	9.66E-01	mg/kg	NA	NA	2.42E+00	3.75E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Aroclor 1254	0.00E+00	mg/L	1.03E+00	mg/kg	5.10E-01	mg/kg	NA	2.19E+01	6.52E+01	8.70E-02	1.00E+00	1.00E+00	0.00E+00	1.03E-03	0.00E+00	NA	4.49E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.59E-02	8	1.80E-01	2.25E-02	2.04E+00	8	1.80E+00	2.25E-01	2.04E-01
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.59E+00	mg/kg	NA	NA	1.59E+00	4.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.64E+00	mg/kg	NA	NA	1.33E+00	1.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.42E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	6.77E-01	mg/kg	NA	NA	2.94E+00	3.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.85E-01	mg/kg	NA	NA	2.60E+00	1.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	2.43E+00	mg/kg	NA	NA	2.29E+00	4.65E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	6.53E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	9.57E+00	7.54E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.68E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	3.67E+00	mg/kg	NA	NA	1.72E+00	5.17E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.83E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Copper	5.62E-01	mg/L	2.65E+03	mg/kg	2.81E+03	mg/kg	5.92E+03	NA	5.15E-01	1.59E-02	8.60E-03	8.60E-03	2.81E-02	2.65E+00	0.00E+00	1.60E+02	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E+02	8	4.70E+01	5.88E+00	2.76E+01	8	6.20E+01	7.75E+00	2.09E+01
Methylmercury	0.00E+00	mg/L	2.20E+00	mg/kg	1.30E+00	mg/kg	NA	2.87E+00	3.30E+01	3.26E-01	1.05E+00	1.05E+00	0.00E+00	2.20E-03	0.00E+00	NA	1.26E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-02	8	6.40E-03	8.00E-04	1.85E+01	8	6.40E-02	8.00E-03	1.85E+00
																									Hazard Index (Total EEQ):						2.3E+01

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used a default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	0	unitless
Fish diet fraction =	0.96	unitless
Aq. Invert diet fraction =	0.04	unitless
Terr. Invert diet fraction =	0	unitless
Mammal diet fraction =	0	unitless
Bird diet fraction =	0	unitless
Soil ingestion rate =	0	kg/d
Sediment ingestion rate =	0.0022	kg/d
Food ingestion rate =	0.11	kg/d
Body weight =	2.2	kg
Home range =	21	acres
Water intake rate =	0.11	L/d
Site Area =	2.5	acres
Frac. home range (FHR) =	1.00E+00	unitless

TABLE J-15
TIER 2 CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN EEQs AND HAZARD INDICES FOR GREAT BLUE HERONS AT SITE 18

Hazard Estimate - Tier 2
Great Blue Heron

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF	Bird BAF	PDE Surface Water	PDE Sediment	PDE Soil	PDE Fish	PDE Aq. Invert.	PDE Terr. Invert.	PDE Plants	PDE Mammals	PDE Birds	Total PDE	NOAEL Chemical-Specific Toxicity Value UF	NOAEL	Adjusted NOAEL	EEQ N	LOAEL Chemical-Specific Toxicity Value UF	LOAEL	Adjusted LOAEL	EEQ L
							---------- unitless ----------						mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d	mg/kg-d		mg/kg-d	mg/kg-d			mg/kg-d	mg/kg-d	
Acenaphthene	0.00E+00	mg/L	0.00E+00	mg/kg	8.63E-02	mg/kg	NA	NA	1.47E+00	3.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Acenaphthylene	0.00E+00	mg/L	0.00E+00	mg/kg	7.11E-02	mg/kg	NA	NA	2.29E+01	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.85E-01	mg/kg	NA	NA	2.42E+00	5.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Aroclor 1254	0.00E+00	mg/L	3.16E-01	mg/kg	2.69E-01	mg/kg	NA	4.67E+00	4.09E+00	8.70E-02	5.00E-01	5.00E-01	0.00E+00	3.22E-05	0.00E+00	NA	3.01E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-04	8	1.80E-01	2.25E-02	1.48E-02	8	1.80E+00	2.25E-01	1.48E-03
Benzo(a)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	1.95E+00	mg/kg	NA	NA	1.59E+00	5.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(a)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	4.04E-01	mg/kg	NA	NA	1.33E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(b)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	1.26E+00	mg/kg	NA	NA	2.60E+00	3.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(ghi)perylene	0.00E+00	mg/L	0.00E+00	mg/kg	2.01E-01	mg/kg	NA	NA	2.94E+00	2.94E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Benzo(k)fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	2.51E-01	mg/kg	NA	NA	2.60E+00	1.40E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Chrysene	0.00E+00	mg/L	0.00E+00	mg/kg	5.87E-01	mg/kg	NA	NA	2.29E+00	8.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Dibenzo(a,h)anthracene	0.00E+00	mg/L	0.00E+00	mg/kg	2.17E-01	mg/kg	NA	NA	2.31E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Fluoranthene	0.00E+00	mg/L	0.00E+00	mg/kg	3.29E+00	mg/kg	NA	NA	3.04E+00	5.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Fluorene	0.00E+00	mg/L	0.00E+00	mg/kg	9.45E-02	mg/kg	NA	NA	9.57E+00	3.06E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Indeno(1,2,3-cd)pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.00E-01	mg/kg	NA	NA	2.86E+00	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Phenanthrene	0.00E+00	mg/L	0.00E+00	mg/kg	1.87E+00	mg/kg	NA	NA	1.72E+00	6.67E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Pyrene	0.00E+00	mg/L	0.00E+00	mg/kg	2.44E+00	mg/kg	NA	NA	1.75E+00	7.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8	5.53E+02	6.91E+01	0.00E+00	8	2.77E+03	3.46E+02	0.00E+00
Copper	1.52E-01	mg/L	2.43E+03	mg/kg	1.14E+03	mg/kg	2.00E+02	NA	5.15E-01	2.75E-02	1.87E-02	1.87E-02	7.73E-04	2.47E-01	0.00E+00	1.48E-01	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.97E-01	8	4.70E+01	5.88E+00	6.75E-02	8	6.20E+01	7.75E+00	5.12E-02
Methylmercury	0.00E+00	mg/L	1.12E+00	mg/kg	6.14E-01	mg/kg	NA	1.14E+00	1.50E+00	4.60E-01	1.92E-01	1.92E-01	0.00E+00	1.14E-04	0.00E+00	NA	2.58E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.72E-04	8	6.40E-03	8.00E-04	4.65E-01	8	6.40E-02	8.00E-03	4.65E-02
																						Hazard Index (Total EEQ):		5.5E-01					9.9E-02

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:

Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in medium (I) (mg/kg or mg/L)
BW = Body Weight

Notes:

Tier 1 = Max EEQ using max EPC, max BAF/BCF, max Intake Rates, min BW, and FHR =1.
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg Intake Rates, avg BW and calculated FHR.
BAF = Bioaccumulation Factor (may be BCF if this is the only value available)
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF = bioconcentration factor)
Some BAF (or BCF) values based on media regression equations (value in box): n See appropriate text tables for equations.
If BAF/BCF regression equation produced Tier 2 value exceeding maximum Tier 1 BAF/BCF value, Tier 1 value used as default.
LOAEL and NOAEL values from appropriate toxicity summary tables in the text.
UF = Uncertainty Factor for toxicity factor extrapolation, and Adjusted LOAEL or NOAEL = LOAEL/UF or NOAEL/UF
A "0" entry in the exposure concentration column indicates this chemical not selected as a COPEC for this medium.
Receptor diet data and home range data from appropriate text table.
Exposure point concentrations (EPCs) from appropriate text tables.

Species-Specific Factors

Plant diet fraction =	0	unitless
Fish diet fraction =	0.96	unitless
Aq. Invert diet fraction =	0.04	unitless
Terr. Invert diet fraction =	0	unitless
Mammal diet fraction =	0	unitless
Bird diet fraction =	0	unitless
Soil ingestion rate =	0	kg/d
Sediment ingestion rate =	0.002	kg/d
Food ingestion rate =	0.1	kg/d
Body weight =	2.34	kg
Home range =	21	acres
Water intake rate =	0.1	L/d
Site Area =	2.5	acres
Frac. home range (FHR) =	1.19E-01	unitless

TABLE J-16
EXAMPLE CALCULATION OF TIER 2 CHEMICALS OF POTENTIAL CONCERN EEQs AND HAZARD INDICES FOR RED FOXES AT SITE 18

Hazard Estimate - Tier 2
Red Fox

Chemical	Surface Water Exposure Point Concentration	Units	Sediment Exposure Point Concentration	Units	Soil Exposure Point Concentration	Units	Fish BAF	Aq. Invert. BAF	Terr. Invert. BAF	Plant BAF	Mammal BAF
							---------- unitless ----------				
Acenaphthene	0	mg/L	0	mg/kg	0.0862502823299375	mg/kg	NA	NA	1.47	=EXP(-0.8556*LN(F8)-5.562)/F8	0
Acenaphthylene	0	mg/L	0	mg/kg	0.0711	mg/kg	NA	NA	22.9	=EXP(0.791*LN(F9)-1.144)/F9	0
Anthracene	0	mg/L	0	mg/kg	0.18511477563664	mg/kg	NA	NA	2.42	=EXP(0.7784*LN(F10)-0.9887)/F10	0
Aroclor 1254	0	mg/L	0.316452543605495	mg/kg	0.269	mg/kg	NA	4.67	=EXP(1.29*LN(F11)+1.79)/F11	0.087	0.5
Benzo(a)anthracene	0	mg/L	0	mg/kg	1.949	mg/kg	NA	NA	1.59	=EXP(0.5944*LN(F12)-2.7078)/F12	0
Benzo(a)pyrene	0	mg/L	0	mg/kg	0.404	mg/kg	NA	NA	1.33	=EXP(0.975*LN(F13)-2.0615)/F13	0
Benzo(b)fluoranthene	0	mg/L	0	mg/kg	1.255	mg/kg	NA	NA	2.6	0.31	0
Benzo(ghi)perylene	0	mg/L	0	mg/kg	0.201	mg/kg	NA	NA	2.94	=EXP(1.1829*LN(F15)-0.9313)/F15	0
Benzo(k)fluoranthene	0	mg/L	0	mg/kg	0.251	mg/kg	NA	NA	2.6	=EXP(0.8595*LN(F16)-2.1579)/F16	0
Chrysene	0	mg/L	0	mg/kg	0.587	mg/kg	NA	NA	2.29	=EXP(0.5944*LN(F17)-2.7078)/F17	0
Dibenzo(a,h)anthracene	0	mg/L	0	mg/kg	0.217	mg/kg	NA	NA	2.31	0.13	0
Fluoranthene	0	mg/L	0	mg/kg	3.293	mg/kg	NA	NA	3.04	0.5	0
Fluorene	0	mg/L	0	mg/kg	0.0944637718219498	mg/kg	NA	NA	9.57	=EXP(-0.8556*LN(F20)-5.562)/F20	0
Indeno(1,2,3-cd)pyrene	0	mg/L	0	mg/kg	0.1	mg/kg	NA	NA	2.86	0.11	0
Phenanthrene	0	mg/L	0	mg/kg	1.872	mg/kg	NA	NA	1.72	=EXP(0.6203*LN(F22)-0.1665)/F22	0
Pyrene	0	mg/L	0	mg/kg	2.44	mg/kg	NA	NA	1.75	0.72	0
Copper	0.152	mg/L	2431	mg/kg	1135	mg/kg	200	NA	0.515	=EXP(0.394*LN(F24)+0.668)/F24	=EXP(0.144*LN(F24)+2.042)/F24
Mercury	0	mg/L	1.118	mg/kg	0.614	mg/kg	NA	1.136	=EXP(0.33*LN(F25)+0.078)/F25	=EXP(0.54*LN(F25)-1)/F25	0.192

Intake Equation:

$$Ej = \left(\frac{A}{HR} \left[\sum_{i=1}^{m} \left(\frac{IRi \, x \, Cij}{BW} \right) \right] \right)$$

Where:
Ej = Total Exposure to Chemical
A = Site Area
HR = Home Range
m = Total number of ingested media
i = counter
IRi = Consumption Rate for Medium
Cij = Chemical concentration (j) in mediu
BW = Body Weight

Notes:
Tier 1 = Max EEQ using max EPC, max BAF/BCF, max
Tier 2 = EEQ using 95% EPC, non-max BAF/BCF, avg It
BAF = Bioaccumulation Factor (may be BCF if this is the
EEQ = Ecological Effects Quotient.
L = LOAEL based; N = NOAEL based
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NA = Not applicable/Not available
PDE = Predicted Daily Exposure
BAF (or BCF) values from appropriate text tables (BCF =
Some BAF (or BCF) values based on media regression eq
If BAF/BCF regression equation produced Tier 2 value ex
LOAEL and NOAEL values from appropriate toxicity sur
UF = Uncertainty Factor for toxicity factor extrapolation,
A "0" entry in the exposure concentration column indicate
Receptor diet data and home range data from appropriate
Exposure point concentrations (EPCs) from appropriate te

TABLE J-16
EXAMPLE CALCULATION OF TIER 2 CHEMICALS OF POTENTIAL CONCERN EEQs AND HAZARD INDICES FOR RED FOXES AT SITE 18

	M	N	O	P	Q	R
1						
2						
3						
4						
5	**Bird BAF**	**PDE Surface Water**	**PDE Sediment**	**PDE Soil**	**PDE Fish**	**PDE Aq. Invert.**
6		**mg/kg-d**	**mg/kg-d**	**mg/kg-d**	**mg/kg-d**	**mg/kg-d**
7						
8	0	=$AA$43*B8*$AA$45/$AA$41	=$AA$39*D8*$AA$45/$AA$41	=$AA$38*F8*$AA$45/$AA$41	=IF(H8="NA","NA",$AA$33*B8*H8*$AA$40*$AA$45/$AA$41)	=IF(I8="NA","NA",$AA$34*D8*I8*$AA$40*$AA$45/$AA$41)
9	0	=$AA$43*B9*$AA$45/$AA$41	=$AA$39*D9*$AA$45/$AA$41	=$AA$38*F9*$AA$45/$AA$41	=IF(H9="NA","NA",$AA$33*B9*H9*$AA$40*$AA$45/$AA$41)	=IF(I9="NA","NA",$AA$34*D9*I9*$AA$40*$AA$45/$AA$41)
10	0	=$AA$43*B10*$AA$45/$AA$41	=$AA$39*D10*$AA$45/$AA$41	=$AA$38*F10*$AA$45/$AA$41	=IF(H10="NA","NA",$AA$33*B10*H10*$AA$40*$AA$45/$AA$41)	=IF(I10="NA","NA",$AA$34*D10*I10*$AA$40*$AA$45/$AA$41)
11	0.5	=$AA$43*B11*$AA$45/$AA$41	=$AA$39*D11*$AA$45/$AA$41	=$AA$38*F11*$AA$45/$AA$41	=IF(H11="NA","NA",$AA$33*B11*H11*$AA$40*$AA$45/$AA$41)	=IF(I11="NA","NA",$AA$34*D11*I11*$AA$40*$AA$45/$AA$41)
12	0	=$AA$43*B12*$AA$45/$AA$41	=$AA$39*D12*$AA$45/$AA$41	=$AA$38*F12*$AA$45/$AA$41	=IF(H12="NA","NA",$AA$33*B12*H12*$AA$40*$AA$45/$AA$41)	=IF(I12="NA","NA",$AA$34*D12*I12*$AA$40*$AA$45/$AA$41)
13	0	=$AA$43*B13*$AA$45/$AA$41	=$AA$39*D13*$AA$45/$AA$41	=$AA$38*F13*$AA$45/$AA$41	=IF(H13="NA","NA",$AA$33*B13*H13*$AA$40*$AA$45/$AA$41)	=IF(I13="NA","NA",$AA$34*D13*I13*$AA$40*$AA$45/$AA$41)
14	0	=$AA$43*B14*$AA$45/$AA$41	=$AA$39*D14*$AA$45/$AA$41	=$AA$38*F14*$AA$45/$AA$41	=IF(H14="NA","NA",$AA$33*B14*H14*$AA$40*$AA$45/$AA$41)	=IF(I14="NA","NA",$AA$34*D14*I14*$AA$40*$AA$45/$AA$41)
15	0	=$AA$43*B15*$AA$45/$AA$41	=$AA$39*D15*$AA$45/$AA$41	=$AA$38*F15*$AA$45/$AA$41	=IF(H15="NA","NA",$AA$33*B15*H15*$AA$40*$AA$45/$AA$41)	=IF(I15="NA","NA",$AA$34*D15*I15*$AA$40*$AA$45/$AA$41)
16	0	=$AA$43*B16*$AA$45/$AA$41	=$AA$39*D16*$AA$45/$AA$41	=$AA$38*F16*$AA$45/$AA$41	=IF(H16="NA","NA",$AA$33*B16*H16*$AA$40*$AA$45/$AA$41)	=IF(I16="NA","NA",$AA$34*D16*I16*$AA$40*$AA$45/$AA$41)
17	0	=$AA$43*B17*$AA$45/$AA$41	=$AA$39*D17*$AA$45/$AA$41	=$AA$38*F17*$AA$45/$AA$41	=IF(H17="NA","NA",$AA$33*B17*H17*$AA$40*$AA$45/$AA$41)	=IF(I17="NA","NA",$AA$34*D17*I17*$AA$40*$AA$45/$AA$41)
18	0	=$AA$43*B18*$AA$45/$AA$41	=$AA$39*D18*$AA$45/$AA$41	=$AA$38*F18*$AA$45/$AA$41	=IF(H18="NA","NA",$AA$33*B18*H18*$AA$40*$AA$45/$AA$41)	=IF(I18="NA","NA",$AA$34*D18*I18*$AA$40*$AA$45/$AA$41)
19	0	=$AA$43*B19*$AA$45/$AA$41	=$AA$39*D19*$AA$45/$AA$41	=$AA$38*F19*$AA$45/$AA$41	=IF(H19="NA","NA",$AA$33*B19*H19*$AA$40*$AA$45/$AA$41)	=IF(I19="NA","NA",$AA$34*D19*I19*$AA$40*$AA$45/$AA$41)
20	0	=$AA$43*B20*$AA$45/$AA$41	=$AA$39*D20*$AA$45/$AA$41	=$AA$38*F20*$AA$45/$AA$41	=IF(H20="NA","NA",$AA$33*B20*H20*$AA$40*$AA$45/$AA$41)	=IF(I20="NA","NA",$AA$34*D20*I20*$AA$40*$AA$45/$AA$41)
21	0	=$AA$43*B21*$AA$45/$AA$41	=$AA$39*D21*$AA$45/$AA$41	=$AA$38*F21*$AA$45/$AA$41	=IF(H21="NA","NA",$AA$33*B21*H21*$AA$40*$AA$45/$AA$41)	=IF(I21="NA","NA",$AA$34*D21*I21*$AA$40*$AA$45/$AA$41)
22	0	=$AA$43*B22*$AA$45/$AA$41	=$AA$39*D22*$AA$45/$AA$41	=$AA$38*F22*$AA$45/$AA$41	=IF(H22="NA","NA",$AA$33*B22*H22*$AA$40*$AA$45/$AA$41)	=IF(I22="NA","NA",$AA$34*D22*I22*$AA$40*$AA$45/$AA$41)
23	0	=$AA$43*B23*$AA$45/$AA$41	=$AA$39*D23*$AA$45/$AA$41	=$AA$38*F23*$AA$45/$AA$41	=IF(H23="NA","NA",$AA$33*B23*H23*$AA$40*$AA$45/$AA$41)	=IF(I23="NA","NA",$AA$34*D23*I23*$AA$40*$AA$45/$AA$41)
24	=EXP(0.144*LN(F24)+2.042)/F24	=$AA$43*B24*$AA$45/$AA$41	=$AA$39*D24*$AA$45/$AA$41	=$AA$38*F24*$AA$45/$AA$41	=IF(H24="NA","NA",$AA$33*B24*H24*$AA$40*$AA$45/$AA$41)	=IF(I24="NA","NA",$AA$34*D24*I24*$AA$40*$AA$45/$AA$41)
25	0.192	=$AA$43*B25*$AA$45/$AA$41	=$AA$39*D25*$AA$45/$AA$41	=$AA$38*F25*$AA$45/$AA$41	=IF(H25="NA","NA",$AA$33*B25*H25*$AA$40*$AA$45/$AA$41)	=IF(I25="NA","NA",$AA$34*D25*I25*$AA$40*$AA$45/$AA$41)
26						
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36						
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38						
39						
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41						
42				n	See appropriate text tables for equations.	
43						
44						
45						
46						
47						
48						

TABLE J-16
EXAMPLE CALCULATION OF TIER 2 CHEMICALS OF POTENTIAL CONCERN EEQs AND HAZARD INDICES FOR RED FOXES AT SITE 18

	S	T	U	V	W
1					
2					
3					
4					
5	**PDE Terr. Invert.**	**PDE Plants**	**PDE Mammals**	**PDE Birds**	**Total PDE**
6	**mg/kg-d**	**mg/kg-d**	**mg/kg-d**	**mg/kg-d**	**mg/kg-d**
7					
8	=IF(J8="NA","NA",$AA$35*F8*J8*$AA$40*$AA$45/$AA$41)	=IF(K8="NA","NA",$AA$32*F8*K8*$AA$40*$AA$45/$AA$41)	=IF(L8="NA","NA",$AA$36*F8*L8*$AA$40*$AA$45/$AA$41)	=IF(M8="NA","NA",$AA$37*F8*M8*$AA$40*$AA$45/$AA$41)	=SUM(N8:V8)
9	=IF(J9="NA","NA",$AA$35*F9*J9*$AA$40*$AA$45/$AA$41)	=IF(K9="NA","NA",$AA$32*F9*K9*$AA$40*$AA$45/$AA$41)	=IF(L9="NA","NA",$AA$36*F9*L9*$AA$40*$AA$45/$AA$41)	=IF(M9="NA","NA",$AA$37*F9*M9*$AA$40*$AA$45/$AA$41)	=SUM(N9:V9)
10	=IF(J10="NA","NA",$AA$35*F10*J10*$AA$40*$AA$45/$AA$41)	=IF(K10="NA","NA",$AA$32*F10*K10*$AA$40*$AA$45/$AA$41)	=IF(L10="NA","NA",$AA$36*F10*L10*$AA$40*$AA$45/$AA$41)	=IF(M10="NA","NA",$AA$37*F10*M10*$AA$40*$AA$45/$AA$41)	=SUM(N10:V10)
11	=IF(J11="NA","NA",$AA$35*F11*J11*$AA$40*$AA$45/$AA$41)	=IF(K11="NA","NA",$AA$32*F11*K11*$AA$40*$AA$45/$AA$41)	=IF(L11="NA","NA",$AA$36*F11*L11*$AA$40*$AA$45/$AA$41)	=IF(M11="NA","NA",$AA$37*F11*M11*$AA$40*$AA$45/$AA$41)	=SUM(N11:V11)
12	=IF(J12="NA","NA",$AA$35*F12*J12*$AA$40*$AA$45/$AA$41)	=IF(K12="NA","NA",$AA$32*F12*K12*$AA$40*$AA$45/$AA$41)	=IF(L12="NA","NA",$AA$36*F12*L12*$AA$40*$AA$45/$AA$41)	=IF(M12="NA","NA",$AA$37*F12*M12*$AA$40*$AA$45/$AA$41)	=SUM(N12:V12)
13	=IF(J13="NA","NA",$AA$35*F13*J13*$AA$40*$AA$45/$AA$41)	=IF(K13="NA","NA",$AA$32*F13*K13*$AA$40*$AA$45/$AA$41)	=IF(L13="NA","NA",$AA$36*F13*L13*$AA$40*$AA$45/$AA$41)	=IF(M13="NA","NA",$AA$37*F13*M13*$AA$40*$AA$45/$AA$41)	=SUM(N13:V13)
14	=IF(J14="NA","NA",$AA$35*F14*J14*$AA$40*$AA$45/$AA$41)	=IF(K14="NA","NA",$AA$32*F14*K14*$AA$40*$AA$45/$AA$41)	=IF(L14="NA","NA",$AA$36*F14*L14*$AA$40*$AA$45/$AA$41)	=IF(M14="NA","NA",$AA$37*F14*M14*$AA$40*$AA$45/$AA$41)	=SUM(N14:V14)
15	=IF(J15="NA","NA",$AA$35*F15*J15*$AA$40*$AA$45/$AA$41)	=IF(K15="NA","NA",$AA$32*F15*K15*$AA$40*$AA$45/$AA$41)	=IF(L15="NA","NA",$AA$36*F15*L15*$AA$40*$AA$45/$AA$41)	=IF(M15="NA","NA",$AA$37*F15*M15*$AA$40*$AA$45/$AA$41)	=SUM(N15:V15)
16	=IF(J16="NA","NA",$AA$35*F16*J16*$AA$40*$AA$45/$AA$41)	=IF(K16="NA","NA",$AA$32*F16*K16*$AA$40*$AA$45/$AA$41)	=IF(L16="NA","NA",$AA$36*F16*L16*$AA$40*$AA$45/$AA$41)	=IF(M16="NA","NA",$AA$37*F16*M16*$AA$40*$AA$45/$AA$41)	=SUM(N16:V16)
17	=IF(J17="NA","NA",$AA$35*F17*J17*$AA$40*$AA$45/$AA$41)	=IF(K17="NA","NA",$AA$32*F17*K17*$AA$40*$AA$45/$AA$41)	=IF(L17="NA","NA",$AA$36*F17*L17*$AA$40*$AA$45/$AA$41)	=IF(M17="NA","NA",$AA$37*F17*M17*$AA$40*$AA$45/$AA$41)	=SUM(N17:V17)
18	=IF(J18="NA","NA",$AA$35*F18*J18*$AA$40*$AA$45/$AA$41)	=IF(K18="NA","NA",$AA$32*F18*K18*$AA$40*$AA$45/$AA$41)	=IF(L18="NA","NA",$AA$36*F18*L18*$AA$40*$AA$45/$AA$41)	=IF(M18="NA","NA",$AA$37*F18*M18*$AA$40*$AA$45/$AA$41)	=SUM(N18:V18)
19	=IF(J19="NA","NA",$AA$35*F19*J19*$AA$40*$AA$45/$AA$41)	=IF(K19="NA","NA",$AA$32*F19*K19*$AA$40*$AA$45/$AA$41)	=IF(L19="NA","NA",$AA$36*F19*L19*$AA$40*$AA$45/$AA$41)	=IF(M19="NA","NA",$AA$37*F19*M19*$AA$40*$AA$45/$AA$41)	=SUM(N19:V19)
20	=IF(J20="NA","NA",$AA$35*F20*J20*$AA$40*$AA$45/$AA$41)	=IF(K20="NA","NA",$AA$32*F20*K20*$AA$40*$AA$45/$AA$41)	=IF(L20="NA","NA",$AA$36*F20*L20*$AA$40*$AA$45/$AA$41)	=IF(M20="NA","NA",$AA$37*F20*M20*$AA$40*$AA$45/$AA$41)	=SUM(N20:V20)
21	=IF(J21="NA","NA",$AA$35*F21*J21*$AA$40*$AA$45/$AA$41)	=IF(K21="NA","NA",$AA$32*F21*K21*$AA$40*$AA$45/$AA$41)	=IF(L21="NA","NA",$AA$36*F21*L21*$AA$40*$AA$45/$AA$41)	=IF(M21="NA","NA",$AA$37*F21*M21*$AA$40*$AA$45/$AA$41)	=SUM(N21:V21)
22	=IF(J22="NA","NA",$AA$35*F22*J22*$AA$40*$AA$45/$AA$41)	=IF(K22="NA","NA",$AA$32*F22*K22*$AA$40*$AA$45/$AA$41)	=IF(L22="NA","NA",$AA$36*F22*L22*$AA$40*$AA$45/$AA$41)	=IF(M22="NA","NA",$AA$37*F22*M22*$AA$40*$AA$45/$AA$41)	=SUM(N22:V22)
23	=IF(J23="NA","NA",$AA$35*F23*J23*$AA$40*$AA$45/$AA$41)	=IF(K23="NA","NA",$AA$32*F23*K23*$AA$40*$AA$45/$AA$41)	=IF(L23="NA","NA",$AA$36*F23*L23*$AA$40*$AA$45/$AA$41)	=IF(M23="NA","NA",$AA$37*F23*M23*$AA$40*$AA$45/$AA$41)	=SUM(N23:V23)
24	=IF(J24="NA","NA",$AA$35*F24*J24*$AA$40*$AA$45/$AA$41)	=IF(K24="NA","NA",$AA$32*F24*K24*$AA$40*$AA$45/$AA$41)	=IF(L24="NA","NA",$AA$36*F24*L24*$AA$40*$AA$45/$AA$41)	=IF(M24="NA","NA",$AA$37*F24*M24*$AA$40*$AA$45/$AA$41)	=SUM(N24:V24)
25	=IF(J25="NA","NA",$AA$35*F25*J25*$AA$40*$AA$45/$AA$41)	=IF(K25="NA","NA",$AA$32*F25*K25*$AA$40*$AA$45/$AA$41)	=IF(L25="NA","NA",$AA$36*F25*L25*$AA$40*$AA$45/$AA$41)	=IF(M25="NA","NA",$AA$37*F25*M25*$AA$40*$AA$45/$AA$41)	=SUM(N25:V25)
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TABLE J-16
EXAMPLE CALCULATION OF TIER 2 CHEMICALS OF POTENTIAL CONCERN EEQs AND HAZARD INDICES FOR RED FOXES AT SITE 18

	X	Y	Z	AA	AB	AC	AD	AE
1								
2								
3								
4								
5		**NOAEL**	**Adjusted NOAEL**			**LOAEL**	**Adjusted LOAEL**	
6	**NOAEL Chemical-Specific Toxicity Value UF**	**mg/kg-d**	**mg/kg-d**	**EEQ N**	**LOAEL Chemical-Specific Toxicity Value UF**	**mg/kg-d**	**mg/kg-d**	**EEQ L**
7								
8	8	0.615	=IF(Y8="NA","NA",Y8/X8)	=IF(Y8="NA","NA",W8/Z8)	8	3.07	=IF(AC8="NA","NA",AC8/AB8)	=IF(AC8="NA","NA",W8/AD8)
9	8	0.615	=IF(Y9="NA","NA",Y9/X9)	=IF(Y9="NA","NA",W9/Z9)	8	3.07	=IF(AC9="NA","NA",AC9/AB9)	=IF(AC9="NA","NA",W9/AD9)
10	8	0.615	=IF(Y10="NA","NA",Y10/X10)	=IF(Y10="NA","NA",W10/Z10)	8	3.07	=IF(AC10="NA","NA",AC10/AB10)	=IF(AC10="NA","NA",W10/AD10)
11	8	0.14	=IF(Y11="NA","NA",Y11/X11)	=IF(Y11="NA","NA",W11/Z11)	8	0.68	=IF(AC11="NA","NA",AC11/AB11)	=IF(AC11="NA","NA",W11/AD11)
12	8	0.615	=IF(Y12="NA","NA",Y12/X12)	=IF(Y12="NA","NA",W12/Z12)	8	3.07	=IF(AC12="NA","NA",AC12/AB12)	=IF(AC12="NA","NA",W12/AD12)
13	8	1	=IF(Y13="NA","NA",Y13/X13)	=IF(Y13="NA","NA",W13/Z13)	8	10	=IF(AC13="NA","NA",AC13/AB13)	=IF(AC13="NA","NA",W13/AD13)
14	8	0.615	=IF(Y14="NA","NA",Y14/X14)	=IF(Y14="NA","NA",W14/Z14)	8	3.07	=IF(AC14="NA","NA",AC14/AB14)	=IF(AC14="NA","NA",W14/AD14)
15	8	0.615	=IF(Y15="NA","NA",Y15/X15)	=IF(Y15="NA","NA",W15/Z15)	8	3.07	=IF(AC15="NA","NA",AC15/AB15)	=IF(AC15="NA","NA",W15/AD15)
16	8	0.615	=IF(Y16="NA","NA",Y16/X16)	=IF(Y16="NA","NA",W16/Z16)	8	3.07	=IF(AC16="NA","NA",AC16/AB16)	=IF(AC16="NA","NA",W16/AD16)
17	8	0.615	=IF(Y17="NA","NA",Y17/X17)	=IF(Y17="NA","NA",W17/Z17)	8	3.07	=IF(AC17="NA","NA",AC17/AB17)	=IF(AC17="NA","NA",W17/AD17)
18	8	0.615	=IF(Y18="NA","NA",Y18/X18)	=IF(Y18="NA","NA",W18/Z18)	8	3.07	=IF(AC18="NA","NA",AC18/AB18)	=IF(AC18="NA","NA",W18/AD18)
19	8	0.615	=IF(Y19="NA","NA",Y19/X19)	=IF(Y19="NA","NA",W19/Z19)	8	3.07	=IF(AC19="NA","NA",AC19/AB19)	=IF(AC19="NA","NA",W19/AD19)
20	8	0.615	=IF(Y20="NA","NA",Y20/X20)	=IF(Y20="NA","NA",W20/Z20)	8	3.07	=IF(AC20="NA","NA",AC20/AB20)	=IF(AC20="NA","NA",W20/AD20)
21	8	0.615	=IF(Y21="NA","NA",Y21/X21)	=IF(Y21="NA","NA",W21/Z21)	8	3.07	=IF(AC21="NA","NA",AC21/AB21)	=IF(AC21="NA","NA",W21/AD21)
22	8	0.615	=IF(Y22="NA","NA",Y22/X22)	=IF(Y22="NA","NA",W22/Z22)	8	3.07	=IF(AC22="NA","NA",AC22/AB22)	=IF(AC22="NA","NA",W22/AD22)
23	8	0.615	=IF(Y23="NA","NA",Y23/X23)	=IF(Y23="NA","NA",W23/Z23)	8	3.07	=IF(AC23="NA","NA",AC23/AB23)	=IF(AC23="NA","NA",W23/AD23)
24	8	11.7	=IF(Y24="NA","NA",Y24/X24)	=IF(Y24="NA","NA",W24/Z24)	8	15.1	=IF(AC24="NA","NA",AC24/AB24)	=IF(AC24="NA","NA",W24/AD24)
25	8	1	=IF(Y25="NA","NA",Y25/X25)	=IF(Y25="NA","NA",W25/Z25)	8	5	=IF(AC25="NA","NA",AC25/AB25)	=IF(AC25="NA","NA",W25/AD25)
26								
27								
28		**Hazard Index (Total EEQ):**		=SUM(AA8:AA25)				=SUM(AE8:AE25)
29								
30								
31		***Species-Specific Factors***						
32		Plant diet fraction =	0.17	unitless				
33		Fish diet fraction =	0	unitless				
34		Aq. Invert diet fraction =	0	unitless				
35		Terr. Invert diet fraction =	0.04	unitless				
36		Mammal diet fraction =	0.65	unitless				
37		Bird diet fraction =	0.14	unitless				
38		Soil ingestion rate =	0.0067	kg/d				
39		Sediment ingestion rate =	0	kg/d				
40		Food ingestion rate =	0.24	kg/d				
41		Body weight =	4.53	kg				
42		Home range =	2204	acres				
43		Water intake rate =	0.39	L/d				
44		Site Area =	2.6	acres				
45		Frac. home range (FHR) =	=IF(((AA44/AA42)>1),1,(AA44/AA42))	unitless				
46								
47								
48								

Table J-17
Recommended Bioaccumulation/Bioconcentration Factors or Regression Equations Utilized for the Soil-to-Plant Pathway at Site 18

Constituent	USEPA (2007) Eco-SSL Uptake Equation [a]	Alternate Regression Equation [c, d]	Alternate BAF/BCF	Recommended Tier 1 BAF/BCF	Rationale for Recommended Tier 1 BAF/BCF	Recommended Tier 2 BAF/BCF	Rationale for Recommended Tier 2 BAF/BCF
Acenaphthene	ln (Pc)= -0.8556(ln[soil])-5.562	--	--	Regression Eq.	Recommended Equation (USEPA 2007)	Regression Eq.	Recommended Equation (USEPA 2007)
Acenaphthylene	ln (Pc)= 0.791(ln[soil])-1.144	--	--	Regression Eq.	Recommended Equation (USEPA 2007)	Regression Eq.	Recommended Equation (USEPA 2007)
Anthracene	ln (Pc)= 0.7784(ln[soil])-0.9887	--	--	Regression Eq.	Recommended Equation (USEPA 2007)	Regression Eq.	Recommended Equation (USEPA 2007)
Aroclor 1254	--[b]	Log (PC)= -0.4057(Log[Kow])+1.781	--	0.087	EcoSSL Kow Regression Eq.	0.087	EcoSSL Kow Regression Eq.
Benzo(a)anthracene	ln (Pc)= 0.5944(ln[soil])-2.7078	--	--	Regression Eq.	Recommended Equation (USEPA 2007)	Regression Eq.	Recommended Equation (USEPA 2007)
Benzo(a)pyrene	ln (Pc)= 0.9750(ln[soil])-2.0615	--	--	Regression Eq.	Recommended Equation (USEPA 2007)	Regression Eq.	Recommended Equation (USEPA 2007)
Benzo(b)fluoranthene	Pc= 0.31(soil)	--	--	0.31	Recommended BAF from USEPA (2007)	0.31	Recommended BAF from USEPA (2007)
Benzo(ghi)perylene	ln (Pc)= 1.1829(ln[soil])-0.9313	--	--	Regression Eq.	Recommended Equation (USEPA 2007)	Regression Eq.	Recommended Equation (USEPA 2007)
Benzo(k)fluoranthene	ln (Pc)= 0.8595(ln[soil])-2.1579	--	--	Regression Eq.	Recommended Equation (USEPA 2007)	Regression Eq.	Recommended Equation (USEPA 2007)
Chrysene	ln (Pc)= 0.5944(ln[soil])-2.7078	--	--	Regression Eq.	Recommended Equation (USEPA 2007)	Regression Eq.	Recommended Equation (USEPA 2007)
Dibenzo(a,h)anthracene	Pc= 0.13(soil)	--	--	0.13	Recommended Equation (USEPA 2007)	0.13	Recommended Equation (USEPA 2007)
Fluoranthene	Pc= 0.50(soil)	--	--	0.50	Recommended Equation (USEPA 2007)	0.50	Recommended Equation (USEPA 2007)
Fluorene	ln (Pc)= -0.8556(ln[soil])-5.562	--	--	Regression Eq.	Recommended Equation (USEPA 2007)	Regression Eq.	Recommended Equation (USEPA 2007)
Indeno(1,2,3-cd)pyrene	Pc= 0.11(soil)	--	--	0.11	Recommended Equation (USEPA 2007)	0.11	Recommended Equation (USEPA 2007)
Phenanthrene	ln (Pc)= 0.6203(ln[soil])-0.1665	--	--	Regression Eq.	Recommended Equation (USEPA 2007)	Regression Eq.	Recommended Equation (USEPA 2007)
Pyrene	Pc= 0.72(soil)	--	--	0.72	Recommended Equation (USEPA 2007)	0.72	Recommended Equation (USEPA 2007)
Copper	ln (Pc)= 0.394(ln[soil])+0.668	--	--	Regression Eq.	Recommended Equation (USEPA 2007)	Regression Eq.	Recommended Equation (USEPA 2007)
Mercury	--	ln (Pc)=0.54(ln[soil])-1.00	--	Regression Eq.	Efroymson et al. Regression Equation	Regression Eq.	Efroymson et al. Regression Equation

Notes: Pc (plant tissue concentration [mg/kg d.w.]); soil (concentration in soil [mg/kg d.w.]); BAF/BCF (bioaccumulation/bioconcentration factor); log K_{ow} (octanol/water partition coefficient).

[a] USEPA, 2007, Ecological Soil Screening Level Guidance, Soil to Plant Uptake Equations, OSWER Directive 9285.7-55.

[b] -- indicates that a BAF/BCF or regression equation is not available or not applicable.

[c] for organic chemicals: BAF estimated using the EcoSSL (2007) Kow regression equation, with the log Kow from USEPA, 2008, Estimation Programs Interface (EPI) Suite, v4.0.
The log K_{ow} values are summarized as follows:

Constituent	Log Kow	BAF/BCF	Kow Reference
Aroclor 1254	7.0	0.087	EPI Suite

Table J-18
Recommended Bioaccumulation/Bioconcentration Factors or Regression Equations Utilized for the Soil-to-Earthworm Pathway at Site 18

Constituent	USEPA (2007) Eco-SSL Uptake Equation [a]	Sample et al. 1998 [b]			Sample et al. 1999 [c]	Recommended	Rationale for Recommended	Recommended	Rationale for Recommended
		Median BAF/BCF	90th Percentile BAF/BCF	Maximum BAF/BCF	Regression Equation	Tier 1 BAF/BCF	Tier 1 BAF/BCF	Tier 2 BAF/BCF	Tier 2 BAF/BCF
Acenaphthene	(EW)= 1.47(soil)	--	--	--	--	1.47	Recommended BAF (USEPA 2007)	1.47	Recommended BAF (USEPA 2007)
Acenaphthylene	(EW)= 22.9(soil)	--	--	--	--	22.9	Recommended BAF (USEPA 2007)	22.9	Recommended BAF (USEPA 2007)
Anthracene	(EW)= 2.42(soil)	--	--	--	--	2.42	Recommended BAF (USEPA 2007)	2.42	Recommended BAF (USEPA 2007)
Aroclor 1254	-- [d]	10.6667	23.4945	65.227	ln (EW)=1.29(ln[soil])+1.79	65.227	Maximum value	Regression Eq.	Chemical-specific Regression Eq.
Benzo(a)anthracene	(EW)= 1.59(soil)	--	--	--	--	1.59	Recommended BAF (USEPA 2007)	1.59	Recommended BAF (USEPA 2007)
Benzo(a)pyrene	(EW)= 1.33(soil)	--	--	--	--	1.33	Recommended BAF (USEPA 2007)	1.33	Recommended BAF (USEPA 2007)
Benzo(b)fluoranthene	(EW)= 2.6(soil)	--	--	--	--	2.6	Recommended BAF (USEPA 2007)	2.6	Recommended BAF (USEPA 2007)
Benzo(ghi)perylene	(EW)= 2.94(soil)	--	--	--	--	2.94	Recommended BAF (USEPA 2007)	2.94	Recommended BAF (USEPA 2007)
Benzo(k)fluoranthene	(EW)= 2.6(soil)	--	--	--	--	2.6	Recommended BAF (USEPA 2007)	2.6	Recommended BAF (USEPA 2007)
Chrysene	(EW)= 2.29(soil)	--	--	--	--	2.29	Recommended BAF (USEPA 2007)	2.29	Recommended BAF (USEPA 2007)
Dibenzo(a,h)anthracene	(EW)= 2.31(soil)	--	--	--	--	2.31	Recommended BAF (USEPA 2007)	2.31	Recommended BAF (USEPA 2007)
Fluoranthene	(EW)= 3.04(soil)	--	--	--	--	3.04	Recommended BAF (USEPA 2007)	3.04	Recommended BAF (USEPA 2007)
Fluorene	(EW)= 9.57soil)	--	--	--	--	9.57	Recommended BAF (USEPA 2007)	9.57	Recommended BAF (USEPA 2007)
Indeno(1,2,3-cd)pyrene	(EW)= 2.86(soil)	--	--	--	--	2.86	Recommended BAF (USEPA 2007)	2.86	Recommended BAF (USEPA 2007)
Phenanthrene	(EW)= 1.72(soil)	--	--	--	--	1.72	Recommended BAF (USEPA 2007)	1.72	Recommended BAF (USEPA 2007)
Pyrene	(EW)= 1.75(soil)	--	--	--	--	1.75	Recommended BAF (USEPA 2007)	1.75	Recommended BAF (USEPA 2007)
Copper	(EW)= 0.515(soil)	--	--	--	--	0.515	Recommended BAF (USEPA 2007)	0.515	Recommended BAF (USEPA 2007)
Mercury	--	1.693	20.625	33	ln (EW)=0.33(ln[soil])+0.078	33	Maximum value	Regression Eq.	Chemical-specific Regression Eq.

Notes: EW (earthworm tissue concentration [mg/kg d.w.]); soil (concentration in soil [mg/kg d.w.]); BAF/BCF (bioaccumulation/bioconcentration factor); $\log_{ow}$ Koctanol/water partition coefficient).

[a] USEPA, 2007, Ecological Soil Screening Level Guidance (Eco-SSL), Soil to Earthworm Uptake Equations, OSWER Directive 9285.7-55.

[b] Sample, B.E. et al., 1998. Development and Validation of Bioaccumulation Models for Earthworms, ES/ER/TM-220.

[c] Sample, B.E. et al., 1999. Literature-Derived Bioaccumulation Models for Earthworms: Development and Validation, Environ. Toxicol. Chem., 18:2,110-2,120. (models from Table 3 of publication). EW = earthworm tissue concentration.

[d] -- indicates that a BAF/BCF or regression equation is not available or not applicable.

Table J-19
Recommended Bioaccumulation/Bioconcentration Factors Utilized for the Soil-to-Small Mammal and Bird Pathways at Site 18

Constituent	USEPA (2007) Eco-SSL Uptake Equation [a]	Sample et al., 1998 [b]						Recommended Tier 1 BAF/BCF	Rationale for Recommended Tier 1 BAF/BCF	Recommended Tier 2 BAF/BCF	Rationale for Recommended Tier 2 BAF/BCF
		Insectivore Median BAF/BCF	Herbivore Median BAF/BCF	Omnivore Median BAF/BCF	General [c] Median BAF/BCF	General [c] Maximum BAF/BCF	General [c] 90th percentile BAF/BCF				
Acenaphthene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Acenaphthylene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Anthracene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Aroclor 1254	--[d]	--	--	--	--	--	--	1 [e]	Conservative value for Tier 1 organics see footnote "e"	0.5 [e]	Conservative value for Tier 2 organics see footnote "e"
Benzo(a)anthracene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Benzo(a)pyrene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Benzo(b)fluoranthene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Benzo(ghi)perylene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Benzo(k)fluoranthene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Chrysene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Dibenzo(a,h)anthracene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Fluoranthene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Fluorene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Indeno(1,2,3-cd)pyrene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Phenanthrene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Pyrene	Mam = 0	--	--	--	--	--	--	0	Uptake assumed to be negligible (USEPA 2007)	0	Uptake assumed to be negligible (USEPA 2007)
Copper	ln(mam)= 0.144(ln[soil])+2.042	--	--	--	--	--	--	Regression Eq.	Recommended Regression Eq. (USEPA 2007)	Regression Eq.	Recommended Regression Eq. (USEPA 2007)
Mercury	--	1.046 [f]	0.0239 [f]	0.0543	0.0543	1.046	0.192	1.046	General maximum value	0.192	General 90th percentile value

Notes: mam (mammal or bird tissue concentration [mg/kg d.w.]); diet (concentration in diet [mg/kg d.w.] assuming 100% earthworm consumption); soil (concentration in soil [mg/kg d.w.]); BAF/BCF (bioaccumulation/bioconcentration factor).
Bird BAF/BCF values were based on the recommended small mammal BAF/BCF values, as bird uptake values are not readily available.

[a] USEPA, 2007, Ecological Soil Screening Level Guidance, Soil to Small Mammal Uptake Equations, OSWER Directive 9285.7-55.

[b] Sample et al., 1998. Development and Validation of Bioaccumulation Models for Small Mammals, ES/ER/TM-219.

[c] General = combination dataset used for insectivore, herbivore, and omnivore receptors to estimate a "general" receptor BAF/BCF value.

[d] "--" indicates that a BAF/BCF is not available or not applicable.

[e] Known bioaccumulative organics (TCDD and TCDF) have BAFs/BCFs of 1.1 and 0.13 (median) and 2.2 and 0.16 (maximum) from Sample et al. (1998).
Conservative BAF/BCF default values of 1 and 0.5 were selected for other organics at the site, as they are not expected to be as bioaccumulative as TCDD/TCDF.

[f] Only one BAF/BCF value available for exposure to mercury in soil (median is also 90th percentile value and maximum value).

Table J-20
Recommended Bioaccumulation/Bioconcentration Factors Utilized for the Sediment-to-Aquatic Invertebrate Pathway at Site 18

Constituent	Bechtel Jacobs [a]			Recommended Tier 1 BAF/BCF	Recommended Tier 2 BAF/BCF	Rationale for Recommended Tier 2 BAF/BCF
	Median BAF/BCF	90th Percentile BAF/BCF	Maximum BAF/BCF			
Aroclor 1254	4.67	21.886	51.313	21.886	4.67	Median sediment BAF/BCF
Copper	1.556	5.250	23.87	5.250	1.556	Median sediment BAF/BCF
Mercury	1.136	2.868	3.981	2.868	1.136	Median sediment BAF/BCF

Notes:

[a] Bechtel Jacobs Company LLC, 1998. Biota Sediment Accumulation Factors for Invertebrates: Review and Recommendations for the Oak Ridge Reservation, BJC/OR-112. (Depurated and nondepurated results used). 90th percentile value for Tier 1, median value for Tier 2.

Table J-21
Recommended Bioaccumulation/Bioconcentration Factors Utilized for the Water-to-Fish Pathway at Site 18

Constituent	IAEA [a] (Recommended Value and Range)	Bintein and Devillers [b]	USEPA, 1999 [c]	USEPA, 1989 [d]	Recommended Tier 1 (Maximum) BAF/BCF	Recommended Tier 2 (RME) BAF/BCF	Rationale for Recommended Tier 2 BAF/BCF
Copper	200 (0.5-200)	--[e]	3550	5915	5915	200	Lower value

[a] International Atomic Energy Agency (IAEA), 1994, *Handbook of Parameter Values for the Protection of Radionuclide Transfer in Temperate Environments* , Technical Reports Series No. 364.

[b] Bintein, S. and J. Devillers, 1993, *Nonlinear Dependence of Fish Bioconcentration on n-Octanol/'Water Partition Coefficient,* in SAR and QSAR in Environmental Research, Vol. 1, pp. 29-39, Gordon and Branch Science Publishers. See details below.

[c] USEPA, 1999, *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities, EPA530-D-99-001A (Peer Review Draft),* Appendix C - Media-to-Receptor BCFs (water to fish). Wet weight BCFs converted to dry weight BCFs by multiplying by 5 (fish moisture content = 80%).

[d] USEPA, 1989*, Assessing Human Health Risks from Contaminated Fish and Shellfish: A Guidance Manual* , EPA-503/8-89-002. Wet weight BCFs converted to dry weight BCFs by multiplying by 5 (fish moisture content = 80%).

[e] -- indicates that a BAF/BCF is not available.

Table J-22
NOAEL Toxicity Reference Values Used to Derive
Wildlife Toxicity Benchmarks for COPECs at Site 18

COPEC	Mammalian Data				Avian Data			
	Toxicity Value	NOAEL (mg/kg/d)	Test Species	Reference	Toxicity Value	NOAEL (mg/kg/d)	Test Species	Reference
Organics								
Acenaphthene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Acenaphthylene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Anthracene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Aroclor 1254	--	1.40E-01	mink	Sample et al. (1996)	--	1.80E-01	ring-necked pheasant	Sample et al. (1996)
Benzo(a)anthracene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Benzo(a)pyrene	--	1.00E+00	mouse	Sample, et. al. (1996)	--	5.53E+02	mallard duck	Eisler (1987)
Benzo(b)fluoranthene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Benzo(ghi)perylene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Benzo(k)fluoranthene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Chrysene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Dibenzo(a,h)anthracene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Fluoranthene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Fluorene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Indeno(1,2,3-cd)pyrene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Phenanthrene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Pyrene	--	6.15E-01	mouse	EcoSSL (EPA, 2007)	--	5.53E+02	mallard duck	Based on B(a)P, Eisler (1987)
Inorganics								
Copper	--	1.17E+01	mink	Sample et al. (1996)	--	4.70E+01	chicks	Sample et al. (1996)
Mercury	--	1.00E+00	mink	Sample et al. (1996)	--	4.50E-01	Japanese quail	Sample et al. (1996)
Methyl mercury	--	1.50E-02	mink	Sample et al. (1996)	--	6.40E-03	mallard duck	Sample et al. (1996)

N/A indicates that the information is not available.

As recommended by Wentsel et al. (1996), Tri-Service Procedural Guidelines for Ecological Risk Assessments, the following adjustments were made to toxicity data when NOAEL or LOAEL data were not available:

- Subchronic LOAELs were converted to chronic NOAELs by dividing by a factor of 20.
- Chronic NOAELs were converted to chronic LOAELs by multiplying by a factor of 5.0.
- Subchronic NOAELs/LOAELs were converted to chronic NOAELs/LOAELs by dividing by a factor of 10.
- Chronic LOAELs were converted to chronic NOAELs by dividing by a factor of 10.
- LD_{50} concentrations were converted to chronic NOAELs by dividing by a factor of 100.
- LD_{50} concentrations were converted to chronic LOAELs by dividing by a factor of 20.

Sample et al., 1996, Toxicological Benchmarks for Wildlife.
Methyl mercury NOAELs used for aquatic receptors (mink and heron)

Table J-23
LOAEL Toxicity Reference Values Used to Derive
Wildlife Toxicity Benchmarks for COPECs at Site 18

COPEC	Mammalian Data				Avian Data			
	Toxicity Value	LOAEL (mg/kg/d)	Test Species	Reference	Toxicity Value	LOAEL (mg/kg/d)	Test Species	Reference
Organics								
Acenaphthene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Acenaphthylene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Anthracene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Aroclor - 1254	--	6.80E-01	mouse	Sample et al. (1996)	--	1.80E+00	ring-necked pheasant	Sample et al. (1996)
Benzo(a)anthracene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Benzo(a)pyrene	--	1.00E+01	mouse	Sample, et. al. (1996)	553 (NOAEL)	2.77E+03	mallard duck	Eisler (1987)
Benzo(b)fluoranthene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Benzo(ghi)perylene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Benzo(k)fluoranthene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Chrysene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Dibenzo(a,h)anthracene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Fluoranthene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Fluorene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Indeno(1,2,3-cd)pyrene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Phenanthrene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Pyrene	--	3.07E+00	mouse	EcoSSL (EPA, 2007)	553 (NOAEL)	2.77E+03	mallard duck	Based on B(a)P, Eisler (1987)
Inorganics								
Copper	--	1.51E+01	mink	Sample et al. (1996)	--	6.20E+01	chicks	Sample et al. (1996)
Mercury	1.0 (NOAEL)	5.00E+00	mink	Sample et al. (1996)	--	9.00E-01	Japanese quail	Sample et al. (1996)
Methyl mercury	--	2.50E-02	mink	Sample et al. (1996)	--	6.40E-02	mallard duck	Sample et al. (1996)

NA indicates that the information is not available.

As recommended by Wentsel et al. (1996), Tri-Service Procedural Guidelines for Ecological Risk Assessments, the following adjustments were made to toxicity data when NOAEL or LOAEL data were not available:

- Subchronic LOAELs were converted to chronic NOAELs by dividing by a factor of 20.
- Chronic NOAELs were converted to chronic LOAELs by multiplying by a factor of 5.0.
- Subchronic NOAELs/LOAELs were converted to chronic NOAELs/LOAELs by dividing by a factor of 10.
- Chronic LOAELs were converted to chronic NOAELs by dividing by a factor of 10.
- LD_{50} concentrations were converted to chronic NOAELs by dividing by a factor of 100.
- LD_{50} concentrations were converted to chronic LOAELs by dividing by a factor of 20.

Sample et al., 1996, Toxicological Benchmarks for Wildlife.
Methyl mercury LOAELs used for aquatic receptors (mink and heron).

Table J-24
Uncertainty Factors[a] for Ecological TRV[b] Extrapolations[c] at Site 18

Laboratory Animals (toxicity data base)		Selected Site Receptor Species	
Mouse	G: *Mus* F: Muridae O: Rodentia	Meadow vole	G: *Microtus* F: Muridae O: Rodentia
Mink	G: *Neovison* F: Mustelidae O: Carnivora	Short-tailed shrew	G: *Blarina* F: Soricidae O: Insectivora
Pheasant	G: *Phasianus* F: Phasianidae O: Galliformes	American robin	G: *Turdus* F: Muscicapidae O: Passeriformes
Chick, Hens Poultry	G: *Gallus* F: Phasianidae O: Galliformes	Red-tailed hawk	G: *Buteo* F: Accipitridae O: Ciconiiformes
Japanese quail	G: *Coturnix* F: Phasianidae O: Galliformes	Red fox	G: *Vulpes* F: Canidae O: Carnivora
Mallard	G: *Anas* F: Anatidae O: Anseriformes	Great blue heron	G: *Ardea* F: Ardeidae O: Ciconiiformes
		Mink	G: *Neovison* F: Mustelidae O: Carnivora

[a] From ***Tri-Service Procedural Guidelines for Ecological Risk Assessment*** (Wentsel et al. 1996)
[b] TRV = Toxicity Reference Value
[c] Interclass extrapolations not performed; only within bird class or within mammal class.

The Uncertainty Factors Used for TRV Extrapolations are Summarized Below:

- Extrapolation between two different species = uncertainty factor of 2
- Extrapolation between two different genera (G) = uncertainty factor of 4
- Extrapolation between two different families (F) or orders (O) = uncertainty factor of 8
- Thus, for all extrapolations used in the SLERA food chain model an uncertainty factor of 8 was used, except for:
    - rat or mouse toxicity values extrapolated to the meadow vole where an uncertainty factor of 4 was used; and
    - mink toxicity values used for the mink where an uncertainty factor of 1 was used.

Table J-25
Site 18 Area-Weighted Concentration for Copper in Surface Soil

Point	AREA (sq ft)	PRCNT_TOT	Acres	SS_Samp #	SS_Copper (mg/kg)	Detected	Concentration x Area	Comments
SIS18SS-01	5069.97698278370000	4.48363486944255	0.116390656	SIS18SS-1_060208	7.25	Yes	0.421916128	AVG of sample and dup
SIS18SS/SB-02	5113.93342781398000	4.52250775788835	0.117399757	SIS18SS-2_060208	7.8	Yes	0.457859053	
SIS18SS/SB-03	18147.03413724340000	16.04833223326290	0.416598579	SIS18SS-3_060208	5.6	Yes	1.166476022	
SIS18SS/SB-04	13170.89784835090000	11.64768539487690	0.302362209	SIS18SS-4_060208	9.1	Yes	1.375748051	
SIS18SS-05	6999.05485781980000	6.18961516397893	0.16067619	SIS18SS-5_060408	5.8	Yes	0.465960952	
SIS18SS/SB-06	16303.88386387000000	14.41834202553970	0.374285671	SIS18SS-6_060408	5.9	Yes	1.10414273	
SIS18SS-07	284.72682497557200	0.25179820836686	0.006536428	SIS18SS-7_061608	1040	Yes	3.398942808	
SIS18SS-08	4641.68621329776000	4.10487586622649	0.106558453	SIS18SS-8_061608	5.6	Yes	0.298363668	
SIS18SS-09	1143.53969313949000	1.01128949108892	0.026252059	SIS18SS9_112309	716.5	Yes	9.404800146	AVG of sample and dup
SIS18SS-10	1725.16932847195000	1.52565374223507	0.039604438	SIS18SS10_112309	780	Yes	15.44573088	
SIS18SS-11	651.28031073790000	0.57595983589703	0.014951339	SIS18SS11_112309	2170	Yes	16.22220239	
SIS18SS-12	1016.60665424470000	0.89903623999813	0.023338077	SIS18SS12_112309	230	Yes	2.683878904	
SIS18SS-13	1048.19600423239000	0.92697228617521	0.024063269	SIS18SS13_112309	351	Yes	4.223103729	
SIS18SS/SB-14	2405.08016059175000	2.12693298380872	0.055213043	SIS18SS14_052010	1400	Yes	38.64913016	
SIS18SS/SB-15	5831.19614033401000	5.15681914023313	0.133865843	SIS18SS15_052010	76.8	Yes	5.14044838	
SIS18SS/SB-16	2329.08166803838000	2.05972370605570	0.053468358	SIS18SS16_052010	163	Yes	4.357671158	
SIS18SS/SB-17	2726.07208292139000	2.41080223620449	0.062582004	SIS18SS17_052010	16.8	Yes	0.525688831	
SIS18SS/SB-18	846.98599161719900	0.74903218275740	0.019444123	SIS18SS18_052010	34	Yes	0.330550088	
SIS18SS/SB-19	1856.33728936547000	1.64165214720080	0.04261564	SIS18SS19_052010	987	Yes	21.03081843	
SIS18SS/SB-20	1800.70344707183000	1.59245235081595	0.041338463	SIS18SS20_052010	251	Yes	5.187977094	
SIS18SS/SB-21	4121.11267879512000	3.64450658657673	0.094607729	SIS18SS21_052010	43.3	Yes	2.048257331	
SIS18SS/SB-22	2366.41225323081000	2.09273701440676	0.05432535	SIS18SS22_052010	2810	Yes	76.32711685	
SIS18SS/SB-23	451.52571744685000	0.39930683276657	0.010365604	SIS18SS23_052010	21.6	Yes	0.111948525	
SIS18SS-24	1711.85246754763000	1.51387697437310	0.039298725	SIS18SS24_052010	6.1	Yes	0.119861112	
SIS18SS-25	675.60818542074400	0.59747419535030	0.01550983	SIS18SS25_052010	220	Yes	1.706081273	AVG of sample and dup
SIS18SS-26	517.64758622134100	0.45778171686895	0.011883553	SIS18SS26_052010	31.8	Yes	0.188948499	
SIS18SS-27	1078.73430667413000	0.95397883830480	0.024764332	SIS18SS27_052110	31	Yes	0.383847147	
SIS18SS/SB-29	3980.83128297855000	3.52044871413410	0.091387311	SIS18SS29_052110	4.4	Yes	0.201052085	
SIS18SS/SB-30	2034.64036342129000	1.79933449622924	0.046708916	SIS18SS30_052110	138	Yes	3.222915171	
SIS18SS/SB-31	440.33130353427200	0.38940705122282	0.010108616	SIS18SS31_052110	83.4	Yes	0.421529277	
SIS18SS/SB-32	2587.24413171480000	2.28802971771046	0.059394952	SIS18SS32_052110	29.35	Yes	0.871620927	AVG of sample and dup
		Total Area =	**2.6**	**acres**	**Total Conc. x Area =**		**217.5**	

Area-weighted average copper concentration: (Total Area / Total Conc. x Area) = 84 mg/kg

Table J-26
Site 18 Area-Weighted Concentration for Copper in Sediment

Point	AREA (sq ft)	PRCNT_TOT	Acreage	SD_Samp #	SD_Copper (mg/kg)	Detected	Concentration x Area	Comments
SIS18SW/SD/PZ-1	4833.1340	4.4411	0.1110	SIS18SD-1A_061708	2645	Yes	146.7359892	0-0.5' Sediment, AVG of sample and dup, AVG area between both SED horizons
				SIS18SD-1B_061708	53.4	Yes	2.962458157	1.5-2.0' Sediment, AVG area between both SED horizons
SIS18SW/SD-2	51758.8093	47.5609	1.1882	SIS18SD-2A_061608	228	Yes	135.4569386	0-0.5' Sediment, AVG area between both SED horizons
				SIS18SD-2B_061608	2.2	Yes	1.307040636	1.5-2.0' Sediment,AVG area between both SED horizons
SIS18SD-11	10314.9645	9.4784	0.2368	SIS18SD11_052110	433	Yes	102.5339674	AVG of sample and dup
SIS18SD-12	3139.2286	2.8846	0.0721	SIS18SD12_052110	794	Yes	57.22101664	
SIS18SD-13	17901.3105	16.4494	0.4110	SIS18SD13_052110	26.3	Yes	10.8081833	
SIS18SD-14	4154.1661	3.8172	0.0954	SIS18SD14_052110	14.6	Yes	1.392351345	
SIS18SD-15	16724.6612	15.3682	0.3839	SIS18SD15_052110	9.8	Yes	3.762664822	
		Total Area =	**2.5**	**acres**	**Total Conc. x Area =**		**462.2**	

Area-weighted average copper concentration: (Total Area / Total Conc. x Area) = 185 mg/kg

Table J-27
Site 18 Area-Weighted Concentration for Mercury in Sediment

Point	AREA (sq ft)	PRCNT_TOT	Acreage	SD_Samp #	SD_Mercury (mg/kg)	Detected	Concentration x Area	Comments
SIS18SW/SD/PZ-1	3445.6645	3.1662	0.0791	SIS18SD-1A_061708	2.2	Yes	0.08701	0-0.5' Sediment, AVG of sample and dup, AVG area between both SED horizons
				SIS18SD-1B_061708	0.16	Yes	0.006328	1.5-2.0' Sediment, AVG area between both SED horizons
SIS18SW/SD-2	10587.0389	9.7284	0.2430	SIS18SD-2A_061608	0.69	Yes	0.083835	0-0.5' Sediment, AVG area between both SED horizons
				SIS18SD-2B_061608	0.015	No	0.00091125	1.5-2.0' Sediment,AVG area between both SED horizons, 1/2 DL for ND
SIS18SW/SD-3	8530.4783	7.8386	0.1958	SIS18SD3_112309	0.091	Yes	0.0178178	
SIS18SW/SD-4	10120.5764	9.2998	0.2323	SIS18SD4_112309	0.11	Yes	0.025553	
SIS18SW/SD-5	9960.6630	9.1528	0.2287	SIS18SD5_112309	0.14	Yes	0.032018	
SIS18SW/SD-6	11197.2278	10.2891	0.2571	SIS18SD6_112309	0.026	Yes	0.0066846	
SIS18SW/SD-7	10200.3211	9.3730	0.2342	SIS18SD7_112309	0.1	Yes	0.02342	
SIS18SW/SD-8	4334.8792	3.9833	0.0995	SIS18SD8_112309	0.255	Yes	0.0253725	AVG of sample and dup
SIS18SW/SD-9	7638.0468	7.0186	0.1753	SIS18SD9_112309	0.082	Yes	0.0143746	
SIS18SW/SD-10	7520.8892	6.9109	0.1727	SIS18SD10_112309	0.053	Yes	0.0091531	
SIS18SD-11	4153.6991	3.8168	0.0954	SIS18SD11_052110	0.405	Yes	0.038637	AVG of sample and dup
SIS18SD-12	2433.1074	2.2358	0.0559	SIS18SD12_052110	0.72	Yes	0.040248	
SIS18SD-13	5281.9304	4.8535	0.1213	SIS18SD13_052110	0.028	Yes	0.0033964	
SIS18SD-14	4145.8213	3.8096	0.0952	SIS18SD14_052110	0.059	Yes	0.0056168	
SIS18SD-15	9275.9309	8.5236	0.2129	SIS18SD15_052110	0.038	No	0.0040451	1/2 DL for ND
		Total Area =	**2.5**	**acres**		**Total Conc. x Area =**	**0.424**	

Area-weighted average mercury concentration: (Total Area / Total Conc. x Area) = 0.17 mg/kg

Table J-28
Site 18 Area-Weighted Concentration for Aroclor-1254 in Sediment

Point	AREA (sq ft)	PRCNT_TOT	Acreage	SD_Samp #	SD_Aroclor-1254 (mg/kg)	Detected	Concentration x Area	Comments
SIS18SW/SD/PZ-1	3445.6645	3.1662	0.0791	SIS18SD-1A_061708	1.025	Yes	0.040539555	0-0.5' Sediment, AVG of sample and dup, AVG area between both SED horizons
				SIS18SD-1B_061708	0.2	No	0.003955079	1.5-2.0' Sediment, AVG area between both SED horizons, 1/2 DL for ND
SIS18SW/SD-2	50909.0180	46.7801	1.1687	SIS18SD-2A_061608	0.63	No	0.184071862	0-0.5' Sediment, AVG area between both SED horizons, 1/2 DL for ND
				SIS18SD-2B_061608	0.022	No	0.006427906	1.5-2.0' Sediment,AVG area between both SED horizons, 1/2 DL for ND
SIS18SW/SD-8	6516.2719	5.9878	0.1496	SIS18SD8_112309	0.14	No	0.010471511	AVG of sample and dup, 1/2 DL for ND
SIS18SW/SD-9	7810.1076	7.1767	0.1793	SIS18SD9_112309	0.12	No	0.010757724	1/2 DL for ND
SIS18SW/SD-10	7520.8891	6.9109	0.1727	SIS18SD10_112309	0.137	No	0.011826926	1/2 DL for ND
SIS18SD-11	4153.6991	3.8168	0.0954	SIS18SD11_052110	0.365	No	0.017402435	AVG of sample and dup, 1/2 DL for ND
SIS18SD-12	2433.1074	2.2358	0.0559	SIS18SD12_052110	0.34	No	0.009495598	1/2 DL for ND
SIS18SD-13	6931.4816	6.3693	0.1591	SIS18SD13_052110	0.21	No	0.016708117	1/2 DL for ND
SIS18SD-14	4145.8213	3.8096	0.0952	SIS18SD14_052110	0.32	No	0.015227994	1/2 DL for ND
SIS18SD-15	14960.2136	13.7469	0.3434	SIS18SD15_052110	0.79	No	0.135658502	1/2 DL for ND
		Total Area =	**2.5**	**acres**		**Total Conc. x Area =**	**0.463**	

Area-weighted average Aroclor-1254 concentration: (Total Area / Total Conc. x Area) = 0.19 mg/kg