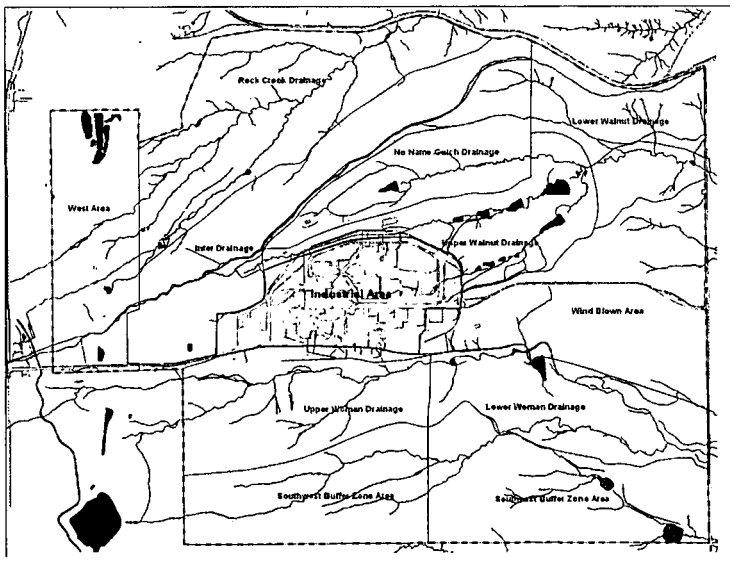
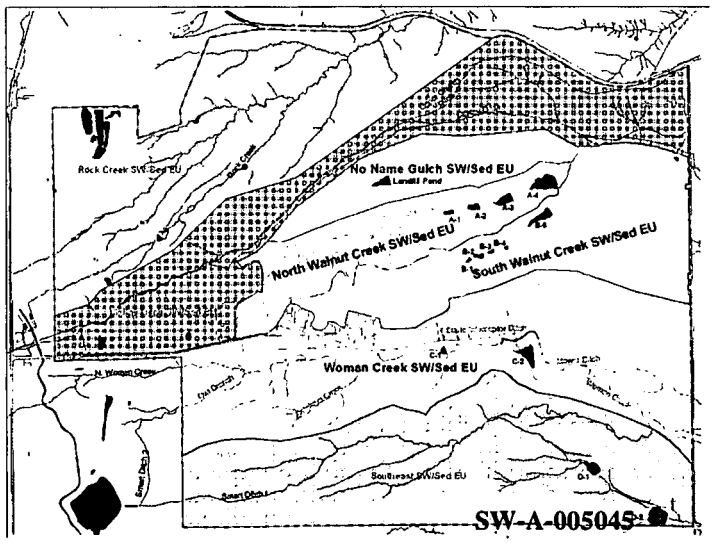
Accelerated Action Ecological Screening Evaluation

Industrial Area Exposure Unit
North Walnut Creek Aquatic Exposure Unit
South Walnut Creek Aquatic Exposure Unit
Woman Creek Aquatic Exposure Unit
No Name Gulch Aquatic Exposure Unit





RECEIVED
FEB 10 2005

SW-A-005045

ADMIN RECORD

219

Accelerated Action Ecological Screening Evaluation

TABLE OF CONTENTS

Introduction 1
Accelerated Action Ecological Screening Evaluation 2
Industrial Area Exposure Unit Accelerated Action Ecological Screening Evaluation Surface and Subsurface Soil 6
North Walnut Creek Aquatic Exposure Unit Accelerated Action Ecological Screening Evaluation Sediment 14
South Walnut Creek Aquatic Exposure Unit Accelerated Action Ecological Screening Evaluation Sediment 19
Woman Creek Aquatic Exposure Unit Accelerated Action Ecological Screening Evaluation Sediment 24
No Name Gulch Aquatic Exposure Unit Accelerated Action Ecological Screening Evaluation Sediment 28
North Walnut Creek Aquatic Exposure Unit Accelerated Action Ecological Evaluation Surface Water 32
Summary South Walnut Creek Aquatic Exposure Unit Accelerated Action Ecological Screening Evaluation Surface Water 37
Woman Creek Aquatic Exposure Unit Accelerated Action Ecological Screening Evaluation Surface Water 42
No Name Gulch Aquatic Exposure Unit Accelerated Action Ecological Screening Evaluation Surface Water 46

3

ACRONYMS

AA	Accelerated Action
AWQC	ambient water quality criteria
CRA	Comprehensive Risk Assessment
D	dissolved
DOE	U.S. Department of Energy
ECOI	ecological contaminant of interest
ECOPC	ecological contaminant of potential concern
EPC	exposure point concentration
ERA	ecological risk assessment
ESL	ecological screening level
EU	exposure unit
IA	Industrial Area
IHSS	individual hazardous substance site
LANL	Los Alamos National Laboratory
µg/kg	micrograms per kilogram
MDC	maximum detected concentration
mg/kg	milligrams per kilogram
NA	not applicable
NA	not available
NA	not analyzed
NA	no ESL available
ND	not detected
NOAEL	no observed adverse effect level
OU	Operable Unit
PAC	Potential Area of Concern
PAH	polyaromatic hydrocarbon
PCB	polychlorinated biphenyl
pCi/g	picocurie per gram
PMJM	Preble's Meadow Jumping Mouse

4

ACRONYMS

RFETS	Rocky Flats Environmental Technology Site
SLERA	Screening Level Ecological Risk Assessment
T	total
tESL	threshold ecological screening level
UCL	upper confidence limit
USGS	U.S. Geological Survey
UT	uncertain toxicity
UTL	upper threshold limit

5

Introduction

This document presents the results of the Accelerated Action Ecological Screening Evaluation (AAESE). The screen followed the methodology presented in Appendix D of the Industrial Area Sampling and Analysis Plan (IABZSAP) (DOE 2004). This methodology is presented here for reference. The procedure is summarized in Figure 1.

6

Accelerated Action Ecological Screening Evaluation

Goal of the Ecological Accelerated Action Screening Procedure (EAASP): To identify areas of the site that may require accelerated actions to reduce risks to ecological receptors.

The Ecological Accelerated Action Screening Process was developed by Kaiser-Hill and the Department of Energy (DOE) in consultation with the U.S. Environmental Protection Agency (EPA), the Colorado Department of Public Health and the Environment (CDPHE), and the U.S. Fish and Wildlife Service (USFWS) to identify areas that may require accelerated actions (AAs) to reduce risks to ecological receptors. The process, based on the ecological risk assessment methodology that is documented in full in the Comprehensive Risk Assessment (CRA) Work Plan and Methodology (DOE 2004), is executed as described in the following outline, using all available Site data.

I. Identification of ecological contaminants of potential concern (ECOPCs) for the EAASP:

   a. Initial screening is identical to the CRA ECOPC identification process.

      i. For small home range receptors other than the Preble's Meadow Jumping Mouse (PMJM)[1]:

         1. Compare maximum detected concentrations in each exposure unit (EU) to no observable adverse effect level (NOAEL) ecological screening levels (ESLs).

         2. If the maximum is above the ESL, then aggregate the data and compare the 95th upper confidence limit (UCL) of the 90th percentile of the ECOPC across the EU to the threshold ESLs (tESL) if available. If the tESL is not available, the NOAEL ESLs will be used in the screening.

      ii. For large home range receptors[2]:

         1. Compare maximum detected concentrations in each EU and Site wide to NOAEL ESLs.

         2. If the maximum is above the ESL, then aggregate the data, both Site wide and within each EU, and compare the 95th UCL of the mean of the ECOPC to the tESL (where available) or the NOAEL ESL.

      iii. For PMJM receptors:

         1. Maximum detected concentrations in each EU that fall within the proposed PMJM habitat will be compared to NOAEL ESLs.

   b. Chemicals identified as ECOPCs will be discussed in an AA Risk Characterization.

II. AA Risk Characterization:

[1] Receptors include the deer mouse, black tailed prairie dog, kestrel, and mourning dove.
[2] Receptors include the coyote and the mule deer.

7

a. The AA risk characterization will be conducted in a manner that is directly comparable to the CRA Risk Characterization[3], using the most up-to-date database available. The following steps will be taken for all receptors.

   i. The AA risk characterization will address only current conditions, using all available Site-wide data.

   ii. Risk calculations will be forward-based dose calculations with comparisons to NOAEL and threshold toxicity reference values.

   iii. The AA risk characterization will present a range of potential risks from ECOPCs that have concentrations above the ESL values, using a variety of applicable and defensible exposure modifying factors.

      1. Tiered geospatial statistical approach;
      2. Bioavailability;
      3. Site-specific tissue concentrations (where applicable);
      4. Diet variability; and
      5. Other applicable exposure modifying factors.

b. Non-PMJM receptor-specific:

   i. Evaluate using a range of lowest observable adverse effect level (LOAEL) TRVs.

   ii. Present predictions of potential EU and Site wide risk for current conditions.

c. PMJM-specific evaluations:

   i. Evaluated on a location by location basis and using the tiered geospatial approach by habitat patch.

   ii. Present predictions potential risk to the PMJM under current conditions.

III. AA consultative process:

a. The results of the AA ECOPC identifications and risk characterization will be provided to the regulatory agencies for review and comment.

b. Cooperative discussions will be held to identify areas of the site that may require AAs.

c. Decisions will be documented in a Contact Record.

d. If an AA is deemed necessary, the action will be taken and documented under an appropriate decision document and the results of the confirmation sampling will be included in the CRA

e. If no AA is deemed necessary and no further samples are collected, the results of the AA risk characterization will be documented in the CRA.

[3] DOE, 2004, Comprehensive Risk Assessment Work Plan and Methodology

8

IV. The CRA will present residual risk estimates for all areas of the Site.

a. All areas with no ecologically-based AAs.

b. All areas that have had ecologically-based AAs

9

Figure 1 ECOPC Identification Process for the AAESE for the IA and Sediment/Surface Water EUs[a]

10

Industrial Area Exposure Unit
Accelerated Action Ecological Screening Evaluation
Surface and Subsurface Soil

SURFACE SOIL SUMMARY

The following ECOPCs were identified for the IA surface soil.

- Small Home Range Receptors: Boron, chromium, copper, bis(2-ethylhexyl)phthalate, di-n-butyl-pthalate, dioxin (total) and PCBs (total) were identified as ECOPCs because the95th UCL of the 90th percentile (UTL) concentrations were greater than the lowest threshold ESL (or NOAEL ESL where no tESL was available).

- Large Home Range Receptors: PCB (total) was identified as an ECOPC because the 95th UCL of the mean concentration was greater than the lowest NOAEL ESL (no threshold ESLs were available for PCBs).

- PMJM: No PMJM evaluation was conducted for the IA EU since no PMJM habitat is present.

SUBSURFACE SOIL SUMMARY

No ECOPCs were identified for subsurface soil for the burrowing mammalian receptor, represented by the prairie dog. All ECOIs were either not detected, detected at concentrations lower than conservative ESLs, within the range of background concentrations, or had 95th UTL concentrations that were lower than the conservative ESLs.

11

Industrial Area Exposure Unit – Surface Soil

ECOI maximum detected concentrations (MDCs) are compared to NOAEL ESLs for all non-PMJM receptors. If an MDC is greater than any NOAEL ESL, the ECOI is retained for further analysis. Table A-1 (Appendix A) shows all of the detected ECOIs in IA EU surface soil. Table A-2 (Appendix A) presents the summary data for all ECOIs. Total PCB and total dioxin concentrations are needed since ESLs for both are based on total rather than congener-specific data. Table A-3 (Appendix A) presents calculation of Total PCB concentrations and Table A-4 (Appendix A) presents calculation of total dioxin concentrations. Finally, Table A-5 (Appendix A) presents the formal comparison of the MDCs to the NOAEL ESLs. Those ECOIs that are retained for further analysis are summarized in Table 1.

Detected ECOIs that are less than all NOAEL ESLs are eliminated from further consideration and are summarized in Table 2. ECOIs that have been detected in at least one sample but have no NOAEL ESLs available in the CRA Methodology are summarized in Table 3. ECOIs listed in Table 3 will be retained for assessment as ECOIs of Uncertain Toxicity and will be discussed further in the Uncertainty Assessment in the Risk Characterization for the IA EU.

Table 1 – ECOIs With MDCs Exceeding Any NOAEL ESL

Aluminum	Manganese	Benz(a)pyrene
Antimony	Mercury	Bis(2-ethylhexyl)phthalate
Arsenic	Molybdenum	Dieldrin
Barium	Nickel	Di-n-butyl-phthalate
Beryllium	Selenium	Endrin
Boron	Silver	Endrin Aldehyde
Cadmium	Thallium	Hexachlorobenzene
Chromium	Tin	Pentachlorophenol
Cobalt	Vanadium	Total Dioxins
Copper	Zinc	Total PCBs
Fluoride	2,4,6-Trichlorophenol	Plutonium 239/240
Lead	2-Methylnaphthalene	
Lithium	4,4'-DDT	

Table 2 – ECOIs With MDCs Less Than All NOAEL ESLs

Ammonia	Aldrin	Naphthalene
Chromium VI	Benzene	Phenol
Nitrate/Nitrite	Butylbenzylphthalate	Styrene
Strontium	Carbon Disulfide	Tetrachloroethene
Uranium (non-isotopic)	Carbon Tetrachloride	Toluene
1,1,1-Trichloroethane	Chlorobenzene	Trichloroethene
1,1-Dichloroethene	Chloroform	Xylene
1,2,4-Trichlorobenzene	Cis-1,2-Dichloroethene	Americium-241
1,2-Dichloroethene	Dibenzofuran	Cesium-137
1,2-Dichloropropane	Dicamba	Radium-226

12

Table 2 – ECOIs With MDCs Less Than All NOAEL ESLs

1,4-Dichlorobenzene	Diethylphthalate	Radium-228
2,4,5-T	Acenaphthene	Heptachlor Epoxide
2,4,5-Trichlorophenol	Acetone	Hexachlorocyclopentadiene
2,4,6-Trinitrotoluene	Dimethylphthalate	HMX
2-Butanone	Di-n-octylphthalate	Methoxychlor
2-Methylphenol	Endosulfan I	Methylene Chloride
4,4'-DDD	Endosulfan II	Strontium-80/90
4,4'-DDE	Endosulfan Sulfate	Uranium-235
4-Methyl-2-Pentanone	Fluorene	Uranium-238
4-Nitroaniline	gamma-BHC (Lindane)	
4-Nitrophenol	Gamma-Chlordane	

Table 3 – ECOIs With No NOAEL ESLs

Calcium	Acenaphthylene	Indeno(1,2,3-cd)pyrene
Cesium	Anthracene	Isophorone
Iron	Benzo(a)anthracene	Isopropylbenzene
Magnesium	Benzo(b)fluoranthene	MCPA
Nitrite	Benzo(k)fluoranthene	Phenanthrene
Potassium	Benzoic Acid	Pyrene
Sodium	Carbazole	Trichlorofluoromethane
Titanium	Chloromethane	Gross Alpha
2,4-Dimethylphenol	Chrysene	Gross Beta
4-Isopropyltoluene	Dibenz(a,h)anthracene	Neptunium-237
4-Chloro-3-methylphenol	Ethylbenzene	Plutonium-238
4-Methylphenol	Fluoranthene	Uranium-233/234

The ECOIs presented in Table 1 were further screened based on their frequency of detection. Those ECOIs (Table 1) that are detected in less than 5 percent of the IA surface soil samples are listed in Table 4. Frequency of detection for each ECOI is presented in Table A-2 (Appendix A).

Table 4 – Detected ECOIs With MDCs Greater than NOAEL ESLs With Less Than 5-Percent Detection Frequency

2,4,6-Trichlorophenol	Endrin	Pentachlorophenol
4,4'-DDT	Endrin Aldehyde	
Dieldrin	Hexachlorobenzene	

The distributions of the inorganic ECOIs listed in Table 1 were also evaluated relative to the distribution of ECOI concentration in the site-specific background surface soil dataset (DOE 1995). Those ECOIs (Table 1) that were not shown to be significantly greater than the concentrations in the site-specific background surface soil dataset are listed in Table 5. The details of the comparisons of the two datasets are presented in Table B-1 (Appendix B). The ECOIs listed in Table 5 were eliminated from further consideration in the IA surface soil ERA because they are unlikely to present greater post-closure risks

13

to the populations of receptors than those predicted from areas not impacted by past Site operations.

Table 5 – ECOIs Carried Through the SLERA Step That Are Not Greater Than Site-Specific Background Concentrations

Aluminum	Lead	Selenium
Antimony	Lithium	Silver
Arsenic	Manganese	Tin
Barium	Mercury	Thallium
Beryllium	Molybdenum	Vanadium
Cadmium	Nickel	Zinc
Cobalt		

Table 6 presents a summary of the ECOIs remaining following the MDC comparison, frequency of detection and background comparison steps.

Table 6 – ECOIs Remaining Following the Frequency of Detection and Background Analyses

2-Methylnaphtalene	Chromium	Fluoride
Benz(a)pyrene	Copper	Plutonium 239/240
Bis(2-ethylhexyl)phthalate	Di-n-butyl-phthalate	Total Dioxins
Boron		Total PCBs

Upper-bound EPCs were calculated (Table 7) for each of the ECOIs listed in Table 6. Details of the calculations are presented in Table A-7 (Appendix A). The EPCs are compared to the limiting ESLs. The 95th UTL (95th UCL of the 90th percentile) is compared to the lowest ESL for small home range receptors (including terrestrial plants and invertebrates) and the 95th UCL is compared to the lowest NOAEL ESL for large home-range receptors (mule deer and coyote). The ESLs presented in Table 7 represent threshold ESLs, where available. Where no threshold ESLs were available, NOAEL ESLs were used as prescribed in the CRA Methodology. The ECOIs highlighted in bold have EPCs that are greater than one or both their ESLs and are, therefore, identified as ECOPCs for IA EU surface soil and are discussed further in the Risk Characterization.

Table 7 – Exposure Point Concentration (Upper Bound) Comparison

ECOI	95th UTL	95th UCL	Limiting Small Home Range ESL(1)	Limiting Large Home Range ESL(2)
Boron	6.8	3.4	0.5	314
Chromium(3)	26	17.9	1.34	68.5
Copper	39	31.3	8.25	3000
Fluoride	3.61	2.74	277	1400
2-Methylnaphthalene	390	11.4	4030	17500
Benz(a)pyrene	1700	918	3160	13800
Bis(2-ethylhexyl)phthalate	420	811	137	35000
Di-n-butylpthalate	180	180	15.9	1220000
Dioxin (Total)	0.01	0.008	.00425	.0146
PCB (Total)	1300	1470	42.3	1180
Plutonium 239/240	2.48	40.8	6110	6110

14

Nonradionuclide – inorganic units = mg/kg
Nonradionuclide – organic units = µg/kg
Plutonium 239/240 units = pCi/g
(1) Lowest ESL (threshold if available) for the plant, invertebrate, deer mouse, prairie dog, dove, or kestrel receptors.
(2) Lowest ESL (threshold if available) for the coyote and mule deer receptors.
(3) Chromium VI ESLs used.
Bold indicates that chemical is identified as an ECOPC.

15

Industrial Area Exposure Unit - Subsurface Soil

MDCs (in subsurface soils less than 8 feet bgs) are first compared to NOAEL ESLs for the burrowing mammal receptor (prairie dog). If an MDC is greater than the NOAEL ESL, the ECOI is retained for further analysis and are summarized in Table 8. Table A-6 (Appendix A) shows all of the detected ECOIs in IA EU subsurface soil. Table A-7 presents the summary data for all ECOIs. Tables A-8 and A-9 present the calculation of Total PCB and total dioxin concentrations respectively. Finally, Table A-10 presents the formal comparison of the MDC to the NOAEL ESL.

The ECOIs that have MDCs greater than the NOAEL ESL for the prairie dog receptor are carried forward and are summarized in Table 8. ECOIs that have MDCs less than the prairie dog NOAEL ESL are eliminated from further consideration and are summarized in Table 9. ECOIs that have no NOAEL ESLs for the prairie dog available in the CRA Methodology (DOE 2004) following a comprehensive search for valid toxicological data are listed in Table 10 and are retained for assessment as ECOIs of Uncertain Toxicity to be discussed further in the Uncertainty Assessment portion of the Risk Characterization.

Table 8 – Detected ECOIs With MDCs Exceeding Any NOAEL ESL

Antimony	Molybdenum	Zinc
Arsenic	Nickel	Tetrachloroethene
Cadmium	Selenium	Total PCB
Manganese	Tin	Trichloroethene
Mercury	Vanadium	

Table 9 – Detected ECOIs With MDCs Less Than All NOAEL ESLs

Barium	2-Methylnaphthalene	Endosulfan Sulfate
Beryllium	2-Methylphenol	Endrin
Boron	4,4'-DDD	Endrin Aldehyde
Chromium	4,4'-DDE	Endrin Ketone
Chromium VI	4,4'-DDT	Ethyl Acetate
Cobalt	4-Methyl-2-pentanone	Heptachlor Epoxide
Copper	Acetone	Hexachlorobenzene
Cyanide	Aldrin	Heachlorobutadiene
Fluoride	Alpha-BHC	Methoxychlor
Lead	Benzene	Methylene Chloride
Lithium	Benzo(a)pyrene	Naphthalene
Nitrate	Bis(2-ethylhexyl)phthalate	N-Nitrosodiphenylamine
Strontium	Bromoform	Pentachlorophenol
Thallium	Butylbenzylphthalate	Phenol
Uranium (non-isotopic)	Carbon Disulfide	Styrene
1,1,1-Trichloroethane	Carbon Tetrachloride	Toluene
1,1-Dichloroethane	Chlorobenzene	Total Dioxin
1,1-Dichloroethene	Chloroform	Trans-1,2-Dichloroethene
1,2,4-Trichlorobenzene	Cis-1,2-Dichloroethene	Vinyl Chloride

16

Table 9 – Detected ECOIs With MDCs Less Than All NOAEL ESLs

1,2-Dichloroethane	Delta-BHC	Xylene
1,2-Dichloroethene	Dibenzofuran	Americium-241
1,2-Dichloropropane	Dichlorodifluoromethane	Cesium-137
1,2,3-Trichloropropane	Dieldrin	Plutonium-239/240
1,3,5-Trimethylbenzene	Diethylphthalate	Radium-226
1,4-Dichlorobenzene	Dimethylphthalate	Radium-228
2,4-Dinitrophenol	Di-n-butylphthalate	Strontium-89/90
2,4-Dinitrotoluene	Di-n-octylphthalate	Uranium-235
2-Butanone	Endosulfan I	Uranium-238
2-Chlorophenol	Endosulfan II	

Table 10 – Detected ECOIs With No Subsurface Soil NOAEL ESLs

Aluminum	3,3'-Dichlorobenzidine	Dibenz(a,h)anthracene
Calcium	4-Chloro-3-methylphenol	Ethylbenzene
Cesium	4-Isopropyltoluene	Fluoranthene
Iron	4-Methylphenol	Fluorene
Magnesium	Acenaphthene	Indeno(1,2,3-cd)pyrene
Nitrite	Acenapthylene	Isophorone
Potassium	Anthracene	Isopropylbenzene
Silver	Benzo(a)anthracene	N-Nitroso-di-n-propylamine
Sodium	Benzo(b)fluoranthene	Phenanthrene
Sulfide	Benzo(g,h,i)perylene	Pyrene
Titanium	Benzo(k)fluoranthene	Trichlorofluoromethane
1,1,2-Trichloro-1,2,2-trifluoroethane	Benzoic Acid	Gross Alpha/Beta
1,2-Dibromo-3-chloropropane	Bromomethane	Neptunium-237
1,2-Dichlorobenzene	Carbazole	Plutonium-238
1,3-Dichlorobenzene	Chloromethane	Uranium-233/234
2,4-Dimethylphenol	Chrysene	Uranium-234

The ECOIs presented in Table 8 were further screened based on their frequency of detection. Those ECOIs that are detected in less than 5 percent of the IA subsurface soil samples are listed in Table 11. Frequency of detection for each ECOI in subsurface soil is presented in Table A-7.

Table 11 – Subsurface Soil ECOIs Carried Through the SLERA Step with Less Than 5-Percent Detection Frequency

Trichloroethene

The distributions of the inorganic ECOIs listed in Table 9 were also evaluated relative to the distribution of ECOI concentration in the site-specific background subsurface soil dataset. Those ECOIs that had data distributions that were not shown to be significantly

17

greater than the concentration in the site-specific background surface soil dataset are listed in Table 12. The comparisons of the two datasets are presented in Table A-10.

Table 12 – ECOIs Carried Through the SLERA Step that are Not Greater Than Site-Specific Background Concentrations

Antimony	Mercury	Tin
Cadmium	Nickel	
Manganese	Selenium	

Table 13 presents a summary of the ECOIs remaining following the MDC comparison, frequency of detection and background comparison steps.

Table 13 – ECOIs Remaining Following the Frequency of Detection and Background Analyses

Arsenic	Zinc	Total PCB
Vanadium	Tetrachloroethene	

Upper-bound EPCs were calculated (Table 14) for each of the ECOIs listed in Table 13. Details of the calculations are presented in Table A-12. The EPC, represented by the 95th UTL, is compared to the ESL for the burrowing mammal receptor. The ESLs presented in Table 14 represent threshold ESLs where available. Where no threshold ESLs were available, NOAEL ESLs were used as prescribed in the CRA Methodology. No ECOIs have 95th UTL concentrations that are greater than their ESL. Therefore, no ECOPCs are identified in IA subsurface soil. No further risk evaluation is necessary and no risk is predicted to populations of burrowing mammals in the IA.

Table 14 – Exposure Point Concentration (Upper Bound) Comparison

ECOI	95th UTL	Prairie Dog ESL
Arsenic	11	35.9
Vanadium	55	83.5
Zinc	63	1170
Tetrachloroethene	9.89	72500
Total PCB	879.5	53200

Inorganic Units = mg/kg
Organic Units = µg/kg

No ECOPCs were identified for subsurface soil in the IA. No further risk characterization is necessary.

18

North Walnut Creek Aquatic Exposure Unit
Accelerated Action Ecological Screening Evaluation
Sediment

SUMMARY

- PCBs (Aroclor 1254 only) – MDCs of Aroclor 1254 are greater than the ESL at several locations within the IA. EPCs based on the 95th UTL are also greater than the ESL in several locations.
- PAHs – MDCs and EPCs are greater than the ESL for a number of individual PAHs. PAHs identified as ECOPCs to be considered in the risk characterization process include the following:
  - 2-methylnaphthalene
  - Acenaphthene
  - Anthracene
  - Benzo(a)anthracene
  - Benzo(a)pyrene
  - Benzo(g,h,i)perylene
  - Benzo(k)fluoranthene
  - Chrysene
  - Dibenz(a,h)anthracene
  - Fluoranthene
  - Fluorene
  - Indeno(1,2,3-cd)pyrene
  - Naphthalene
  - Phenanthrene
  - Pyrene

  There are several locations that consistently have EPC concentrations greater than the ESLs.
- Additional organic ECOIs that were identified as ECOPCs include the following: 4,4'-DDT and carbazole.
- Inorganics identified as ECOPCs include the following:
  - Aluminum
  - Antimony
  - Barium
  - Cadmium
  - Fluoride
  - Iron
  - Lead
  - Manganese
  - Nickel
  - Selenium
  - Zinc

Most of these inorganics are slightly above the ESL or background.

- There are a number of ECOIs of Uncertain Toxicity (no ESL was available) that need to be addressed in the Uncertainty Section of the Risk Characterization.

19

North Walnut Creek Aquatic Exposure Unit
Sediment

The screening-level ecological risk assessment represents the first step in the ECOPC identification process. MDCs of all detected ECOIs are compared to NOAEL ESLs. If a MDC is greater than any NOAEL ESL, the ECOI is retained for further analysis. ECOIs that are retained for further analysis are listed below in Table 1.

Table B-1 (Appendix B) shows all of the detected ECOIs in sediment for North Walnut Creek. Table B-2 (Appendix B) presents a summary of sediment data for all ECOIs identified in North Walnut Creek. Table B-3 (Appendix B) provides a comparison between the MDC and the NOAEL ESLs. Table B-4 lists nondetected analytes and their ESLs.

Table 1 – ECOIs With MDCs Exceeding Any NOAEL ESL

Aluminum	Selenium	Chrysene
Antimony	Silver	Delta-BHC
Arsenic	Zinc	Dibenz(a,h)anthracene
Barium	2-Methylnaphthalene	Endosulfan I
Cadmium	4,4'-DDT	Fluoranthene
Chromium	Acenaphthene	Fluorene
Copper	Aldrin	Indeno(1,2,3-cd)pyrene
Fluoride	Anthracene	Naphthalene
Iron	Benzo(a)anthracene	PCB-1254
Lead	Benzo(a)pyrene	PCB-1260
Manganese	Benzo(g,h,i)perylene	Phenanthrene
Mercury	Benzo(k)fluoranthene	Pyrene
Nickel	Carbazole	

Table 2 presents the ECOIs that have MDCs less than their respective NOAEL ESL. These ECOIs are eliminated from further consideration in ECOPC process.

Table 2 – ECOIs With MDCs Less Than All NOAEL ESLs

Chromium VI	Di-n-butylphthalate	Cesium-137
1,1,2,2-Tetrachloroethane	Pentachlorophenol	Plutonium-239/240
2-Methylphenol	Phenol	Radium-226
Benzene	Tetrachloroethene	Radium-228
Bis(2-ethylhexyl)phthalate	Toluene	Strontium-89/90
Butylbenzylphthalate	Trichloroethene	Uranium-235
Dibenzofuran	Americium-241	Uranium-238
Diethylphthalate		

Those ECOIs that have no ESLs available in the CRA Methodology following a comprehensive search for valid toxicological data are listed in Table 3. These ECOIs are

20

retained for further assessment as ECOIs of Uncertain Toxicity and are discussed further in the Uncertainty Section of the Risk Characterization.

Table 3 – ECOIs With No NOAEL ESLs

Beryllium	Sodium	4-Methyl-2- pentanone
Boron	Strontium	Acetone
Calcium	Thallium	Atrazine
Cesium	Tin	Benzo(b)fluoranthene
Cobalt	Titanium	Benzoic Acid
Lithium	Vanadium	Di-n-octyl-phthalate
Magnesium	1,1,2,2-Tetrachloroethane	Methylene chloride
Molybdenum	1,2-Dichloroethene	Gross alpha
Nitrate	2-Butanone	Gross beta
Nitrite	4-Isopropyltoluene	Uranium-233/234
Potassium		

ECOIs presented in Table 1 were further screened based on their frequency of detection. Those ECOIs (Table 1) that were detected in less than 5 percent of the sediment samples are listed in Table 4.

Table 4 – Detected ECOIs With MDCs Greater Than NOAEL ESLs With Less Than 5-Percent Detection Frequency

Silver	Delta-BHC	PCB-1260
Aldrin	Endosulfan I	

The distributions of the inorganic ECOIs listed in Table 1 were also evaluated relative to the distribution of ECOI concentrations in the site-specific background sediment dataset (Table B-1 [Appendix B]). Those ECOIs (Table 1) that were not shown to be significantly greater than the concentrations in the sitewide background sediment dataset are listed in Table 5. The ECOIs listed in Table 5 were eliminated from further consideration in the North Walnut Creek ERA since they are unlikely to present risks to the populations of receptors that may inhabit the creek post-closure.

Table 5 – Inorganic ECOIs Less Than Site-Specific Background Concentrations

Mercury

Table 6 presents a summary of the ECOIs that remain following the MDC comparisons, frequency-of-detection, and background screen comparison steps.

21

Table 6 – ECOIs Remaining Following the Frequency of Detection and Background Analyses

Aluminum	Nickel	Carbazole
Antimony	Selenium	Chrysene
Arsenic	Zinc	Dibenz(a,h)anthracene
Barium	2-Methylnaphthalene	Fluoranthene
Cadmium	4,4'-DDT	Fluorene
Chromium	Acenaphthene	Indeno(1,2,3-cd)pyrene
Copper	Anthracene	Naphthalene
Fluoride	Benzo(a)anthracene	PCB-1254
Iron	Benzo(a)pyrene	Phenanthrene
Lead	Benzo(g,h,i)perylene	Pyrene
Manganese	Benzo(k)fluoranthene	

An Upper-Bound EPC was calculated for all remaining ECOIs listed in Table 6. For sediment, the EPC is calculated as the 95th UTL or the 95th UCL of the 90th percentile. The EPC is then compared to the NOAEL ESL in Table 7. These ESLs are listed in the CRA Methodology. EPCs greater than their respective ESLs for a given ECOI are identified as final ECOPCs and are discussed further in the Risk Characterization.

Table 7 – Exposure Point Concentration (Upper Bound) Comparison

ECOI	EPC (95th UTL)	NOAEL ESL	Consider in Risk Characterization
Aluminum	19,900	15,900	**Yes**
Antimony	29.6	2	**Yes**
Arsenic	7.8	9.79	No
Barium	193	189	**Yes**
Cadmium	3.1	0.99	**Yes**
Chromium	23.8	43.4	No
Copper	28.4	31.6	No
Fluoride	16.72[1]	0.01	**Yes**
Iron	22,900	20,000	**Yes**
Lead	47.5	35.8	**Yes**
Manganese	1,000	630	**Yes**
Nickel	25.6	22.7	**Yes**
Selenium	1.8	0.95	**Yes**
Zinc	401	121	**Yes**
2-Methylnaphthalene	495	20.2	**Yes**
4,4'-DDT	4.9[1]	4.16	**Yes**
Acenaphthene	405	6.71	**Yes**
Anthracene	405	57.2	**Yes**
Benzo(a)anthracene	580	108	**Yes**
Benzo(a)pyrene	570	150	**Yes**
Benzo(g,h,i)perylene	270[1]	13	**Yes**

22

ECOI	EPC (95th UTL)	NOAEL ESL	Consider in Risk Characterization
Benzo(k)fluoranthene	495	240	**Yes**
Carbazole	300[1]	25.2	**Yes**
Chrysene	730	166	**Yes**
Dibenz(a,h)anthracene	200[1]	33	**Yes**
Fluoranthene	1,500	423	**Yes**
Fluorene	470	77.4	**Yes**
Indeno(1,2,3-cd) pyrene	490	17	**Yes**
Naphthalene	310[1]	176	**Yes**
PCB-1254	350	40	**Yes**
Phenanthrene	1,300	204	**Yes**
Pyrene	1,500	195	**Yes**

Inorganic Units = mg/kg

Organic Units = µg/kg

[1] EPC was greater than the maximum concentration; therefore, the maximum concentration is identified as the EPC.

23

South Walnut Creek Aquatic Exposure Unit
Accelerated Action Ecological Screening Evaluation
Sediment

SUMMARY

- PCBs (Aroclor 1254 and 1260) – MDCs of Aroclor 1254 are greater than the ESL at several locations within the IA. EPCs based on the 95th UTL are also greater than the ESL in several locations.
- PAHs – MDCs and EPCs are greater than the ESL for a number of individual PAHs. PAHs identified as ECOPCs to be considered in the risk characterization process include the following:
  - Acenaphthene
  - Anthracene
  - Benzo(a)anthracene
  - Benzo(a)pyrene
  - Benzo(g,h,i)perylene
  - Benzo(k)fluoranthene
  - Chrysene
  - Dibenz(a,h)anthracene
  - Fluoranthene
  - Fluorene
  - Indeno(1,2,3-cd)pyrene
  - Phenanthrene
  - Pyrene

  There are several locations that consistently have EPC concentrations greater than the ESLs.
- Additional organic ECOIs that were identified as ECOPCs include bromomethane and carbazole.
- Inorganics identified as ECOPCs include the following:
  - Aluminum
  - Copper
  - Fluoride
  - Lead
  - Zinc

  Most of these metals are slightly above the ESL or background Table F-1 [Appendix F]).
- There are a number of ECOIs of Uncertain Toxicity (no ESLs were available) that need to be addressed in the Uncertainty Section of the Risk Characterization.

24

South Walnut Creek Aquatic Exposure Unit
Sediment

The screening-level ecological risk assessment represents the first step in the ECOPC identification process. MDCs of all detected ECOIs are compared to NOAEL ESLs. If a MDC is greater than any NOAEL ESL, the ECOI is retained for further analysis. ECOIs that are retained for further analysis are listed below in Table 1.

Table C-1 (Appendix C) shows all of the detected ECOIs in sediment for South Walnut Creek. Table C-2 (Appendix C) presents a summary of sediment data for all ECOIs identified in South Walnut Creek. Table C-3 (Appendix C) provides a comparison between the MDC and the NOAEL ESLs. Table C-4 lists nondetected analytes and their ESLs.

Table 1 – ECOIs With MDCs Exceeding Any NOAEL ESL

Aluminum	Silver	Carbazole
Antimony	Zinc	Chrysene
Arsenic	2-Methylnaphthalene	Dibenz(a,h)anthracene
Barium	4,4'-DDE	Fluoranthene
Cadmium	4-Methylphenol	Fluorene
Chromium	Acenaphthene	gamma-BHC (Lindane)
Copper	Anthracene	Heptachlor epoxide
Fluoride	Benzo(a)anthracene	Indeno(1,2,3-cd)pyrene
Iron	Benzo(a)pyrene	PCB-1254
Lead	Benzo(g,h,i)perylene	PCB-1260
Manganese	Benzo(k)fluoranthene	Pentachlorophenol
Mercury	Beta-BHC	Phenanthrene
Nickel	Bromomethane	Pyrene

Table 2 presents the ECOIs that have MDCs less than their respective NOAEL ESL. These ECOIs are eliminated from further consideration in ECOPC process.

Table 2 – ECOIs With MDCs Less Than All NOAEL ESLs

Chromium VI	Di-n-butylphthalate	Cesium-137
Selenium	Hexachlorobutadiene	Plutonium-239/240
1,2,4-Trichlorobenzene	Methoxychlor	Radium-226
Bis(2-ethylhexyl)phthalate	Naphthalene	Radium-228
Butylbenzylphthalate	Phenol	Strontium-89/90
Carbon tetrachloride	Tetrachloroethene	Uranium-235
Dibenzofuran	Toluene	Uranium-238
Diethylphthalate	Americium-241	

Those ECOIs that have no ESLs available in the CRA Methodology following a comprehensive search for valid toxicological data are listed in Table 3. These ECOIs are

25

retained for further assessment as ECOIs of Uncertain Toxicity and are discussed further in the Uncertainty Section of the Risk Characterization.

Table 3 – ECOIs With No NOAEL ESLs

Beryllium	Sodium	Benzyl alcohol
Boron	Strontium	Chloroform
Calcium	Thallium	Dieldrin
Cesium	Tin	Dimethylphthalate
Cobalt	Titanium	Di-n-octyl-phthalate
Lithium	Vanadium	Ethylbenzene
Magnesium	2-Butanone	Methylene chloride
Molybdenum	Acetone	Gross alpha
Nitrate	Benzo(b)fluoranthene	Gross beta
Potassium	Benzoic Acid	Uranium-233/234

ECOIs presented in Table 1 were further screened based on their frequency of detection. Those ECOIs (Table 1) that were detected in less than 5 percent of the sediment samples are listed in Table 4.

Table 4 – Detected ECOIs With MDCs Greater Than NOAEL ESLs With Less Than 5-Percent Detection Frequency

2-Methylnaphthalene	Beta-BHC	Heptachlor epoxide
4,4'-DDE	gamma-BHC (Lindane)	Pentachlorophenol
4-Methylphenol		

The distributions of the inorganic ECOIs listed in Table 1 were also evaluated relative to the distribution of ECOI concentrations in the site-specific background sediment dataset (Table C-4). Those ECOIs (Table 1) that were not shown to be significantly greater than the concentrations in the sitewide background sediment dataset are listed in Table 5. The ECOIs listed in Table 5 were eliminated from further consideration in the South Walnut Creek ERA since they are unlikely to present risks to the populations of receptors that may inhabit the creek post-closure.

Table 5 – Inorganic ECOIs Less Than Site-Specific Background Concentrations

Antimony	Manganese	Silver
Cadmium	Mercury	

Table 6 presents a summary of the ECOIs that remain following the MDC comparisons, frequency of detection, and background screen comparison steps in Tables 4 and 5, respectively.

Table 6 – ECOIs Remaining Following the Frequency of Detection and Background Analyses

Aluminum	Zinc	Chrysene
Arsenic	Acenaphthene	Dibenz(a,h)anthracene
Barium	Anthracene	Fluoranthene
Chromium	Benzo(a)anthracene	Fluorene
Copper	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene
Fluoride	Benzo(g,h,i)perylene	PCB-1254
Iron	Benzo(k)fluoranthene	PCB-1260
Lead	Bromomethane	Phenanthrene
Nickel	Carbazole	Pyrene

An Upper-Bound EPC was calculated for all remaining ECOIs listed in Table 6. For sediment, the EPC is calculated as the 95th UTL or the 95th UCL of the 90th percentile. The EPC is then compared to the NOAEL ESL in Table 7. These ESLs are listed in the CRA methodology document. ECOIs greater than their respective ESLs are identified as final ECOPCs and are discussed further in the Risk Characterization.

Table 7 – EPC (Upper Bound) Comparison

ECOI	EPC (95th UTL)[1]	NOAEL ESL	Consider in Risk Characterization
Aluminum	17,900	15,900	**Yes**
Arsenic	8.3	9.79	No
Barium	167	189	No
Chromium	24.8	43.4	No
Copper	33	31.6	**Yes**
Fluoride	9.27[1]	0.01	**Yes**
Iron	19,800	20,000	No
Lead	53.4	35.8	**Yes**
Nickel	22.3	22.7	No
Zinc	375	121	**Yes**
Acenaphthene	180[1]	6.71	**Yes**
Anthracene	345	57.2	**Yes**
Benzo(a)anthracene	820	108	**Yes**
Benzo(a)pyrene	810	150	**Yes**
Benzo(g,h,i)perylene	270[1]	13	**Yes**
Benzo(k)fluoranthene	460	240	**Yes**
Bromomethane	5[1]	3.43	**Yes**
Carbazole	290[1]	25.2	**Yes**
Chrysene	650	166	**Yes**
Dibenz(a,h)anthracene	345	33	**Yes**
Fluoranthene	1,400	423	**Yes**
Fluorene	180[1]	77.4	**Yes**

27

ECOI	EPC (95th UTL)[1]	NOAEL ESL	Consider in Risk Characterization
Indeno(1,2,3-cd) pyrene	405	17	**Yes**
PCB-1254	560	40	**Yes**
PCB-1260	205	40	**Yes**
Phenanthrene	760	204	**Yes**
Pyrene	1,200	195	**Yes**

Inorganic Units = mg/kg
Organic Units = µg/kg

[1] EPC was greater than the maximum concentration; therefore, the maximum concentration is identified as the EPC.

28

Woman Creek Aquatic Exposure Unit
Accelerated Action Ecological Screening Evaluation
Sediment

SUMMARY

- Inorganics – For a number of inorganics the MDCs and 95th UTL are greater than their respective ESLs in sediment. These include the following:

  - Aluminum
  - Antimony
  - Barium
  - Cadmium
  - Copper
  - Fluoride
  - Zinc

- PCBs (Aroclor 1254 only) – The MDC for Aroclor 1254 is greater than the ESL in sediment.
- Additional organic ECOIs that had MDCs greater than their respective ESLs include 4-methylphenol, and two PAH compounds, benzo(a)anthracene and phenanthrene.
- There are a number of ECOIs of Uncertain Toxicity (no ESL was available) that need to be addressed in the Uncertainty Section of the Risk Characterization.

29

Woman Creek Aquatic Exposure Unit
Sediment

The screening-level ecological risk assessment represents the first step in the ECOPC identification process. MDCs of all detected ECOIs are compared to NOAEL ESLs. If a MDC is greater than any NOAEL ESL, the ECOI is retained for further analysis. ECOIs that are retained for further analysis are listed below in Table 1.

Within Appendix D, Table D-1 shows all of the detected ECOIs in sediment for Woman Creek. Table D-2 presents a summary of sediment data for all ECOIs identified in Woman Creek. Table D-3 provides a comparison between the MDC and the NOAEL ESLs. Table D-4 provides the results of the background and UCL calculations and Table D-5 lists nondetected analytes and their ESLs.

Table 1 – ECOIs With MDCs Exceeding Any NOAEL ESL

Aluminum	Nickel	Gamma-BHC
Antimony	Selenium	Chrysene
Arsenic	Silver	Dibenz(a,h)anthracene
Barium	Zinc	Fluoranthene
Cadmium	2-Methylnaphthalene	Fluorene
Chromium	4-Methylphenol	Heptachlor
Copper	4,4'-DDT	Indeno(1,2,3-cd)pyrene
Fluoride	Acenaphthene	Naphthalene
Iron	Anthracene	PCB-1254
Lead	Benzo(a)anthracene	Phenanthrene
Manganese	Benzo(a)pyrene	Pyrene
Mercury	Benzo(k)fluoranthene	

Table 2 presents the ECOIs that have MDCs less than their respective NOAEL ESL. These ECOIs are eliminated from further consideration in ECOPC process.

Table 2 – ECOIs With MDCs Less Than All NOAEL ESLs

Chromium VI	Di-n-butylphthalate	Cesium-137
Aldrin	Endosulfan I	Radium-226
Alpha-Chlordane	Heptachlor epoxide	Radium-228
Beta-BHC	Phenol	Strontium-89/90
Bis(2-ethylhexyl)phthalate	Tetrachloroethene	Plutonium-239/240
Butylbenzylphthalate	Trichloroethene	Uranium-235
Delta-BHC	Toluene	Uranium-238
Dibenzofuran	Americium-241	

Those ECOIs that have no ESLs available in the CRA Methodology following a comprehensive search for valid toxicological data are listed in Table 3. These ECOIs are retained for further assessment as ECOIs of Uncertain Toxicity and are discussed further in the Uncertainty Section of the Risk Characterization.

30

Table 3 – ECOIs With No NOAEL ESLs

Beryllium	Potassium	Acetone
Boron	Sodium	Benzo(b)fluoranthene
Calcium	Strontium	Benzoic acid
Cesium	Thallium	Di-n-octylphthalate
Cobalt	Tin	Methylene chloride
Lithium	Titanium	Gross Alpha
Magnesium	Vanadium	Gross Beta
Molybdenum	2-Butanone	Uranium-233/234
Nitrate/Nitrite	4-methyl 2-pentanone	

ECOIs presented in Table 1 were further screened based on their frequency of detection. Those ECOIs (Table 1) that were detected in less than 5 percent of the sediment samples are listed in Table 4.

Table 4 – Detected ECOIs With MDCs Greater Than NOAEL ESLs With Less Than 5-Percent Detection Frequency

Acenaphthene	Gamma-BHC	Indeno(1,2,3-cd)perylene
Anthracene	Heptachlor	Naphthalene
Dibenz(a,h)anthracene	2-Methylnaphthalene	4,4'-DDT
Fluorene	4-Methylphenol	

The distributions of the inorganic ECOIs listed in Table 1 were also evaluated relative to the distribution of ECOI concentrations in the background sediment dataset. Those ECOIs (Table 1) that were not shown to be significantly greater than the concentrations in the background sediment dataset are listed in Table 5. The ECOIs listed in Table 5 were eliminated from further consideration in the Woman Creek SLERA since they are unlikely to present risks to the populations of receptors that may inhabit the creek post-closure.

Table 5 – Inorganic ECOIs Less Than Site-Specific Background Concentrations

Mercury	Silver

Table 6 presents a summary of the ECOIs that remain following the MDC comparison, frequency of detection, and background screen comparison steps in Tables 4 and 5, respectively.

Table 6 – ECOIs Remaining Following the Frequency of Detection and Background Analyses

Aluminum	Fluoride	Benzo(a)anthracene
Antimony	Iron	Benzo(a)pyrene
Arsenic	Lead	Benzo(k)fluoranthene
Barium	Manganese	Chrysene
Cadmium	Nickel	Fluoranthene
Chromium	Selenium	PCB-1254
Copper	Zinc	Phenanthrene
	4-Methylphenol	Pyrene

31

An Upper-Bound EPC was calculated for all remaining ECOIs listed in Table 6. For sediment, the EPC is calculated as the 95th UTL or the 95th UCL of the 90th percentile. The EPC is then compared to the NOAEL ESL, as shown in Table 7. These ESLs are listed in the CRA Methodology. ECOIs greater than their respective ESLs are identified as final ECOPCs and are discussed further in the Risk Characterization.

Table 7 – Exposure Point Concentration (Upper Bound) Comparison

ECOI	EPC (max.)	EPC (95th UTL)	NOAEL ESL	Consider in Risk Characterization (yes/no)
Aluminum	30200	16100	15900	**Yes**
Antimony	51.3	19.5	2	**Yes**
Arsenic	9.8	7.5	9.79	No
Barium	404	256	189	**Yes**
Cadmium	3.6	1.8	0.99	**Yes**
Chromium	70.1	23.9	43.4	No
Copper	212	167	31.6	**Yes**
Fluoride	20.3	20.3	0.01	**Yes**
Iron	29700	24200	20000	No
Lead	118	55.6	35.8	No
Manganese	1580	609	630	No
Nickel	32.1	26.9	22.7	No
Selenium	3.8	1.6	0.95	No
Zinc	2080	728	121	**Yes**
4-Methylphenol	510	700	12.3	**Yes**
Benzo(a)anthracene	1200	900	108	**Yes**
Benzo(a)pyrene	970	900	150	No
Benzo(k)fluoranthene	690	700	240	No
Chrysene	1200	900	166	No
Fluoranthene	2900	900	423	No
PCB-1254	250	900	40	**Yes**
Phenanthrene	2900	900	204	**Yes**
Pyrene	3100	900	195	No

Inorganic Units = mg/kg
Organic Units = µg/kg

32

No Name Gulch Aquatic Exposure Unit
Accelerated Action Ecological Screening Evaluation
Sediment

SUMMARY

- Metals – There were two metals for which the MDCs and 95th UTL were greater than their respective ESLs in sediment. These were barium and iron.
- Additional organic ECOIs that had MDCs greater than their respective ESLs include six PAH compounds:
  - Benzo(a)anthracene
  - Benzo(a)pyrene
  - Chrysene
  - Indeno(1,2,3-cd)pyrene
  - Phenanthrene
  - Pyrene
- There are a number of ECOIs of Uncertain Toxicity (no ESL was available) that need to be addressed in the Uncertainty Section of the Risk Characterization.

No Name Gulch Aquatic Exposure Unit
Sediment

The screening level ecological risk assessment represents the first step in the ECOPC identification process. MDCs of all detected ECOIs are compared to NOAEL ESLs. If a MDC is greater than any NOAEL ESL, the ECOI is retained for further analysis. ECOIs that are retained for further analysis are listed below in Table 1.

Within Appendix E, Table E-1 shows all of the detected ECOIs in sediment for No Name Gulch and Table E-2 a summary of sediment data for all ECOIs identified in No Name Gulch. Table E-3 provides a comparison between the MDC and the NOAEL ESLs. Table E-4 provides the results of the background and UCL calculations and Table E-4 lists nondetected analytes and their ESLs.

Table 1 – ECOIs with MDCs Exceeding Any NOAEL ESL

Aluminum	Benzo(a)pyrene	Phenanthrene
Antimony	Chrysene	Pyrene
Barium	Indeno(1,2,3-cd)pyrene	
Benzo(a)anthracene	Iron	

Table 2 presents the ECOIs that have MDCs less than their respective NOAEL ESL. These ECOIs are eliminated from further consideration in ECOPC process.

Table 2 –ECOIs with MDCs Less Than All NOAEL ESLs

Arsenic	Selenium	Plutonium-239/240
Chromium	Zinc	Americium-241
Copper	Anthracene	Cesium-137
Lead	Benzo(k)fluoranthene	Radium-226
Manganese	Bis(2-ethylhexyl)phthalate	Radium-228
Mercury	Fluoranthene	Uranium-235
Nickel	Toluene	Uranium-238

Those ECOIs that have no ESLs available in the CRA Methodology following a comprehensive search for valid toxicological data are listed in Table 3. These ECOIs are retained for further assessment as ECOIs of Uncertain Toxicity and are discussed further in the Uncertainty Section of the Risk Characterization.

34

Table 3 – Detected ECOIs of Uncertain Toxicity

Beryllium	Nitrate/Nitrite	Tin
Calcium	Molybdenum	Vanadium
Cesium	Potassium	Benzo(b)fluoranthene
Cobalt	Sodium	Gross Alpha
Lithium	Strontium	Gross Beta
Magnesium	Thallium	Uranium-233/234

ECOIs presented in Table 1 were further screened based on their frequency of detection. Those ECOIs in Table 1 that were detected in less than 5 percent of the sediment samples are listed in Table 4.

Table 4 – Detected ECOIs MDCs Greater than NOAEL ESLs With Less Than 5-Percent Detection Frequency

Antimony

The distributions of the inorganic ECOIs listed in Table 1 were also evaluated relative to the distribution of ECOI concentrations in the background sediment dataset. Those ECOIs (Table 1) that were not shown to be significantly greater than the concentrations in the background sediment dataset are listed in Table 5. The ECOIs listed in Table 5 were eliminated from further consideration in the No Name Gulch SLERA since they are unlikely to present risks to the populations of receptors that may inhabit the Gulch post-closure.

Table 5 – Inorganic ECOIs Less Than Site-Specific Background Concentrations

Aluminum

Table 6 presents a summary of the ECOIs that remain following the MDC comparisons, frequency of detection, and background screen comparison steps in Tables 4 and 5, respectively.

Table 6 - ECOIs Remaining Following the Frequency of Detection and Background Analyses

Barium	Benzo(a)anthracene	Indeno(1,2,3-cd)pyrene
Iron	Benzo(a)pyrene	Phenanthrene
	Chrysene	Pyrene

An Upper-Bound EPC was calculated for all remaining ECOIs listed in Table 6. For sediment, the EPC is calculated as the 95th UTL or the 95th UCL of the 90th percentile. The EPC is then compared to the NOAEL ESL, as shown in Table 7. These ESLs are listed in the CRA methodology document. ECOIs greater than their respective ESLs are identified as final ECOPCs and are discussed further in the Risk Characterization.

35

Table 7 – Exposure Point Concentration (Upper Bound) Comparison

ECOI	EPC (max.)	EPC (95th UTL)	NOAEL ESL	Consider in Risk Characterization (yes/no)
Barium	240	240	189	**Yes**
Iron	21500	21500	20000	**Yes**
Benzo(a)anthracene	150	250	108	**Yes**
Benzo(a)pyrene	160	250	150	**Yes**
Chrysene	190	250	240	No
Indeno(1,2,3-cd)pyrene	86	250	17	**Yes**
Phenanthrene	280	280	204	**Yes**
Pyrene	320	320	195	**Yes**

Inorganic Units = mg/kg
Organic Units = µg/kg

36

North Walnut Creek Aquatic Exposure Unit
Accelerated Action Ecological Evaluation
Surface Water

SUMMARY

- Inorganics – For a number of inorganic ECOIs, the EPC based on the 95th UTL occur at concentrations greater than their respective ESLs and background levels in surface water. These include the following:
  - Aluminum – total
  - Ammonia – total
  - Copper – total
  - Iron – total
  - Lead – total
  - Lithium – total and dissolved
  - Nitrite – total
  - Selenium – dissolved
  - Uranium – total and dissolved
  - Vanadium – total
  - Zinc – total
- EPCs for two radionuclides, Radium-226 and Uranium-238 in the dissolved form, were greater than their respective ESLs in surface water. Concentrations of these two radionuclides were also greater than background. Both will be further evaluated in the Risk Characterization.
- PCBs (Aroclor 1254 only) – The MDC for Aroclor 1254 is greater than the ESL in surface water. Aroclor 1254 will be further evaluated in the Risk Characterization.
- There are a number of ECOIs of Uncertain Toxicity (no ESL was available) that need to be addressed in the Uncertainty Section of the Risk Characterization.

These ECOPCs will be further evaluated in the Risk Characterization.

37

North Walnut Creek Aquatic Exposure Unit
Surface Water

The screening level ecological risk assessment (SLERA) represents the first step in the ECOPC identification process. MDCs of all detected ECOIs are compared to chronic AWQC ESLs. If a MDC is greater than any ESL, the ECOI is retained for further analysis. ECOIs that are retained for further analysis are listed below in Table 1.

Table F-1 (Appendix F) shows all of the detected ECOIs in surface water for North Walnut Creek. Table F-2 presents a summary of surface water data for all ECOIs identified in North Walnut Creek. Table F-3 presents a comparison between the MDC and the ESLs.

Table 1 – Detected ECOIs Retained for Further Analysis

Aluminum (T&D)	Manganese (T&D)	Benzo(a)pyrene
Ammonia (T only)	Mercury (T only)	bis(2-Ethylhexyl)phthalate
Barium (T&D)	Nickel (T&D)	Carbon Disulfide
Beryllium (T&D)	Nitrite (T only)	di-n-Butylphthalate
Cadmium (T&D)	Selenium (T&D)	PCB-1254
Chromium (T&D)	Silver (T&D)	Phenanthrene
Cobalt (T only)	Tin (T&D)	Pyrene
Copper (T&D)	Uranium (T&D)	Plutonium-239/240 (T only)
Fluoride (T only)	Vanadium (T&D)	Radium-226 (T&D)
Iron (T&D)	Zinc (T&D)	Uranium-235 (T only)
Lead (T&D)	Anthracene	Uranium-238 (T&D)
Lithium (T&D)	Benzo(a)anthracene	

T = total
D = dissolved

Table 2 presents the ECOIs that have MDCs less than their respective ESL. These ECOIs are eliminated from further consideration in ECOPC process.

Table 2 – Detected ECOIs Eliminated From Further Consideration

Antimony (T&D)	2-Butanone	Fluorene
Arsenic (T&D)	4,4'-DDE	Hexachlorobutadiene
Cobalt (D only)	4-Methyl-2- pentanone	Isophorone
Cyanide (T and free)	Acetone	Methylene chloride
Fluoride (D only)	Alpha-BHC	Naphthalene
Mercury (D only)	Benzene	Tetrachloroethene
Molybdenum (T&D)	Benzoic acid	Toluene
Strontium (T&D)	Beta-BHC	Trichloroethene
Thallium (T&D)	Bromodichloromethane	Vinyl chloride
1,1,1-Trichloroethane	Butylbenzylphthalate	Xylene
1,1,2,2-Tetrachloroethane	Carbon Tetrachloride	Americium-241 (T&D)
1,1-Dichloroethane	Chlorobenzene	Cesium-137 (T&D)

Table 2 – Detected ECOIs Eliminated From Further Consideration

1,1-Dichloroethene	Chloroform	Plutonium-239/240(D only)
1,2-Dichloroethene	cis-1,2-Dichloroethene	Radiocesium (T&D)
1,2-Dichloropropane	Diethylphthalate	Tritium (T only)
1,4-Dichlorobenzene	Fluoranthene	Uranium-235 (D only)

T = total
D = dissolved

Those ECOIs that have no ESLs available in the CRA Methodology following a comprehensive search for valid toxicological data are listed in Table 3. These ECOIs are retained for further assessment as ECOIs of Uncertain Toxicity and are discussed further in the Uncertainty Section of the Risk Characterization.

Table 3 – Detected ECOIs of Uncertain Toxicity

Boron (T only)	Atrazine	Dinoseb
Calcium (T&D)	Benzo(b)fluoranthene	Endosulfan I
Cesium (T&D)	Benzo(k)fluoranthene	Endrin
Chromium VI (T only)	Benzyl alcohol	Heptachlor epoxide
Magnesium (T&D)	Carbazole	Indeno(1,2,3-cd)pyrene
Nitrate (T&D)	Chrysene	Isopropylbenzene
Potassium (T&D)	Dalapon	Simazine
Sodium (T&D)	Dibenz(a,h)anthracene	Trichlorofluoromethane
Sulfide (T only)	Dibromochloromethane	Cesium (radio)
Titanium (T only)	Dicamba	Gross alpha (T&D)
1,1,2-Trichloro-1,2,2-Trifluorethane	Dichlorodifluoromethane	Gross beta (T&D)
1,3-Dichlorobenzene	Dimethoate	Neptunium-237 (T&D)
4,4'-DDT	Dimethylphthalate	Plutonium-238 (T only)
Acenaphthene	Di-n-octylphthalate	Uranium-233/234 (T&D)
Alpha-Chlordane		

T = total
D = dissolved

ECOIs presented in Table 1 were further screened based on their frequency of detection. Those ECOIs that were detected in less than 5 percent of the surface water samples are listed in Table 4. These ECOIs are eliminated from further consideration in North Walnut Creek since they are unlikely to present risks to the population of receptors that may inhabit the creek post-closure.

39

Table 4 – ECOIs With Less Than 5% Detection Frequency

Beryllium (d)	Benzo(a)pyrene	Phenanthrene
Anthracene	Carbon disulfide	Pyrene
Benzo(a)anthracene		

The distributions of the inorganic ECOIs listed in Table 1 were also evaluated relative to the distribution of ECOI concentrations in the sitewide background surface water dataset. Those ECOIs that had data distributions that were not shown to be significantly greater than the concentration in the site-specific background surface water dataset are listed in Table 5. The ECOIs listed in Table 5 were eliminated from further consideration in the North Walnut Creek ERA since they are unlikely to present risks to the populations of receptors that may inhabit the creek post-closure.

Table 5 – Inorganic ECOIs Less Than Site-Specific Background Concentrations

Aluminum (D only)	Iron (D only)	Silver (T&D)
Beryllium (T only)	Lead (D only)	Tin (T&D)
Cadmium (T&D)	Mercury (T only)	Vanadium (D only)
Chromium (D only)	Nickel (D only)	Zinc (D only)
Cobalt (T only)	Selenium (T only)	Radium-226 (T only)
Copper (D only)		

T = total
D = dissolved

Table 6 presents a summary of the ECOIs that remain following the frequency of detection and background screen steps in Tables 4 and 5, respectively.

Table 6 - ECOIs Remaining Following the Frequency of Detection and Background Comparison Screening Steps

Aluminum (T only)	Lithium (T&D)	bis(2-Ethylhexyl)phthalate
Ammonia (T only)	Manganese (T&D)	di-n-Butylphthalate
Barium (T&D)	Nickel (T only)	PCB - Aroclor 1254
Chromium (T only)	Nitrite (T only)	Plutonium-239/240 (T only)
Copper (T only)	Selenium (D only)	Radium-226 (D only)
Fluoride (T only)	Uranium (T&D)	Uranium-235 (T only)
Iron (T only)	Vanadium (T only)	Uranium-238 (T&D)
Lead (T only)	Zinc (T only)	

T = total
D = dissolved

An Upper Bound EPC was calculated for all remaining ECOIs listed in Table 6. For surface water, the EPC is calculated as the 95th UTL or the 95th UCL of the 90th percentile. The EPC is then compared to the ESL in Table 7. These ESLs are listed in the CRA methodology document. ECOIs that are greater than their respective ESLs for a given ECOI are identified as final ECOPCs and are discussed further in the Risk Characterization.

Table 7 – Exposure Point Concentration (Upper Bound) Comparison

ECOI	EPC (95th UTL)	ESL	Consider in Risk Characterization
Aluminum (T)	30.4	0.087	**Yes**
Ammonia (T)	6.59	0.02	**Yes**
Barium (T)	0.33	0.438	No
Barium (D)	0.22	0.438	No
Chromium (T)	0.03	0.074	No
Copper (T)	0.06	0.009	**Yes**
Fluoride (T)	1.7	2.12	No
Iron (T)	29.8	1	**Yes**
Lead (T)	0.03	0.0025	**Yes**
Lithium (T)	0.32	0.096	**Yes**
Lithium (D)	0.37	0.096	**Yes**
Manganese (T)	0.76	1.65	No
Manganese (D)	0.34	1.65	No
Nickel (T)	0.03	0.052	No
Nitrite (T)	0.18[1]	0.00443	**Yes**
Selenium (D)	0.01	0.0046	**Yes**
Uranium (T)	0.013[1]	0.0026	**Yes**
Uranium (D)	0.015[1]	0.0026	**Yes**
Vanadium (T)	0.07	0.012	**Yes**
Zinc (T)	0.97	0.118	**Yes**
bis(2-Ethylhexyl) phthalate	16	28.5	No
di-n-Butylphthalate	5	9.7	No
PCB - Aroclor 1254	1.05	0.014	**Yes**
plutonium-239/240 (T)	0.33	18.7	No
Radium-226 (D	1.3	1.02	**Yes**
Uranium-235 (T)	0.54	21.7	No
Uranium-238 (T)	10.0	22.3	No
Uranium-238 (D)	**24.5**	**22.3**	**Yes**

Inorganic Units = mg/L
Organic Units = µg/L
Radionuclide Units = pCi/L
T = total
D = dissolved
[1] EPC was greater than the maximum concentration; therefore, the maximum concentration is identified as the EPC.

41

Summary South Walnut Creek Aquatic Exposure Unit Accelerated Action Ecological Screening Evaluation Surface Water

SUMMARY

- Inorganics – For six inorganic ECOIs, the EPC based on the 95th UTL occur at concentrations greater than their respective ESLs and background levels in surface water. Concentrations of these ECOIs are also greater than background and include the following:
  - Ammonia – total
  - Nitrite – total
  - Selenium – total
  - Uranium – total
  - Vanadium – total
  - Zinc – total and dissolved

- There are a number of COIs of Uncertain Toxicity (no ESL was available) that need to be addressed in the Uncertainty Section of the Risk Characterization.

These ECOPCs will be further evaluated in the Risk Characterization.

42

South Walnut Creek Aquatic Exposure Unit
Surface Water

The screening level ecological risk assessment (SLERA) represents the first step in the ECOPC identification process. MDCs of all detected ECOIs are compared to chronic AWQC ESLs. If a MDC is greater than any ESL, the ECOI is retained for further analysis. ECOIs that are retained for further analysis are listed below in Table 1.

Table G-1(Appendix G) shows all of the detected ECOIs in surface water for South Walnut Creek. Table G-2 presents a summary of surface water data for all ECOIs identified in South Walnut Creek. Table G-3 presents a comparison between the MDC and the ESLs.

Table 1 – Detected ECOIs Retained for Further Analysis

Aluminum (T&D)	Manganese (T only)	Zinc (T&D)
Ammonia (T only)	Mercury (T&D)	4,4'-DDD
Antimony (T only)	Nickel (T only)	4-Methyphenol
Barium (T&D)	Nitrite (T only)	bis(2-Ethylhexyl)phthalate
Beryllium (T only)	Selenium (T&D)	Carbon Disulfide
Cadmium (T&D)	Silver (T&D)	PCB-1254
Copper (T&D)	Thallium (T&D)	Plutonium-239/240 (T only)
Iron (T&D)	Uranium (T only)	Radium-226 (T only)
Lead (T&D)	Vanadium (T&D)	Uranium-238 (T only)
Lithium (T&D)		

T = total
D = dissolved

Table 2 presents the ECOIs that have MDCs less than their respective ESL. These ECOIs are eliminated from further consideration in ECOPC process.

Table 2 – Detected ECOIs Eliminated From Further Consideration

Antimony (D only)	4,4'-DDE	Hexachlorobutadiene
Arsenic (T&D)	4-Methyl-2-pantonone	Methylene chloride
Beryllium (D only)	Acetone	Naphthalene
Chromium (T&D)	Alpha-BHC	Phenanthrene
Cobalt (T&D)	Benzene	Styrene
Cyanide (T only)	Beta-BHC	Tetrachloroethene
Fluoride (T&D)	Bromodichloromethane	Toluene
Manganese (D only)	Bromoform	trans-1,2-Dichloroethene
Molybdenum (T&D)	Bromomethane	Trichloroethene
Nickel (D only)	Butylbenzylphthalate	Vinyl chloride
Strontium (T&D)	Carbon tetrachloride	Xylene
Tin (T&D)	Chlorobenzene	Americium-241 (T&D)

43

Table 2 – Detected ECOIs Eliminated From Further Consideration

1,1,1-Trichloroethane	Chloroform	Cesium-137 (T&D)
1,1,2,2-Tetrachloroethane	cis-1,2-Dichloroethene	Plutonium-239/240(D only)
1,1-Dichloroethane	Delta-BHC	Radiocesium (T&D)
1,1-Dichloroethene	Diethylphthalate	Radium-226 (D only)
1,2-Dichloroethane	di-n-Butylphthalate	Strontium-89/90 (T&D)
1,2-Dichloroethene	Fluorene	Tritium (T only)
1,2,4-Trimethylbenzene	gamma-BHC (lindane)	Uranium-235 (T&D)
1,4-Dichlorobenzene	Heptachlor	Uranium-238 (D only)
2-Butanone		

T = total
D = dissolved

Those ECOIs that have no ESLs available in the CRA Methodology following a comprehensive search for valid toxicological data are listed in Table 3. These ECOIs are retained for further assessment as ECOIs of Uncertain Toxicity and are discussed further in the Uncertainty Section of the Risk Characterization.

Table 3 – Detected ECOIs of Uncertain Toxicity

Boron (T only)	1,2,3-Trichloropropane	Dichlorodifluoromethane
Calcium (T&D)	1,2,4-Trichlorobenzene	Dimethoate
Cesium (T&D)	1,3-Dichlorobenzene	di-n-Octylphthalate
Chromium VI (T only)	1,3,5-Trimethylbenzene	Simazine
Magnesium (T&D)	4,4'-DDT	Trichlorofluoromethane
Nitrate (T only)	Alpha-chlordane	Radiocesium
Potassium (T&D)	Atrazine	Gross alpha (T&D)
Sodium (T&D)	Carbazole	Gross beta (T&D)
Sulfide (T only)	Chloromethane	Neptunium-237 (T&D)
Titanium (T only)	Chrysene	Plutonium-238 (T only)
1,1,2-Trichloro-1,2,2-trifluorethane	Dibromochloromethane	Uranium-233/234 (T&D)

T = total
D = dissolved

ECOIs presented in Table 1 were further screened based on their frequency of detection. Those ECOIs that were detected in less than 5 percent of the surface water samples are listed in Table 4. These ECOIs are eliminated from further consideration in South Walnut Creek since they are unlikely to present risks to the population of receptors that may inhabit the creek post-closure.

Table 4 – ECOIs With Less Than 5% Detection Frequency

Mercury (D only)	4,4'-DDD	Carbon disulfide
Silver (D only)	4-Methyphenol	PCB-1254
Thallium (T&D)		

44

The distributions of the inorganic ECOIs listed in Table 1 were also evaluated relative to the distribution of ECOI concentrations in the sitewide background surface water data set. Those ECOIs that had data distributions that were not shown to be significantly greater than the concentration in the site-specific background surface water dataset are listed in Table 5. The ECOIs listed in Table 5 were eliminated from further consideration in the South Walnut Creek ERA since they are unlikely to present risks to the populations of receptors that may inhabit the creek post-closure.

Table 5 – Inorganic ECOIs Less Than Site-Specific Background Concentrations

Aluminum (T&D)	Iron (T&D)	Nickel (T only)
Antimony (T only)	Lead (T&D)	Silver (T only)
Beryllium (T only)	Manganese (T only)	Vanadium (D only)
Cadmium (T&D)	Mercury (T only)	Radium-226 (T only)
Copper (T&D)		

T = total
D = dissolved

Table 6 presents a summary of the ECOIs that remain following the frequency of detection and background screen steps in Tables 4 and 5, respectively.

Table 6 - ECOIs Remaining Following the Frequency of Detection and Background Comparison Screening Steps

Ammonia (T only)	Selenium (T&D)	bis(2-Ethylhexyl)phthalate
Barium (T&D)	Uranium (T only)	Plutonium-239/240 (T only)
Lithium (T&D)	Vanadium (T only)	Uranium-238 (T only)
Nitrite (T only)	Zinc (T&D)	

T = total
D = dissolved

An Upper Bound EPC was calculated for all remaining ECOIs listed in Table 6. For surface water, the EPC is calculated as the 95th UTL or the 95th UCL of the 90th percentile. The EPC is then compared to the ESL in Table 7. These ESLs are listed in the CRA methodology document. ECOIs greater than their respective ESLs are identified as final ECOPCs and are discussed further in the Risk Characterization.

Table 7 – Exposure Point Concentration (Upper Bound) Comparison

ECOI	EPC (95th UTL)	ESL	Consider in Risk Characterization
Ammonia (T)	8.41	0.087	**Yes**
Barium (T)	0.21	0.438	No
Barium (D)	0.18	0.438	No
Lithium (T)	0.02	0.096	No
Lithium (D)	0.02	0.096	No

45

ECOI	EPC (95th UTL)	ESL	Consider in Risk Characterization
Nitrite (T)	2.1	0.00443	**Yes**
Selenium (T)	0.012	0.0046	**Yes**
Selenium (D)	0.0037	0.0046	No
Uranium (T)	0.01	0.0026	**Yes**
Vanadium (T)	0.02	0.012	**Yes**
Zinc (T)	0.33	0.118	**Yes**
Zinc (D)	0.14	0.118	**Yes**
Bis(2-Ethylhexyl)phthalate	6.0	28.5	No
Plutonium-239/240(T)	0.21	18.7	No
Uranium-238 (T)	2.6	22.3	No

Inorganic Units = mg/L
Organic Units = µg/L
Radionuclide Units = pCi/L
T = total
D = dissolved
[1] EPC was greater than the maximum concentration; therefore, the maximum concentration is identified as the EPC.

46

Woman Creek Aquatic Exposure Unit
Accelerated Action Ecological Screening Evaluation
Surface Water

SUMMARY

- Inorganics – For a number of inorganics, the MDCs of metals are greater than their respective ESLs and background values in surface water. These include the following:
  - Aluminum – total
  - Ammonia – total, as nitrogen
  - Barium – total
  - Iron – total
  - Lead – total
  - Lithium – total
  - Manganese – total and dissolved
  - Nitrite as nitrogen
  - Titanium – total
  - Uranium – total and total dissolved
  - Zinc – total
- MDCs for three radionuclide (Americium-241, Plutonium-239/240, and Uranium-238), are also greater than their respective ESLs in surface water.
- There are a number of ECOIs of Uncertain Toxicity (no ESL was available) that will be addressed in the Uncertainty Section of the Risk Characterization.

These ECOPCs will be further evaluated in the Risk Characterization.

47

Woman Creek Aquatic Exposure Unit
Surface Water

The screening level ecological risk assessment represents the first step in the ECOPC identification process. MDCs of all detected ECOIs are compared to chronic AWQC for the protection of aquatic life ESLs. If a MDC is greater than any ESL, the ECOI is retained for further analysis. ECOIs that are retained for further analysis are listed below in Table 1.

Within Appendix H; Table H-1 shows all of the detected ECOIs in surface water for Woman Creek. Table H-2 presents a summary of surface water data for all ECOIs identified in Woman Creek. Table H-3 presents a comparison between the MDC and the ESLs.

Table 1 – Detected ECOIs Retained for Further Analysis

Aluminum (T& D)	Lead (T&D)	Americium-241 (T only)
Ammonia (T, as N)	Lithium (T only)	Plutonium-239/240 (T only)
Barium (T only)	Manganese (T&D)	Titanium (T only)
Beryllium (T only)	Mercury (T&D)	Thallium (T&D))
Cadmium (T&D)	Nickel (T only)	Vanadium (T&D)
Chromium (T only)	Nitrite as Nitrogen	Zinc (T&D)
Copper (T&D)	Selenium (T&D)	Uranium-238 (T only)
Iron (T&D)	Silver (T&D)	Uranium (T, and total D)

T = total
D = dissolved

Table 2 presents the ECOIs that have MDCs less than their respective ESL. These ECOIs are eliminated from further consideration in ECOPC process.

Table 2 – Detected ECOIs Eliminated From Further Consideration

Antimony (T&D)	Cyanide	Uranium-235 (T&D)
Arsenic (T&D)	Fluoride (T, and as Fluorine)	Uranium-238 (D only)
Barium (D only)	Lithium (D only)	Strontium (T&D)
Beryllium (D only)	Molybdenum (T&D)	Tin (T&D)
Chromium (D only)	Nickel (D only)	Tritium
Cobalt (T&D)	Chloroform	Strontium-90 (T&D)
Bis(2-ethylhexyl)phthalate	Methylene chloride	Acetone
Di-n-butylphthalate	Tetrachloroethene	cis-1,2 Dichloroethene
p-Xylene	Cesium-137 (T&D)	m-Xylene
Americium-241 (D only)	Radium-226 (T&D)	Trichloroethene
Radiocesium (T&D)	Strontium-89/90 (T&D)	Plutonium-239/240 (D only)

T = total
D = dissolved

48

Those ECOIs that have no ESLs available in the CRA Methodology following a comprehensive search for valid toxicological data are listed in Table 3. These ECOIs are retained for further assessment as ECOIs of Uncertain Toxicity and are discussed further in the Uncertainty Section of the Risk Characterization.

Table 3 – Detected ECOIs of Uncertain Toxicity

Calcium (T&D)	Atrazine	Neptunium-237 (T only)
Boron (T only)	Cesium-radio (T&D)	Magnesium (T&D)
Sulfide	Gross Alpha (T&D)	Uranium-233/234 (T&D)
Sodium (T&D)	Gross Beta (T&D)	Plutonium-238 (T&D)
Nitrate/Nitrite (T, and as N)	Chromium VI (T only)	1,1,2-Trichloro-1,2,2-trifluoroethane
Cesium (T&D)	Potassium (T&D)	Titanium (T only)

T = total
D = dissolved

ECOIs presented in Table 1 were further screened based on their frequency of detection. Those ECOIs that were detected in less than 5 percent of the surface water samples are listed in Table 4. These ECOIs are eliminated from further consideration in Woman Creek since they are unlikely to present risks to the population of receptors that may inhabit the creek post-closure.

Table 4 – Detected ECOIs With Less Than 5% Detection Frequency

Thallium (D only)

The distributions of the inorganic ECOIs listed in Table 1 were also evaluated relative to the distribution of ECOI concentrations in the background surface water dataset. Those ECOIs that had data distributions that were not shown to be significantly greater than the concentration in the background surface water dataset are listed in Table 5. The ECOIs listed in Table 5 were eliminated from further consideration in the Woman Creek SLERA since they are unlikely to present risks to the populations of receptors that may inhabit the creek post-closure.

Table 5 – Inorganic ECOIs Less Than Site-Specific Background Concentrations

Aluminum (D only)	Copper (T&D)	Selenium (T&D)
Ammonia (D only)	Iron (D only)	Silver (T&D)
Beryllium (T only)	Lead (D only)	Thallium (T&D)
Cadmium (T&D)	Mercury (T&D)	Vanadium (T&D)
Chromium (T only)	Nickel (T only)	Zinc (D only)

49

Table 6 presents a summary of the ECOIs that remain following the frequency of detection and background screen steps in Tables 4 and 5, respectively.

Table 6 – ECOIs Remaining Following the Frequency of Detection and Background Comparison Screening Steps

Aluminum (T only)	Lithium (T only)	Uranium (T and total D)
Ammonia (T, as N)	Manganese (T&D)	Americium-241 (T only)
Barium (T only)	Nitrite as Nitrogen	Plutonium-239/240 (T only)
Iron (T only)	Titanium (T only)	Uranium-238 (T only)
Lead (T only)	Zinc (T only)	

An Upper-Bound EPC was calculated for all remaining ECOIs listed in Table 6. For surface water, the EPC is calculated as the 95th UTL or the 95th UCL of the 90th percentile. The EPC is then compared to the NOAEL ESL, as shown in Table 7. These ESLs are listed in the CRA methodology document. ECOIs greater than their respective ESLs for a given ECOI are identified as final ECOPCs and are discussed further in the Risk Characterization.

Table 7 – Exposure Point Concentration (Upper Bound) Comparison

ECOI	EPC (95th UTL)	ESL	Consider in Risk Characterization
Aluminum (T only)	8.56	0.087	**Yes**
Ammonia (T, as N)	2.0	0.02	**Yes**
Barium (T)	0.21	0.438	No
Iron (T)	7.6	1	**Yes**
Lead (T)	0.02	0.0025	**Yes**
Lithium (T)	0.02	0.096	No
Manganese (T)	0.48	1.65	No
Manganese (D)	0.13	1.65	No
Nitrite as Nitrogen	0.10	0.00443	**Yes**
Titanium (T)	0.01	?	**Yes**
Zinc (T)	0.34	0.118	**Yes**
Uranium (T)	0.06	0.0026	**Yes**
Uranium (total D)	0.01	0.0026	**Yes**
Americium-241 (T)	0.35	43.8	No
Plutonium-239/240 (T)	0.42	18.7	No
Uranium-238 (T)	2.7	22.3	No

Inorganic Units = mg/L
Organic Units = µg/L
Radionuclide units pCi/L

50

No Name Gulch Aquatic Exposure Unit
Accelerated Action Ecological Screening Evaluation
Surface Water

SUMMARY

- Inorganics – For a number of metals, the EPC based on the 95th UTL occur at concentrations greater than their respective ESLs and background values in surface water. These include the following:
  - Ammonia as nitrogen
  - Barium – total
  - Iron – total
  - Lithium – total
  - Zinc – total and dissolved
- The MDCs for delta-BHC and bis(2-Ethylhexyl)phthalate are greater than their respective ESLs in surface water.
- The MDCs for two PAH chemicals, phenanthrene and phenol, were also greater than their ESLs.
- There are a number of ECOIs of Uncertain Toxicity (no ESL was available) that need to be addressed in the Uncertainty Section of the Risk Characterization.

These ECOPCs will be further evaluated in the Risk Characterization.

51

No Name Gulch Aquatic Exposure Unit
Surface Water

The screening level ecological risk assessment presents the first step in the ECOPC identification process. MDCs of all detected ECOIs are compared to chronic AWQC ESLs. If a MDC is greater than any ESL, the ECOI is retained for further analysis. ECOIs that are retained for further analysis are listed below in Table 1.

Within Appendix I, Table I-1 shows all of the detected ECOIs in surface water for No Name Creek. Table I-2 presents a summary of surface water data for all ECOIs identified in No Name Creek. Table I-3 presents a comparison between the MDC and the ESLs.

Table 1 – Detected ECOIs Retained for Further Analysis

Aluminum (T only)	Lead (T&D)	Bis-(2-ethylhexyl)phthalate
Ammonia (as Nitrogen)	Lithium (T only)	Delta-BHC
Barium (T&D)	Silver (T&D)	Phenanthrene
Copper (T only)	Vanadium (T&D)	Phenol
Iron (T&D)	Zinc (T&D)	Mercury (T only)

T = total
D = dissolved

Table 2 presents the ECOIs that have MDCs less than their respective ESL. These ECOIs are eliminated from further consideration in ECOPC process.

Table 2 – Detected ECOIs Eliminated From Further Consideration

Aluminum (D only)	1,2-Dichloropropane	Heptachlor
Antimony (T&D)	1,4-Dichlorobenzene	Methylene chloride
Arsenic (T&D)	2,4-Dimethylphenol	Naphthalene
Beryllium (T&D)	2-Butanone	Toluene
Chromium (T&D)	Acetone	Trichloroethene
Cobalt (T&D)	Anthracene	Vinyl chloride
Copper (D only)	Benzene	Xylene
Fluoride	Benzoic Acid	Americium-241 (T&D)
Lithium (D only)	Beta-BHC	Cesium-137 (T&D)
Manganese (T&D)	Butylbenzylphthalate	Plutonium-239/240 (T&D)
Molybdenum (T only)	Chlorobenzene	Radiocesium (T only)
Nickel (T&D)	Cis-1,2-Dichloroethene	Radium-226 (T&D)
Selenium (T only)	Dibenzofuran	Strontium-89/90 (T&D)
Strontium (T&D)	Diethylphthalate	Tritium
Thallium (T only)	Di-n-butylphthalate	Uranium-235 (T&D)
Tin (T only)	Ethyl benzene	Uranium-238 (T&D)

52

Table 2 – Detected ECOIs Eliminated From Further Consideration

1,1-Dichloroethane	Fluorene	Alpha - BHC
1,2,4-Trichlorobenzene	gamma-BHC (Lindane)	

T = total
D = dissolved

Those ECOIs that have no ESLs available in the CRA Methodology following a comprehensive search for valid toxicological data are listed in Table 3. These ECOIs are retained for further assessment as ECOIs of Uncertain Toxicity and are discussed further in the Uncertainty Section of the Risk Characterization.

Table 3 – Detected ECOIs of Uncertain Toxicity

Calcium (T&D)	1,2-Dichlorobenzene	Dichlorodifluoromethane
Cesium (D only)	1,3,5-Trimethylbenzene	Isopropylbenzene
Magnesium (T&D)	1,3-Dichlorobenzene	Gross Alpha (T&D)
Nitrate (as N)	2-Methylnaphthalene	Gross Beta (T&D)
Potassium (T&D)	4-Isopropyltoluene	Plutonium-238
Sodium (T&D)	Acenaphthylene	Uranium-233/234 (T&D)
1,2,4-Trimethylbenzene	Chloroethane	Nitrate/Nitrite (T, and as N)

T = total
D = dissolved

ECOIs presented in Table 1 were further screened based on their frequency of detection. Those ECOIs that were detected in less than 5 percent of the surface water samples are listed in Table 4. These ECOIs are eliminated from further consideration in No Name Creek since they are unlikely to present risks to the population of receptors that may inhabit the creek post-closure.

Table 4 – Detected ECOIs With Less Than 5% Detection Frequency

Mercury (T only)

The distributions of the inorganic ECOIs listed in Table 1 were also evaluated relative to the distribution of ECOI concentrations in the background surface water dataset. Those ECOIs that had data distributions that were not shown to be significantly greater than the concentration in the background surface water dataset are listed in Table 5. The ECOIs listed in Table 5 were eliminated from further consideration in the No Name Creek SLERA since they are unlikely to present risks to the populations of receptors that may inhabit the creek post-closure.

Table 5 – Inorganic ECOIs Less Than Site-Specific Background Concentrations

Aluminum (T only)	Lead (T&D)	Mercury (T only)
Copper (T only)	Silver (T&D)	
Iron (D only)	Vanadium (T&D)	

T = total
D = dissolved

Table 6 presents a summary of the ECOIs that remain following the frequency of detection and background screen steps in Tables 4 and 5, respectively.

Table 6 — ECOIs Remaining Following the Frequency of Detection and Background Comparison Screening Steps

Ammonia (as Nitrogen)	Lithium (T only)	Delta-BHC
Barium (T&D)	Zinc (T&D)	Phenanthrene
Iron (T only)	Bis(2-ethylhexyl)phthalate	Phenol

T = total
D = dissolved

An Upper-Bound EPC was calculated for all remaining ECOIs listed in Table 6. For surface water, the EPC is calculated as the 95th UTL or the 95th UCL of the 90th percentile. The EPC is then compared to the ESL, as shown in Table 7. These ESLs are listed in the CRA methodology document. EPCs greater than their respective ESLs for a given ECOI are identified as final ECOPCs and are discussed further in the Risk Characterization.

Table 7 – Exposure Point Concentration (Upper Bound) Comparison

ECOI	EPC (95th UTL)	ESL	Consider in Risk Characterization
Ammonia (as Nitrogen)	0.02	0.02	**Yes**
Barium (T)	0.81	0.438	**Yes**
Barium (D)	0.58	0.438	**Yes**
Iron (T)	77	1	**Yes**
Lithium (T)	0.09	0.096	No
Zinc (T)	2.20	0.118	**Yes**
Zinc (D)	1.50	0.118	**Yes**
Bis(2-ethylhexyl)phthalate	34	28.5	**Yes**
Delta-BHC	0.18	0.08	**Yes**
Phenanthrene	5.5	2.4	**Yes**
Phenol	5.5	2560	No

Inorganic Units = mg/L
Organic Units = µg/L
T = total
D = dissolved

54

Table A-1
ECOIs Detected in Surface Soil in the
Industrial Area Exposure Unit

ECOIs Detected in Surface Soil in the Industrial Area Exposure Unit		
Inorganics		
Aluminum		Manganese
Ammonia		Mercury
Antimony		Molybdenum
Arsenic		Nickel
Barium		Nitrate (as nitrogen)
Beryllium		Nitrate / Nitrite
Boron		Nitrate / Nitrite (as nitrogen)
Cadmium		Nitrite (as nitrogen)
Calcium		Potassium
Cesium		Selenium
Chromium		Silver
Chromium VI		Sodium
Cobalt		Strontium
Copper		Thallium
Fluoride		Tin
Iron		Titanium
Lead		Uranium, total
Lithium		Vanadium
Magnesium		Zinc
Organics		
1,1,1-Trichloroethane		Chrysene
1,1-Dichloroethene		cis-1,2-Dichloroethene
1,2,4-Trichlorobenzene		Dibenz(a,h)anthracene
1,2-Dichloroethene		Dibenzofuran
1,2-Dichloropropane		Dicamba
1,4-Dichlorobenzene		Dieldrin
123478-HxCDD		Diethylphthalate
123678-HxCDD		Dimethylphthalate
123789-HxCDD		Di-n-butylphthalate
2,4,5-T		Di-n-octylphthalate
2,4,5-Trichlorophenol		Endosulfan I
2,4,6-Trichlorophenol		Endosulfan II
2,4,6-Trinitrotoluene		Endosulfan sulfate
2,4-Dimethylphenol		Endrin
2378-TCDD		Endrin aldehyde
2-Butanone		Ethylbenzene
2-Methylnaphthalene		Fluoranthene
2-Methylphenol		Fluorene
4,4'-DDD		gamma-BHC (Lindane)
4,4'-DDE		gamma-Chlordane
4,4'-DDT		Heptachlor epoxide
4-Chloro-3-methylphenol		Hexachlorobenzene
4-Isopropyltoluene		Hexachlorocyclopentadiene
4-Methyl-2-pentanone		HMX
4-Methylphenol		Indeno(1,2,3-cd)pyrene
4-Nitroaniline		Isophorone
4-Nitrophenol		Isopropylbenzene
Acenaphthene		MCPA

55

Table A-1
ECOIs Detected in Surface Soil in the
Industrial Area Exposure Unit

ECOIs Detected in Surface Soil in the Industrial Area Exposure Unit		
Acenaphthylene		Methoxychlor
Acetone		Methylene Chloride
Aldrin		Naphthalene
Anthracene		PCB-1016
Benzene		PCB-1242
Benzo(a)anthracene		PCB-1248
Benzo(a)pyrene		PCB-1254
Benzo(b)fluoranthene		PCB-1260
Benzo(g,h,i)perylene		Pentachlorophenol
Benzo(k)fluoranthene		Phenanthrene
Benzoic Acid		Phenol
bis(2-ethylhexyl)phthalate		Pyrene
Butylbenzylphthalate		Styrene
Carbazole		Tetrachloroethene
Carbon Disulfide		Toluene
Carbon Tetrachloride		Trichloroethene
Chlorobenzene		Trichlorofluoromethane
Chloroform		Xylene
Chloromethane		
Radionuclides		
Americium-241		Radium-226
Cesium-137		Radium-228
Gross Alpha		Strontium-89/90
Gross Beta		Uranium-233/234
Neptunium-237		Uranium-235
Plutonium-238		Uranium-238
Plutonium-239/240		

56

57

Table A-2
Summary of Surface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detect	Maximum Detect	Mean Concentration	Standard Deviation	Screening EPC[1]
Inorganics (mg/kg)										
Aluminum	1620	1619	100%	0.0014	200	1450	61000	10654.37307	6798.03232	61000
Ammonia	8	8	100%	0.3	0.3	1.11	2.82	2.00375	0.71801189	2.82
Antimony	1561	301	19%	0.00036	60	0.27	29	1.343255814	3.15943951	29
Arsenic	1611	1583	98%	0.00022	10	0.56	56.2	4.484371447	3.29242151	56.2
Barium	1622	1621	100%	0.00071	200	0.64	1500	76.67429981	56.6010599	1500
Beryllium	1616	1409	87%	0.000029	5	0.071	26.8	0.657193754	0.8644595	26.8
Boron	1023	853	83%	0.0036	1.6	0.35	28	3.729636577	2.47974603	28
Cadmium	1615	568	35%	0.000025	5	0.06	270	1.975728873	12.0681365	270
Calcium	1620	1620	100%	0.031	5000	380	210000	8163.661728	13769.6892	210000
Cesium	538	144	27%	9.1	1000	1.1	18.8	5.54375	3.03802749	18.8
Chromium	1622	1617	100%	0.0001	10	1.2	210	16.22915894	15.5864689	210
Chromium VI	10	1	10%	0.53	0.6	0.85	0.85	0.85	0	0.85
Cobalt	1620	1603	99%	0.00029	50	1.1	137	6.409432314	6.31217113	137
Copper	1620	1609	99%	0.00036	25	1.7	1860	24.29608452	66.0047098	1860
Cyanide	99	0	0%	0.481	2.5	ND	ND	NA	NA	1.25
Fluoride	9	9	100%	1	1	1.87	3.61	2.418888889	0.49732898	3.61
Iron	1622	1622	100%	0.012	100	2700	130000	13144.25401	5939.08012	130000
Lead	1611	1611	100%	0.000029	3	2.3	590	19.37597765	30.9777452	590
Lithium	1652	1607	97%	0.00095	100	0.99	50	8.634660859	4.0394178	50
Magnesium	1620	1620	100%	0.016	5000	180	30000	2567.190123	1729.59312	30000
Manganese	1615	1614	100%	0.00022	15	15	1240	196.9198885	113.878803	1240
Mercury	1598	903	57%	0	0.2	0.0014	2.4	0.069733887	0.13136882	2.4
Molybdenum	1620	871	54%	0.00099	200	0.14	12.6	1.091458094	1.21032248	12.6
Nickel	1619	1584	98%	0.00034	40	1.9	280	12.10443182	12.4654346	280
Nitrate (as nitrogen)	40	28	70%	0.2	0.26	1.8	76	12.79285714	15.9333782	76
Nitrate / Nitrite	55	48	87%	0.1	0.5	0.389	83.3	20.07585417	17.5775005	83.3
Nitrate / Nitrite (as nitrogen)	7	7	100%	0.21	6.22	4.27	369	101.6457143	152.466137	369
Nitrite (as nitrogen)	11	10	91%	0.24	0.26	1.2	2	1.6	0.30184617	2
Potassium	1670	1667	100%	0.029	5000	270	8310	1795.805039	730.498493	8310
Selenium	1611	99	6%	0.00054	5	0.3	2	0.796464646	0.32011259	2
Silver	1620	498	31%	0.0000094	10	0.058	364	2.883415663	17.2786668	364
Sodium	1620	920	57%	0.033	5000	24.6	6600	473.1973913	616.398961	6600

58

Table A-2
Summary of Surface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detect	Maximum Detect	Mean Concentration	Standard Deviation	Screening EPC[1]
Strontium	1620	1620	100%	0.00072	200	2.4	413	29.17777778	28.9482936	413
Thallium	1601	186	12%	0.00016	10	0.1	5.8	1.173817204	0.78839142	5.8
Tin	1620	121	7%	0.00078	200	0.75	161	7.961239669	18.7683338	161
Titanium	1023	1023	100%	0.00022	0.22	28	1730	262.7420332	170.305641	1730
Uranium, total	11	1	9%	1.1	2.5	3.2	3.2	3.2	0	3.2
Vanadium	1670	1669	100%	0.00063	50	4.4	184	27.23894548	12.9422061	184
Zinc	1620	1616	100%	0.00056	20	4.2	11900	90.20612624	328.466464	11900
Organics (ug/kg)										
1,1,1,2-Tetrachloroethane	437	0	0%	0.53	131	ND	ND	NA	NA	65.5
1,1,1-Trichloroethane	554	2	0.4%	0.26	590	5.88	11	8.44	3.62038672	11
1,1,2,2-Tetrachloroethane	559	0	0%	0.556	680	ND	ND	NA	NA	340
1,1,2-Trichloro-1,2,2-trifluoroethane	440	0	0%	0.587	98	ND	ND	NA	NA	49
1,1,2-Trichloroethane	559	0	0%	0.53	680	ND	ND	NA	NA	340
1,1-Dichloroethane	553	0	0%	0.541	680	ND	ND	NA	NA	340
1,1-Dichloroethene	553	1	0.2%	0.31	590	1.3	1.3	1.3	0	1.3
1,2,3-Trichloropropane	440	0	0%	0.525	129	ND	ND	NA	NA	64.5
1,2,4-Trichlorobenzene	1208	4	0.3%	0.17	2100	0.86	150	38.265	74.4901307	150
1,2,4-Trimethylbenzene	6	0	0%	5	8	ND	ND	NA	NA	4
1,2-Dibromo-3-chloropropane	6	0	0%	5	8	ND	ND	NA	NA	4
1,2-Dibromoethane	440	0	0%	0.53	138	ND	ND	NA	NA	69
1,2-Dichlorobenzene	984	0	0%	0.53	6900	ND	ND	NA	NA	3450
1,2-Dichloroethane	553	0	0%	0.551	680	ND	ND	NA	NA	340
1,2-Dichloroethene	104	1	1%	5	28	16	16	16	0	16
1,2-Dichloropropane	559	2	0.4%	0.22	590	18	140	79	86.2670273	140
1,3,5-Trimethylbenzene	6	0	0%	5	8	ND	ND	NA	NA	4
1,3-Dichlorobenzene	1199	0	0%	0.533	7000	ND	ND	NA	NA	3500
1,4-Dichlorobenzene	977	1	0.1%	0.34	78000	110	110	110	0	110
123478-HxCDD	12	7	58%	0	1.08	0.00022	0.0017	0.0007	0.00060399	0.0017
123678-HxCDD	11	10	91%	0	0	0.00039	0.0051	0.001419	0.00140788	0.0051
123789-HxCDD	11	8	73%	0	0	0.00045	0.0036	0.0012175	0.00100811	0.0036
2,4,5-T	9	1	11%	1	100	1.8	1.8	1.8	0	1.8
2,4,5-TP (Silvex)	9	0	0%	21	100	ND	ND	NA	NA	50
2,4,5-Trichlorophenol	940	1	0.1%	28	5200	1100	1100	1100	0	1100

Table A-2
Summary of Surface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detect	Maximum Detect	Mean Concentration	Standard Deviation	Screening EPC[1]
2,4,6-Trichlorophenol	940	1	0.1%	40	2100	950	950	950	0	950
2,4,6-Trinitrotoluene	8	1	13%	0.03	0.24	56	56	56	0	56
2,4-D	12	0	0%	83	100	ND	ND	NA	NA	50
2,4-DB	9	0	0%	83	100	ND	ND	NA	NA	50
2,4-Dichlorophenol	940	0	0%	330	7000	ND	ND	NA	NA	3500
2,4-Dimethylphenol	942	5	1%	37	2100	47	150	86.2	40.0274906	150
2,4-Dinitrophenol	936	0	0%	850	35000	ND	ND	NA	NA	17500
2,4-Dinitrotoluene	938	0	0%	250	7000	ND	ND	NA	NA	3500
2,6-Dinitrotoluene	948	0	0%	250	7000	ND	ND	NA	NA	3500
2378-TCDD	12	8	67%	0	0.432	0.0016	0.0068	0.0038875	0.00218726	0.0068
2-Butanone	554	12	2%	2.7	12000	3	97	28.38333333	27.2926841	97
2-Chloronaphthalene	943	0	0%	330	7000	ND	ND	NA	NA	3500
2-Chlorophenol	940	0	0%	330	7000	ND	ND	NA	NA	3500
2-Methylnaphthalene	960	100	10%	32	2100	34	19000	407.2	1919.72985	19000
2-Methylphenol	931	1	0.1%	41	940	74	74	74	0	74
2-Nitroaniline	933	0	0%	370	35000	ND	ND	NA	NA	17500
3,3'-Dichlorobenzidine	919	0	0%	340	14000	ND	ND	NA	NA	7000
4,4'-DDD	207	2	1%	0.3	190	3.5	10	6.75	4.59619408	10
4,4'-DDE	207	4	2%	0.34	190	0.6	7.2	2.675	3.04343556	7.2
4,4'-DDT	207	1	0.5%	0.35	190	9.1	9.1	9.1	0	9.1
4,6-Dinitro-2-methylphenol	926	0	0%	850	35000	ND	ND	NA	NA	17500
4-Chloro-3-methylphenol	930	1	0.1%	34	740	60	60	60	0	60
4-Chloroaniline	932	0	0%	330	14000	ND	ND	NA	NA	7000
4-Isopropyltoluene	435	12	3%	0.26	590	1	100	20.645	30.3272555	100
4-Methyl-2-pentanone	552	14	3%	2	5900	5.1	73	34.96285714	25.3903905	73
4-Methylphenol	933	7	1%	54	740	64	270	151	74.473709	270
4-Nitroaniline	324	4	1%	850	3700	62	820	290.5	355.285331	820
4-Nitrophenol	930	1	0.1%	95	4100	53	53	53	0	53
4-Nitrotoluene	5	0	0%	250	250	ND	ND	NA	NA	125
Acenaphthene	950	265	28%	31	2100	21	11000	473.6867925	1050.54548	11000
Acenaphthylene	946	9	1%	28	2100	38	200	96.88888889	58.7142326	200
Acetone	571	108	19%	3.4	12000	4	440	33.74166667	49.9227611	440
Aldrin	201	3	1%	0.41	95	0.59	2.5	1.796666667	1.04977775	2.5

Table A-2
Summary of Surface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detect	Maximum Detect	Mean Concentration	Standard Deviation	Screening EPC[1]
alpha-BHC	169	0	0%	1.8	95	ND	ND	NA	NA	47.5
alpha-Chlordane	176	0	0%	1.8	950	ND	ND	NA	NA	475
Anthracene	951	293	31%	23	2100	31	10000	556.9488055	1152.08287	10000
Benzene	559	3	1%	0.12	590	1	11	5	5.29150262	11
Benzo(a)anthracene	341	230	67%	330	2100	35	13000	680.4826087	1453.12148	13000
Benzo(a)pyrene	343	214	62%	330	2100	36	13000	713.7009346	1408.25634	13000
Benzo(b)fluoranthene	941	450	48%	29	1800	38	26000	913.0955556	2072.21105	26000
Benzo(g,h,i)perylene	850	285	34%	27	430	36	23000	688.4245614	1800.53419	23000
Benzo(k)fluoranthene	934	391	42%	32	740	23	13000	608.7161125	1135.05892	13000
Benzoic Acid	907	41	5%	280	3700	39	1100	170.4634146	193.991249	1100
Benzyl Alcohol	260	0	0%	330	1100	ND	ND	NA	NA	550
beta-BHC	169	0	0%	1.8	95	ND	ND	NA	NA	47.5
bis(2-Chloroethyl) ether	314	0	0%	330	6900	ND	ND	NA	NA	3450
bis(2-Chloroisopropyl) ether	684	0	0%	330	7000	ND	ND	NA	NA	3500
bis(2-ethylhexyl)phthalate	964	283	29%	69	1800	37	75000	814.6501767	4659.41365	75000
Bromodichloromethane	559	0	0%	0.53	680	ND	ND	NA	NA	340
Bromoform	559	0	0%	0.525	680	ND	ND	NA	NA	340
Bromomethane	555	0	0%	1.027	153	ND	ND	NA	NA	76.5
Butylbenzylphthalate	365	76	21%	330	2100	35	2800	290.7631579	504.422068	2800
Carbazole	42	22	52%	340	400	41	3400	374.6363636	697.181916	3400
Carbon Disulfide	553	1	0.2%	0.24	590	4	4	4	0	4
Carbon Tetrachloride	560	18	3%	0.18	590	1	190	20.18055556	44.926301	190
Chlordane (technical)	31	0	0%	18	220	ND	ND	NA	NA	110
Chlorobenzene	553	1	0.2%	0.18	590	2	2	2	0	2
Chloroethane	550	0	0%	0.862	1400	ND	ND	NA	NA	700
Chloroform	560	5	1%	0.25	590	1.3	7	2.74	2.40374707	7
Chloromethane	553	2	0.4%	0.36	590	1.5	1.7	1.6	0.14142136	1.7
Chlorpyriphos	7	0	0%	8.6	89	ND	ND	NA	NA	44.5
Chrysene	948	550	58%	28	2100	36	18000	743.1436364	1728.512	18000
cis-1,2-Dichloroethene	434	8	2%	0.21	590	1.1	2.8	1.775	0.55484876	2.8
cis-1,3-Dichloropropene	125	0	0%	5	680	ND	ND	NA	NA	340
Dalapon	2	0	0%	100	100	ND	ND	NA	NA	50
delta-BHC	169	0	0%	1.8	95	ND	ND	NA	NA	47.5

Table A-2
Summary of Surface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detect	Maximum Detect	Mean Concentration	Standard Deviation	Screening EPC[1]
Demeton	7	0	0%	8.6	89	ND	ND	NA	NA	44.5
Dibenz(a,h)anthracene	325	68	21%	330	740	38	1600	234.5147059	247.064527	1600
Dibenzofuran	947	142	15%	36	1800	41	4600	315.0633803	592.159532	4600
Dibromochloromethane	559	0	0%	0.53	680	ND	ND	NA	NA	340
Dicamba	9	5	56%	1.9	100	2.3	150	48.24	60.3701333	150
Dichlorodifluoromethane	427	0	0%	1.73	398	ND	ND	NA	NA	199
Dieldrin	207	8	4%	0.39	190	1.8	92	31.1	36.361361	92
Diethylphthalate	940	4	0.4%	31	2100	33	420	137.75	188.362018	420
Dimethoate	7	0	0%	18	180	ND	ND	NA	NA	90
Dimethylphthalate	949	19	2%	40	2100	69	460	171.8947368	111.16549	460
Di-n-butylphthalate	242	32	13%	330	330	35	180	64.0625	36.9873017	180
Di-n-octylphthalate	328	30	9%	330	740	38	1300	121.8	231.685488	1300
Dinoseb	9	0	0%	12	100	ND	ND	NA	NA	50
Endosulfan I	207	2	1%	0.4	95	3.9	7.4	5.65	2.47487373	7.4
Endosulfan II	207	3	1%	0.4	170	0.7	9.9	5.133333333	4.60904907	9.9
Endosulfan sulfate	207	2	1%	0.3	190	5.5	11	8.25	3.8890873	11
Endrin	207	3	1%	0.4	190	2.4	17	7.4	8.31624915	17
Endrin aldehyde	55	2	4%	0.51	38	8.7	9.2	8.95	0.35355339	9.2
Endrin ketone	179	0	0%	1.8	190	ND	ND	NA	NA	95
Ethylbenzene	554	42	8%	0.27	590	0.79	173	11.14595238	28.3515485	173
Fluoranthene	949	585	62%	22	2100	37	48000	1517.905983	3693.07222	48000
Fluorene	952	223	23%	34	2100	27	6800	420.9865471	831.159835	6800
gamma-BHC (Lindane)	200	1	1%	0.44	95	8.3	8.3	8.3	0	8.3
gamma-Chlordane	176	1	1%	1.8	950	2.6	2.6	2.6	0	2.6
Heptachlor	200	0	0%	1.8	95	ND	ND	NA	NA	47.5
Heptachlor epoxide	200	1	1%	0.38	95	7.2	7.2	7.2	0	7.2
Hexachlorobenzene	943	4	0%	36	2100	110	380	267.5	113.247517	380
Hexachlorobutadiene	1206	0	0%	0.508	7000	ND	ND	NA	NA	3500
Hexachlorocyclopentadiene	929	1	0%	33	1800	1800	1800	1800	0	1800
Hexachloroethane	933	0	0%	330	7000	ND	ND	NA	NA	3500
HMX	5	1	20%	0.06	0.06	230	230	230	0	230
Indeno(1,2,3-cd)pyrene	946	377	40%	22	740	36	13000	557.862069	1164.21631	13000
Isophorone	933	5	1%	34	740	240	850	416	247.648945	850

Table A-2
Summary of Surface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detect	Maximum Detect	Mean Concentration	Standard Deviation	Screening EPC[1]
Isopropylbenzene	440	8	2%	0.18	590	0.56	27	5.8225	8.94100466	27
MCPA	9	1	11%	210	100000	1100	1100	1100	0	1100
MCPP	9	0	0%	8300	100000	ND	ND	NA	NA	50000
Methoxychlor	200	4	2%	0.18	950	0.28	12	3.39	5.74321048	12
Methylene Chloride	573	66	12%	0.41	590	0.79	45	5.218333333	8.19748978	45
Naphthalene	1241	223	18%	0.4	1800	0.85	8900	322.7342601	992.493145	8900
Nitrobenzene	948	0	0%	250	7000	ND	ND	NA	NA	3500
N-Nitroso-di-n-propylamine	933	0	0%	330	7000	ND	ND	NA	NA	3500
N-nitrosodiphenylamine	943	0	0%	330	7000	ND	ND	NA	NA	3500
PCB-1016[2]	433	2	0.5%	1.9	9800	13	19	16	4.24264069	19
PCB-1221[2]	473	0	0%	33	9800	ND	ND	NA	NA	4900
PCB-1232[2]	480	0	0%	33	9800	ND	ND	NA	NA	4900
PCB-1242[2]	473	2	0.4%	2.9	9800	23	350	186.5	231.223917	350
PCB-1248[2]	473	5	1%	3.6	9800	17	66	38.4	17.9248431	66
PCB-1254[2]	480	90	19%	4.4	20000	6.9	8900	714.5344444	1562.68797	8900
PCB-1260[2]	466	107	23%	1.4	20000	6.5	54000	1204.202804	5355.7937	54000
Pentachlorophenol	941	11	1%	64	5200	42	39000	3843.090909	11662.5335	39000
Phenanthrene	949	573	60%	35	2100	22	50000	1285.687609	3493.04437	50000
Phenol	942	4	0.4%	35	2100	33	130	75.25	47.5490974	130
Pyrene	955	566	59%	40	2100	35	49000	1527.415194	3931.88494	49000
Styrene	559	1	0.2%	0.21	590	7.8	7.8	7.8	0	7.8
Tetrachloroethene	555	28	5%	0.25	590	0.8	120	17.80678571	31.8340237	120
Toluene	562	44	8%	0.22	590	0.32	990	84.76590909	213.463781	990
Toxaphene	200	0	0%	86	2200	ND	ND	NA	NA	1100
trans-1,2-Dichloroethene	449	0	0%	0.765	93.3	ND	ND	NA	NA	46.65
trans-1,3-Dichloropropene	119	0	0%	5	680	ND	ND	NA	NA	340
Trichloroethene	555	15	3%	0.29	590	0.8	34	7.332	10.2576071	34
Trichlorofluoromethane	437	20	5%	0.23	590	0.66	31.9	6.891	7.43180569	31.9
Vinyl acetate	78	0	0%	10	1400	ND	ND	NA	NA	700
Vinyl Chloride	553	0	0%	0.748	1400	ND	ND	NA	NA	700
Xylene	119	1	1%	5	28	2	2	2	0	2

63

Table A-2
Summary of Surface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detect	Maximum Detect	Mean Concentration	Standard Deviation	Screening EPC[1]
Radionuclides (pCi/g)										
Americium-241	907	604	67%	0	14.1	-0.00233	1200	3.647676215	50.5039703	1200
Cesium-137	85	77	91%	0	0.75	-0.0366	0.79	0.153658455	0.18970829	0.79
Gross Alpha	764	762	100%	0.8	6.87	3.6	132	20.22235564	11.6115534	132
Gross Beta	798	796	100%	1	10	4.6	81.94	32.78359296	9.56126006	81.94
Neptunium-237	11	11	100%	0.00202	0.00634	0.0007793	0.01873	0.010103845	0.00718603	0.01873
Plutonium-238	67	57	85%	0.00258	0.091	-0.00444	4.896	0.280896979	0.79939507	4.896
Plutonium-239/240	1105	883	80%	0	89.7	-0.00219	8130	10.93501343	273.680451	8130
Radium-226	67	64	96%	0	1.1	-7.39	2.078	0.793607813	1.13534502	2.078
Radium-228	80	77	96%	0	2.9	0.49	3.153	1.75714026	0.55310776	3.153
Strontium-89/90	15	15	100%	0.0371597	0.4	0.01874	0.575	0.215592	0.16119441	0.575
Uranium-233/234	991	985	99%	0	2.39	0.22	89.2519	1.723706091	5.98053696	89.2519
Uranium-235	991	498	50%	0	2.55	-0.0107	3.4967	0.132484635	0.33732092	3.4967
Uranium-238	991	986	99%	0	1.9	0.25	49.82	1.551396247	3.19778406	49.82

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

[2]PCBs will be evaluated as total PCB. Total PCB concentrations are calculated for each sample in Table 3.

ND = The ECOI was not detected.

NA = Not Applicable

Table A-3
Total PCB Concentrations in Surface Soil in the Industrial Area Exposure Unit

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
02E0015-001	BT39-001	22	14	36
02E0015-002	BT39-002	19.5	13	32.5
02E0015-003	BT39-003	30	18	48
02E0015-004	BT39-004	18	18	36
02E0015-005	BT38-001	29	17	46
02E0015-006	BT38-002	17.5	17.5	35
02E0015-007	BT38-002	6.9	17.5	24.4
02E0067-001	CP40-000	340	17.5	357.5
02E0068-001	CN40-001	18	10	28
02E0068-007	CO40-001	18.5	16	34.5
02E0068-013	CO40-003	20	9	29
02E0068-019	CN40-000	19	63	82
02E0068-025	CO40-000	18	18	36
02E0068-031	CO40-002	18.5	20	38.5
02E0077-025	CP40-003	2500	185	2685
02E0085-008	CQ41-000	8.2	18.5	26.7
02E0088-001	CQ40-000	11	18	29
02E0088-007	CP40-002	130	120	250
02E0133-001	CP40-001	16	18	34
02E0133-006	CQ40-001	190	74	264
02E0133-012	CQ40-002	160	65	225
02E0161-008	CG34-010	19.5	8.3	27.8
02E0161-009	CG35-008	19	19	38
02E0162-003	BZ39-011	17.5	22	39.5
02E0164-003	BZ39-014	73	19	92
02E0164-007	BZ39-017	17	120	137
02E0164-009	BZ39-010	18	6.5	24.5
02E0164-011	BZ39-013	400	90	490
02E0165-001	BZ39-007	17	12	29
02E0195-001	BZ42-001	18.5	20	38.5
02E0195-002	BZ42-002	17.5	23	40.5
02E0195-003	BZ42-003	17.5	37	54.5
02E0195-004	BZ42-004	17	10	27
02E0195-005	BZ42-005	17	10	27
03F0052-007	CM46-001	6800	4800	11600
03F0052-008	CM46-002	66	78	144
03F0345-001	CE45-010	17	13	30
03F0348-001	CD46-000	17	17	34
03F0348-003	CE46-002	13	11	24
03F1063-001	CG48-012	20	20	40
03F1142-001	CG48-009	20	20	40
03F1142-005	CG48-010	20.5	20.5	41
03F1163-001	CH48-005	27	17	44
03F1163-002	CH48-006	96	49	145
03F1163-003	CH48-008	18.5	18.5	37
03F1163-004	CH48-011	80	19	99
03F1163-005	CH49-001	79	18.5	97.5
03F1163-007	CH49-000	46	19.5	65.5
03F1165-001	CH48-012	18	17.5	35.5

64

Table A-3
Total PCB Concentrations in Surface Soil in the Industrial Area Exposure Unit

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
03F1165-002	CH49-004	86	29	115
03F1184-001	CG48-005	42	20	62
03F1345-002	CH49-002	65	74	139
03F1345-005	CE49-009	18	18	36
03F1345-010	CE49-008	18	18	36
03F1424-003	CH48-007	18	18	36
03F1497-001	BW38-001	175	175	350
03F1497-006	BW38-002	175	175	350
03F1950-001	BW38-004	17.5	17.5	35
04F0024-006	CG38-023	17	17	34
04F0055-001	CC44-009	18	8.8	26.8
04F0055-005	CC44-010	17	7.3	24.3
04F0056-001	CC44-007	17.5	13	30.5
04F0186-001	CC43-010	17.5	17.5	35
04F0186-005	CC43-014	17	17	34
04F0186-009	CC43-018	17.5	17.5	35
04F0186-015	CC43-022	17.5	17.5	35
04F0187-001	CC43-009	85	85	170
04F0187-005	CC43-013	85	85	170
04F0273-017	CG39-002	18.5	18.5	37
04F0298-005	BY35-017	18	13	31
04F0770-001	CA43-012	18.5	33	51.5
04F0770-005	CA43-014	19	24	43
04F0770-007	CA43-015	19	360	379
04F0770-009	CB43-036	19	260	279
04F0770-011	CB43-037	360	2300	2660
04F0770-013	CB43-038	370	2200	2570
04F0770-015	CB43-039	18.5	270	288.5
04F0808-001	CB44-012	17.5	17.5	35
04F0808-017	CB44-010	19	19	38
04F0815-002	CB44-007	17.5	17.5	35
04F0815-006	CB44-009	17.5	17.5	35
04F1024-001	CB44-015	18.5	77	95.5
04F1088-001	CC42-023	18	18	36
04F1206-006	BY35-008	17.5	25	42.5
04F1206-008	BY35-012	21	280	301
04F1365-001	CG42-003	17	17	34
04F1372-008	CC44-005	18	18	36
04F1372-012	CC44-008	19	86	105
04F1373-003	CG49-023	21.5	21.5	43
04F1373-007	CH49-022	18	18	36
04F1373-010	CG49-026	1200	105	1305
04F1377-001	BW37-017	27	17.5	44.5
04F1461-001	CH49-024	82	18	100
04F1461-004	CH49-020	17	17	34
04F1461-006	CH49-023	34	17.5	51.5
04F1470-001	CA44-001	18	18	36
04F1470-005	CA44-005	17.5	17.5	35
04F1471-001	CA44-002	18	18	36

Table A-3
Total PCB Concentrations in Surface Soil in the Industrial Area Exposure Unit

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
04F1471-005	CA44-003	18	18	36
04F1471-009	CA44-006	18	18	36
04F1525-001	CB44-018	17	17	34
04F1525-006	CC43-003	17.5	17.5	35
04F1545-002	CC43-023	210	83	293
04F1553-003	CG43-022	17	17	34
04F1553-006	CG43-019	17.5	17.5	35
04F1556-001	CB44-017	18.5	18.5	37
04F1558-010	CB44-013	73	17.5	90.5
04F1559-011	CB44-016	17	17	34
04F1566-020	BW37-013	17.5	17.5	35
04F1567-002	CG49-009	46	18.5	64.5
04F1567-004	CG49-008	19	20.5	39.5
04F1591-009	CG49-013	1300	85	1385
04F1591-011	CG49-010	50	19	69
04F1591-013	CG49-011	360	18	378
04F1598-001	BY35-009	17.5	17.5	35
04F1598-003	BY35-013	17.5	17.5	35
04F1611-001	CC43-004	17	17	34
04F1611-009	CA44-004	18.5	46	64.5
04F1611-013	CC43-006	20	20	40
04F1611-017	CC43-026	17	17	34
04F1613-001	CC44-004	17.5	69	86.5
04F1619-001	CB44-004	16.5	16.5	33
04F1619-005	CB44-014	17	17	34
04F1620-005	CB43-034	1700	175	1875
04F1621-010	CB43-035	18	19	37
04F1723-001	CG49-028	590	95	685
04F1723-003	CG49-029	50	19	69
04F1723-005	CG49-030	480	90	570
04F1723-007	CG49-025	840	90	930
04F1723-010	CG49-019	2300	170	2470
04F1724-014	CE45-016	11	17.5	28.5
04F1733-003	BY36-026	19.5	19.5	39
04F1733-010	BW37-012	17.5	17.5	35
04F1733-014	BX35-012	17	17	34
04F1734-001	CD45-000	18	18	36
04F1734-003	CE45-004	18.5	17	35.5
04F1734-008	CE45-000	19	19	38
04F1734-010	CE45-002	18.5	26	44.5
04F1736-001	CG48-028	7	18.5	25.5
04F1736-003	CG48-029	13	18.5	31.5
04F1736-005	CG48-030	17	17	34
04F1736-007	CG48-031	17.5	17.5	35
04F1736-009	CG48-032	18.5	18.5	37
04F1736-011	CG49-027	17	17	34
04F1736-013	CH48-052	16.5	16.5	33
04F1737-007	CD45-004	18	18	36
04F1737-009	CE45-003	17.5	17.5	35

66

Table A-3
Total PCB Concentrations in Surface Soil in the Industrial Area Exposure Unit

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
04F1737-011	CE45-008	25	17.5	42.5
04F1737-013	CE45-015	18	18	36
04F1737-024	CE46-004	17.5	17.5	35
04F1737-026	CE46-005	19	19	38
04F1765-001	CE45-006	17.5	17.5	35
04F1772-008	BW35-043	17.5	17.5	35
04F1776-001	CE44-001	20	18	38
04F1776-003	CE44-000	17.5	17.5	35
04F1776-006	CE44-002	18.5	18.5	37
04F1776-008	CE45-005	17.5	17.5	35
04F1803-011	CD45-001	17	17	34
04F1803-013	CD46-001	17.5	17.5	35
04F1808-010	CE45-001	17.5	17.5	35
04F1808-012	CE46-006	20.5	20.5	41
04F1817-001	CE45-007	19.5	18	37.5
04F1817-003	CE45-013	21	18.5	39.5
04F1817-005	CE46-003	18	18	36
04F1820-005	CD45-002	17.5	17.5	35
04F1820-007	CD45-003	17	17	34
04F1820-009	CE45-009	18	18	36
04F1820-011	CE45-012	17	17	34
04F1845-004	CE45-025	18	18	36
04F1852-012	CA35-004	17.5	330	347.5
04F1852-014	CA36-025	17.5	7.1	24.6
04F1852-016	CA36-030	17.5	17.5	35
04F1862-008	CA35-000	17.5	17.5	35
04F1943-001	CA35-003	27	18	45
04F1943-005	CA36-024	17.5	17.5	35
04F1943-007	CA36-029	17.5	17.5	35
04F1951-001	CI45-026	180	3500	3680
04F1955-003	CA35-005	17.5	160	177.5
04F1955-007	CA36-026	18	18	36
04F2111-001	CJ44-016	17.5	17.5	35
04F2111-004	CJ43-001	18.5	18.5	37
04F2111-006	CJ43-002	17.5	17.5	35
04F2111-008	CH42-002	18	6.7	24.7
04F2111-010	CJ42-004	17.5	17.5	35
04F2111-011	CJ42-003	17.5	17.5	35
04F2152-001	CI41-000	19	19	38
04F2152-003	CJ41-001	17.5	17.5	35
04F2152-005	CJ41-003	17	17	34
04F2152-008	CI41-002	850	850	1700
04F2152-010	CI41-004	19	19	38
04F2153-001	CJ42-009	18	18	36
04F2153-003	CI42-002	18	18	36
04F2153-005	CJ42-001	17.5	17.5	35
04F2153-008	CJ42-002	18.5	18.5	37
04F2153-010	CI42-008	17.5	17.5	35
04F2154-001	CI41-001	17.5	17.5	35

Table A-3
Total PCB Concentrations in Surface Soil in the Industrial Area Exposure Unit

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
04F2154-003	CJ41-000	17.5	17.5	35
04F2154-005	CJ41-002	17.5	17.5	35
04F2154-010	CI43-009	18	18	36
04F2154-012	CJ43-012	19.5	19.5	39
04F2154-014	CJ43-003	18	18	36
04F2156-001	CJ43-008	18.5	18.5	37
04F2156-004	CJ43-004	18.5	18.5	37
04F2156-006	CJ43-005	19	19	38
04F2156-008	CJ43-006	19	19	38
04F2156-010	CJ43-007	18.5	18.5	37
04F2157-001	CI43-000	17.5	17.5	35
04F2157-003	CI44-000	17	17	34
04F2157-011	CI42-001	18.5	16	34.5
04F2157-013	CI43-001	17.5	17.5	35
04F2157-015	CI43-004	17.5	17.5	35
04F2159-001	CI41-006	17.5	17.5	35
04F2159-003	CI41-003	17.5	17.5	35
04F2159-005	CI41-005	17.5	17.5	35
04F2159-010	CI43-007	17.5	17.5	35
04F2159-012	CI43-008	18	18	36
04F2159-014	CH42-000	18	18	36
04F2160-001	CI42-009	20.5	20.5	41
04F2160-003	CI42-010	18	18	36
04F2160-005	CI42-011	19	19	38
04F2161-001	CI42-000	18	18	36
04F2161-003	CJ42-000	21	21	42
04F2161-006	CJ42-005	17.5	17.5	35
04F2188-001	CH41-000	17.5	17.5	35
04F2188-008	CH42-001	18	18	36
04F2195-007	CI43-002	18	18	36
04F2195-009	CI43-003	17.5	17.5	35
04F2195-011	CI43-005	17.5	17.5	35
04F2195-013	CI43-006	17.5	17.5	35
04F2234-001	CG49-063	21.5	21.5	43
04F2234-003	CG49-064	21.5	21.5	43
04F2234-005	CH49-033	19	19	38
04F2234-007	CH49-034	160	22.5	182.5
04F2246-001	CI42-005	17.5	17.5	35
04F2246-003	CI42-003	17.5	17.5	35
04F2246-005	CI42-004	17.5	17.5	35
04F2246-009	CI42-006	18	18	36
04F2246-011	CI42-007	18	18	36
99A7636-001	13070199	21	NA	21
99A7636-006	13070299	20.5	NA	20.5
99A7636-016	13070499	21	NA	21
99A7763-001	13110199	21	NA	21
99A7763-006	13110299	44	NA	44
99A7763-011	13110399	42	NA	42
99A7763-016	13110499	41	NA	41

Table A-3
Total PCB Concentrations in Surface Soil in the Industrial Area Exposure Unit

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
BHG4856JE	01795	NA	120	120
BHG4857JE	01695	1300	NA	1300
BHG4858JE	01395	18	83	101
BHG4859JE	01495	80	NA	80
BHG4860JE	01595	190	190	380
BHG4868JE	05395	17.5	17.5	35
BHG4873JE	04395	68	18.5	86.5
BHG4874JE	04495	36.5	89	125.5
BHG4875JE	04595	81	17.5	98.5
BHG4876JE	04695	17.5	17.5	35
BHG4986JE	02295	17.5	17.5	35
BHG4989JE	02595	18	18	36
BHG4997JE	01895	18	18	36
BHG5000JE	02095	18.5	18.5	37
BHG5014JE	01995	18.5	18.5	37
SS00002AE	05093	850	850	1700
SS00002RM	SS00002RM	17	17	34
SS00003AE	05193	90	90	180
SS00004AE	05293	85	290	375
SS00004RM	SS00004RM	17	17	34
SS00005AE	05393	847.5	85	932.5
SS00011RM	SS00011RM	17	930	947
SS00301RM	SS00301RM	3200	170	3370
SS00305RM	SS00305RM	2100	17	2117
SS00310RM	SS00310RM	320	17	337
SS00316RM	SS00316RM	17	17	34
SS00319RM	SS00319RM	580	17	597
SS00406ST	PCB-5-1	405	1700	2105
SS00407ST	PCB-5-2	400	1900	2300
SS00408ST	PCB-5-3	200	900	1100
SS00409ST	PCB-5-4	42	40.5	82.5
SS00428ST	PCB-7-1	400	2300	2700
SS00429ST	PCB-7-2	430	2100	2530
SS00430ST	PCB-7-3	450	3000	3450
SS00431ST	PCB-7-4	2050	5600	7650
SS00436ST	PCB-9-1	800	3300	4100
SS00437ST	PCB-9-2	10000	54000	64000
SS00449ST	PCB-15-1	2100	4300	6400
SS00450ST	PCB-15-2	260	2100	2360
SS00451ST	PCB-15-3	220	350	570
SS00452ST	PCB-15-4	43	150	193
SS00453ST	PCB-15-5	2200	6800	9000
SS00454ST	PCB-15-6	42.5	56	98.5
SS00475ST	PCB-14-1	40.5	170	210.5
SS00476ST	PCB-14-2	NA	410	410
SS00477ST	PCB-14-3	210	880	1090
SS00478ST	PCB-14-4	40.5	320	360.5
SS00479ST	PCB-14-5	40.5	340	380.5
SS00480ST	PCB-14-6	400	1200	1600

Table A-3
Total PCB Concentrations in Surface Soil in the Industrial Area Exposure Unit

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
SS00481ST	PCB-14-7	2150	2150	4300
SS00550ST	PCB-30-1	43.5	88	131.5
SS00551ST	PCB-30-2	95	510	605
SS00552ST	PCB-30-3	49.5	380	429.5
SS00553ST	PCB-30-4	42.5	25	67.5
SS00554ST	PCB-30-5	43	14	57
SS00555ST	PCB-30-6	42.5	42.5	85
SS00562ST	PCB-22-1	44.5	110	154.5
SS00563ST	PCB-22-2	45	150	195
SS00564ST	PCB-22-3	215	490	705
SS00565ST	PCB-22-4	4500	7800	12300
SS00581ST	PCB-24-2	730	95	825
SS00584ST	PCB-24-5	410	46.5	456.5
SS00585ST	PCB-24-6	170	45	215
SS00586ST	PCB-24-7	30	46	76
SS00587ST	PCB-24-8	190	43	233
SS00588ST	PCB-24-9	63	44	107
SS00589ST	PCB-24-10	47	45.5	92.5
SS00624ST	PCB-20-1	42	82	124
SS00626ST	PCB-20-3	230	43	273
SS00627ST	PCB-20-4	2250	2500	4750
SS00628ST	PCB-20-5	470	1100	1570
SS00629ST	PCB-20-6	950	4800	5750
SS00630ST	PCB-20-7	44.5	240	284.5
SS00642ST	PCB-32-1	42.5	26	68.5
SS00643ST	PCB-32-2	43.5	35	78.5
SS00644ST	PCB-32-3	42.5	24	66.5
SS00645ST	PCB-32-4	42.5	120	162.5
SS00650ST	PCB-35-1	15	50	65
SS00651ST	PCB-35-2	49.5	10	59.5
SS00652ST	PCB-35-3	48.5	30	78.5
SS03020WS	RA010	85	85	170
SS03021WS	RA011	85	85	170
SS03028WS	RA013	105	105	210
SS03035WS	RA016	85	85	170
SS03036WS	RA017	85	85	170
SS03037WS	RA018	90	90	180
SS03048WS	RA029	90	90	180
SS03055WS	RA032	110	110	220
SS03058WS	RA033	1500	110	1610
SS03061WS	RA034	80	80	160
SS03062WS	RA035	85	85	170
SS20000WC	SS200093	85	85	170
SS20002WC	SS200293	970	660	1630
SS20005WC	SS200593	100	100	200
SS40003AE	41893	7630	950	8580
SS40004AE	40893	95	95	190
SS40005AE	44393	90	90	180
SS40006AE	43293	282	100	382

70

Table A-3
Total PCB Concentrations in Surface Soil in the Industrial Area Exposure Unit

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
SS40007AE	41193	120	120	240
SS40009AE	41993	95	95	190
SS40011AE	44193	85	85	170
SS40015AE	45793	120	120	240
SS40017AE	SS400193	90	90	180
SS40018AE	SS400293	110	110	220
SS40019AE	SS400393	85	85	170
SS40020AE	SS400493	90	90	180
SS40023AE	SS400793	90	90	180
SS40025AE	SS400993	90	90	180
SS40026AE	SS401093	85	85	170
SS40028AE	SS401293	85	85	170
SS40029AE	SS401393	115	115	230
SS40030AE	SS401493	90	90	180
SS40031AE	SS401593	105	105	210
SS40032AE	SS401693	85	85	170
SS40034AE	SS401893	1525	90	1615
SS40035AE	SS401993	95	95	190
SS40037AE	SS402193	960	95	1055
SS40038AE	SS402293	85	85	170
SS40039AE	SS402393	90	90	180
SS40047AE	SS403193	110	110	220
SS40048AE	SS403293	105	105	210
SS40049AE	SS403393	150	150	300
SS40052AE	SS403693	95	95	190
SS40053AE	40393	105	105	210
SS40056AE	42993	90	90	180
SS40057AE	40693	145	145	290
SS40058AE	40793	140	140	280
SS40061AE	43593	85	85	170
SS40071AE	41293	180	180	360
SS40072AE	40993	95	95	190
SS40077AE	41793	95	95	190
SS40079AE	42393	85	85	170
SS40080AE	42693	125	125	250
SS40084AE	43193	597	175	772
SS40090AE	44093	95	95	190
SS40094AE	45693	115	115	230
SS40096AE	46193	100	100	200
SS40199AE	SS402693	90	90	180
SS40480AE	42093	85	85	170
SS60000WC	SS600092	100	100	200
SS60001WC	SS600192	105	105	210
SS60002WC	SS600292	95	95	190
SS60003WC	SS600392	125	125	250
SS60030WC	SS603092	90	90	180
SS60031WC	SS603192	85	85	170
SS60032WC	SS603292	85	85	170
SS60061WC	SS606192	95	95	190

71

Table A-3
Total PCB Concentrations in Surface Soil in the Industrial Area Exposure Unit

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
SS60063WC	SS606392	85	85	170
SS60064WC	SS606492	85	85	170
SS60065WC	SS606592	570	90	660
SS60066WC	SS606692	90	90	180
SS60097WC	SS609792	85	85	170
SS60098WC	SS609892	85	85	170
SS60099WC	SS609992	90	90	180
SS60104WC	SS610492	85	85	170
SS60105WC	SS610592	85	85	170
SS60106WC	SS610692	90	90	180
SS60111WC	SS611192	85	85	170
SS60112WC	SS611292	85	85	170
SS60113WC	SS611392	90	90	180
SS60120WC	SS612092	80	80	160
SS60121WC	SS612192	85	85	170
SS60200WC	SS620092	85	85	170
SS60201WC	SS620192	90	90	180
SS60203WC	SS620392	85	85	170
SS60204WC	SS620492	95	95	190
SS60205WC	SS620592	90	90	180
SS60207WC	SS620792	100	100	200
SS60208WC	SS620892	100	100	200
SS60209WC	SS620992	100	100	200
SS60210WC	SS621092	90	90	180
SSG1161JE	SS007893	85	85	170
SSG1162JE	SS007993	90	90	180
SSG1163JE	SS008093	100	100	200
SSG1164JE	SS008193	90	90	180
SSG1165JE	SS008293	90	90	180
SSG1166JE	SS008393	95	95	190
SSG1167JE	SS008493	210	95	305
SSG1168JE	SS008593	85	85	170
SSG1169JE	SS008693	85	85	170
SSG1170JE	SS008793	85	85	170
SSG1171JE	SS008893	95	95	190
SSG1172JE	SS008993	95	NA	95
SSG1173JE	SS009093	90	90	180
SSG1174JE	SS009193	85	85	170
SSG1175JE	SS009293	90	90	180
SSG1176JE	SS009393	410	NA	410
SSG1177JE	SS009493	95	95	190
SSG1178JE	SS009593	85	85	170
SSG1179JE	SS009693	85	85	170
SSG1180JE	SS009793	90	90	180
SSG1181JE	SS009893	95	95	190
SSG1182JE	SS009993	290	95	385
SSG1183JE	SS010093	85	85	170
SSG1184JE	SS010193	110	110	220
SSG1185JE	SS010293	90	90	180

Table A-3
Total PCB Concentrations in Surface Soil in the Industrial Area Exposure Unit

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
SSG1186JE	SS010393	890	115	1005
SSG1187JE	SS010493	5000	900	5900
SSG1188JE	SS010593	8900	95	8995
SSG1201JE	SS011893	80	80	160
SSG1202JE	SS011993	85	85	170
SSG1203JE	SS012093	90	90	180
SSG1204JE	SS012193	90	90	180
SSG1205JE	SS012293	90	90	180
SSG1206JE	SS012393	90	90	180
SSG1207JE	SS012493	90	90	180
SSG1208JE	SS012593	90	90	180
SSG1209JE	SS012693	90	90	180
SSG1210JE	SS012793	95	95	190
SSG1234JE	SS015193	85	85	170
SSG1235JE	SS015293	85	85	170
SSG1236JE	SS015393	85	85	170
SSG1237JE	SS015493	90	90	180
SSG1238JE	SS015593	90	90	180
SSG1239JE	SS015693	90	90	180
SSG1240JE	SS015793	85	85	170
SSG1241JE	SS015893	90	90	180
SSG1242JE	SS015993	90	90	180
SSG1243JE	SS016093	85	85	170
SSG1444JE	SS220293	18	18	36
SSG1446JE	SS220493	18.5	NA	18.5
SSG1447JE	SS220593	17.5	17.5	35
SSG1448JE	SS220693	16.5	16.5	33
SSG1449JE	SS220793	17.5	17.5	35
SSG1450JE	SS220893	NA	NA	0
SSG2424JE	SS452994	110	110	220
SSG2425JE	SS453094	85	85	170
SSG2821JE	SS000195	19	110	129
SSG2822JE	SS000295	43	195	238
SSG2825JE	SS000895	120	NA	120
SSG2826JE	SS001095	340	19	359
SSG2827JE	SS000495	NA	68	68
SSG2831JE	SS000595	82	NA	82
SSG2832JE	SS000395	225	190	415
SSG2837JE	SS001495	18.5	74	92.5
SSG2838JE	SS001595	49	26	75

Maximum	64000

Note: All data are presented in ug/kg

[1]Total PCB is equal to the sum of the individual PCBs. If the PCB was not detected, 1/2 of the detection limit was used in the calculation.

NA = Not Analyzed

73

Table A-4
Total Dioxin Concentrations in Surface Soil in the Industrial Area Exposure Unit

Sample Number	Location Code	123478-HxCDD	123678-HxCDD	123789-HxCDD	2378-TCDD	Total Dioxin[1]
02E0015-001	BT39-001	0.00023	0.00056	0.00045	0.0035	0.00474
02E0015-002	BT39-002	0.00022	0.00056	0.00079	0.0016	0.00317
02E0015-003	BT39-003	0.00047	0.0012	0.0011	0.0066	0.00937
02E0015-004	BT39-004	0.000125	0.000115	0.00012	0.0016	0.00196
02E0015-005	BT38-001	0.00015	0.00097	0.00014	0.0056	0.00686
02E0015-006	BT38-002	0.00019	0.00084	0.00063	0.0035	0.00516
02E0015-007	BT38-002	0.00013	0.00067	0.00067	0.0068	0.00827
04F0770-013	CB43-038	0.00143	NA	NA	0.000216	0.001646
04F1372-008	CC44-005	0.0001	0.00039	0.0001	0.000125	0.000715
04F1556-001	CB44-017	0.00044	0.0018	0.0012	0.00014	0.00358
04F1558-010	CB44-013	0.00041	0.0021	0.0013	0.00015	0.00396
04F1620-005	CB43-034	0.0017	0.0051	0.0036	0.0019	0.0123

Maximum	0.0123

Note: All data are presented in ug/kg

[1]Total dioxin is equal to the sum of the individual dioxins. If the dioxin was not detected, 1/2 of the detection limit was used in the calculation.

NA = Not Analyzed

74

Table A-5
Accelerated Action Screening Step for Surface Soil in the Industrial Area Exposure Unit

ECOI	Screening EPC[1]	EPC > Terrestrial Invertebrate ESL?	EPC > Terrestrial Plant ESL?	EPC > Mourning Dove Herbivore ESL?	EPC > Mourning Dove Insectivore ESL?	EPC > American Kestrel ESL?	EPC > Mouse Herbivore ESL?	EPC > Mouse Insectivore ESL?	EPC > Prairie Dog ESL?	EPC > Mule Deer ESL?	EPC > Coyote Carnivore ESL?	EPC > Coyote Generalist ESL?	EPC > Coyote Insectivore ESL?	Carry Forward?	Discuss in Uncertainty Section: Plants and Invertebrates	Discuss in Uncertainty Section: Birds	Discuss in Uncertainty Section: Mammals
Inorganics (mg/kg)																	
Aluminum	61000	NA	Yes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Yes	No	Yes	Yes
Ammonia	2.82	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Antimony	29	No	Yes	NA	NA	NA	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	No
Arsenic	56.2	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No	No
Barium	1500	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	Yes	No	No	No
Beryllium	26.8	No	Yes	NA	NA	NA	No	Yes	No	No	No	No	No	Yes	No	Yes	No
Boron	28	NA	Yes	No	No	No	No	No	No	No	No	No	No	Yes	No	No	No
Cadmium	270	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No
Calcium	210000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Cesium	18.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Chromium	210	NA	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	Yes	No	No	No
Chromium VI	0.85	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Cobalt	137	NA	Yes	No	Yes	No	No	No	No	No	No	No	No	Yes	No	No	No
Copper	1860	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	No	No
Fluoride	3.61	NA	NA	No	Yes	Yes	No	No	No	No	No	No	No	Yes	Yes	No	No
Iron	130000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Lead	590	No	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No
Lithium	50	NA	Yes	NA	NA	NA	No	No	No	No	No	No	No	Yes	No	Yes	No
Magnesium	30000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Manganese	1240	NA	Yes	Yes	No	No	Yes	No	Yes	No	No	No	No	Yes	No	No	No
Mercury	2.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No
Molybdenum	12.6	NA	Yes	No	Yes	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No	No
Nickel	280	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Nitrate (as nitrogen)	76	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Nitrate / Nitrite	83.3	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Nitrate / Nitrite (as nitrogen)	369	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Nitrite (as nitrogen)	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Potassium	8310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Selenium	2	No	Yes	Yes	Yes	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No
Silver	364	NA	Yes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Yes	No	Yes	Yes
Sodium	6600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Strontium	413	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Thallium	5.8	NA	Yes	NA	NA	NA	No	No	No	No	No	No	No	Yes	No	Yes	No
Tin	161	NA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No
Titanium	1730	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Uranium, total	3.2	NA	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Vanadium	184	NA	Yes	No	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No
Zinc	11900	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	No
Organics (ug/kg)																	
1,1,1-Trichloroethane	11	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
1,1-Dichloroethene	1.3	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
1,2,4-Trichlorobenzene	150	No	NA	NA	NA	NA	No	No	No	No	No	No	No	No	No	Yes	No
1,2-Dichloroethene	16	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
1,2-Dichloropropane	140	No	NA	NA	NA	NA	No	No	No	No	No	No	No	No	No	Yes	No
1,4-Dichlorobenzene	110	No	NA	NA	NA	NA	No	No	No	No	No	No	No	No	No	Yes	No
2,4,5-T	1.8	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
2,4,5-Trichlorophenol	1100	No	No	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	No	Yes	Yes

75

Table A-5
Accelerated Action Screening Step for Surface Soil in the Industrial Area Exposure Unit

ECOI	Screening EPC[1]	EPC > Terrestrial Invertebrate ESL?	EPC > Terrestrial Plant ESL?	EPC > Mourning Dove Herbivore ESL?	EPC > Mourning Dove Insectivore ESL?	EPC > American Kestrel ESL?	EPC > Mouse Herbivore ESL?	EPC > Mouse Insectivore ESL?	EPC > Prairie Dog ESL?	EPC > Mule Deer ESL?	EPC > Coyote Carnivore ESL?	EPC > Coyote Generalist ESL?	EPC > Coyote Insectivore ESL?	Carry Forward?	Discuss in Uncertainty Section: Plants and Invertebrates	Discuss in Uncertainty Section: Birds	Discuss in Uncertainty Section: Mammals
2,4,6-Trichlorophenol	950	No	No	NA	NA	NA	No	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes	No
2,4,6-Trinitrotoluene	56	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
2,4-Dimethylphenol	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
2-Butanone	97	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
2-Methylnaphthalene	19000	NA	NA	NA	NA	NA	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
2-Methylphenol	74	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
4,4'-DDD	10	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
4,4'-DDE	7.2	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
4,4'-DDT	9.1	NA	NA	No	Yes	Yes	No	No	No	No	No	No	No	Yes	Yes	No	No
4-Chloro-3-methylphenol	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
4-Isopropyltoluene	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
4-Methyl-2-pentanone	73	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
4-Methylphenol	270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
4-Nitroaniline	820	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
4-Nitrophenol	53	No	NA	NA	NA	NA	No	No	No	No	No	No	No	No	No	Yes	No
Acenaphthene	11000	NA	No	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	No	Yes	Yes
Acenaphthylene	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Acetone	440	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Aldrin	2.5	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Anthracene	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Benzene	11	NA	No	NA	NA	NA	No	No	No	No	No	No	No	No	No	Yes	No
Benzo(a)anthracene	13000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Benzo(a)pyrene	13000	NA	NA	NA	NA	NA	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
Benzo(b)fluoranthene	26000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Benzo(g,h,i)perylene	23000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Benzo(k)fluoranthene	13000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Benzoic Acid	1100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
bis(2-ethylhexyl)phthalate	75000	NA	NA	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No
Butylbenzylphthalate	2800	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Carbazole	3400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Carbon Disulfide	4	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Carbon Tetrachloride	190	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Chlorobenzene	2	No	NA	NA	NA	NA	No	No	No	No	No	No	No	No	No	Yes	No
Chloroform	7	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Chloromethane	1.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Chrysene	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
cis-1,2-Dichloroethene	2.8	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Dibenz(a,h)anthracene	1600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Dibenzofuran	4600	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Dicamba	150	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Dieldrin	92	NA	NA	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No
Diethylphthalate	420	NA	No	NA	NA	NA	No	No	No	No	No	No	No	No	No	Yes	No
Dimethylphthalate	460	No	NA	NA	NA	NA	No	No	No	No	No	No	No	No	No	Yes	No
Di-n-butylphthalate	180	NA	No	No	Yes	Yes	No	No	No	No	No	No	No	Yes	No	No	No
Di-n-octylphthalate	1300	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Endosulfan I	7.4	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Endosulfan II	9.9	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Endosulfan sulfate	11	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No

76

Table A-5
Accelerated Action Screening Step for Surface Soil in the Industrial Area Exposure Unit

ECOI	Screening EPC[1]	EPC > Terrestrial Invertebrate ESL?	EPC > Terrestrial Plant ESL?	EPC > Mourning Dove Herbivore ESL?	EPC > Mourning Dove Insectivore ESL?	EPC > American Kestrel ESL?	EPC > Mouse Herbivore ESL?	EPC > Mouse Insectivore ESL?	EPC > Prairie Dog ESL?	EPC > Mule Deer ESL?	EPC > Coyote Carnivore ESL?	EPC > Coyote Generalist ESL?	EPC > Coyote Insectivore ESL?	Carry Forward?	Discuss in Uncertainty Section: Plants and Invertebrates	Discuss in Uncertainty Section: Birds	Discuss in Uncertainty Section: Mammals
Endrin	17	NA	NA	No	Yes	Yes	No	No	No	No	No	No	No	Yes	Yes	No	No
Endrin aldehyde	9.2	NA	NA	No	Yes	Yes	No	No	No	No	No	No	No	Yes	Yes	No	No
Ethylbenzene	173	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Fluoranthene	48000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Fluorene	6800	No	No	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	No	Yes	Yes
gamma-BHC (Lindane)	8.3	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
gamma-Chlordane	2.6	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Heptachlor epoxide	7.2	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Hexachlorobenzene	380	NA	NA	No	Yes	Yes	No	No	No	No	No	No	No	Yes	Yes	No	No
Hexachlorocyclopentadiene	1800	NA	No	NA	NA	NA	No	No	No	No	No	No	No	No	No	Yes	No
HMX	230	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Indeno(1,2,3-cd)pyrene	13000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Isophorone	850	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Isopropylbenzene	27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
MCPA	1100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Methoxychlor	12	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Methylene Chloride	45	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Naphthalene	8900	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Pentachlorophenol	39000	Yes	Yes	NA	NA	NA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Phenanthrene	50000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Phenol	130	No	No	NA	NA	NA	No	No	No	No	No	No	No	No	No	Yes	No
Pyrene	49000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Styrene	7.8	NA	No	NA	NA	NA	No	No	No	No	No	No	No	No	No	Yes	No
Tetrachloroethene	120	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Toluene	990	NA	No	NA	NA	NA	No	No	No	No	No	No	No	No	No	Yes	No
Total Dioxin	0.0123	NA	NA	No	No	No	No	Yes	No	No	No	No	No	Yes	Yes	No	No
Total PCB	88500	NA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Trichloroethene	34	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Trichlorofluoromethane	31.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Xylene	2	NA	NA	NA	NA	NA	No	No	No	No	No	No	No	No	Yes	Yes	No
Radionuclides (pCi/g)																	
Americium-241	1200	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Cesium-137	0.79	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Gross Alpha	132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Gross Beta	81.94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Neptunium-237	0.01873	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Plutonium-238	4.896	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Plutonium-239/240	8130	NA	NA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Radium-226	2.078	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Radium-228	3.153	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Strontium-89/90	0.575	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Uranium-233/234	89.2519	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Yes	Yes	Yes
Uranium-235	3.4967	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Uranium-238	49.82	NA	NA	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

NA = No ESL Available

77

Table A-6
ECOIs Detected in Subsurface Soil in the Industrial Area Exposure Unit

ECOIs Detected in Subsurface Soil in the Industrial Area Exposure Unit	
Inorganics	
Aluminum	Mercury
Antimony	Molybdenum
Arsenic	Nickel
Barium	Nitrate (as nitrogen)
Beryllium	Nitrate / Nitrite
Boron	Nitrate / Nitrite (as nitrogen)
Cadmium	Nitrite (as nitrogen)
Calcium	Potassium
Cesium	Selenium
Chromium	Silver
Chromium VI	Sodium
Cobalt	Strontium
Copper	Sulfide
Cyanide	Thallium
Fluoride	Tin
Iron	Titanium
Lead	Uranium, total
Lithium	Vanadium
Magnesium	Zinc
Manganese	
Organics	
1,1,1-Trichloroethane	Carbon Tetrachloride
1,1,2,2-Tetrachloroethane	Chlorobenzene
1,1,2-Trichloro-1,2,2-trifluoroethane	Chloroform
1,1-Dichloroethane	Chloromethane
1,1-Dichloroethene	Chrysene
1,2,3-Trichloropropane	cis-1,2-Dichloroethene
1,2,4-Trichlorobenzene	delta-BHC
1,2-Dibromo-3-chloropropane	Dibenz(a,h)anthracene
1,2-Dichlorobenzene	Dibenzofuran
1,2-Dichloroethane	Dichlorodifluoromethane
1,2-Dichloroethene	Dieldrin
1,2-Dichloropropane	Diethylphthalate
1,3,5-Trimethylbenzene	Dimethylphthalate
1,3-Dichlorobenzene	Di-n-butylphthalate
1,4-Dichlorobenzene	Di-n-octylphthalate
123478-HxCDD	Endosulfan I
123678-HxCDD	Endosulfan II
123789-HxCDD	Endosulfan sulfate
2,4-Dimethylphenol	Endrin
2,4-Dinitrophenol	Endrin aldehyde
2,4-Dinitrotoluene	Endrin ketone
2378-TCDD	ethyl acetate
2-Butanone	Ethylbenzene
2-Chlorophenol	Fluoranthene
2-Methylnaphthalene	Fluorene
2-Methylphenol	Heptachlor epoxide
3,3'-Dichlorobenzidine	Hexachlorobenzene

78

Table A-6
ECOIs Detected in Subsurface Soil in the Industrial Area Exposure Unit

ECOIs Detected in Subsurface Soil in the Industrial Area Exposure Unit	
4,4'-DDD	Hexachlorobutadiene
4,4'-DDE	Indeno(1,2,3-cd)pyrene
4,4'-DDT	Isophorone
4-Chloro-3-methylphenol	Isopropylbenzene
4-Isopropyltoluene	Methoxychlor
4-Methyl-2-pentanone	Methylene Chloride
4-Methylphenol	Naphthalene
Acenaphthene	N-Nitroso-di-n-propylamine
Acenaphthylene	N-nitrosodiphenylamine
Acetone	PCB-1016
Aldrin	PCB-1248
alpha-BHC	PCB-1254
Anthracene	PCB-1260
Benzene	Pentachlorophenol
Benzo(a)anthracene	Phenanthrene
Benzo(a)pyrene	Phenol
Benzo(b)fluoranthene	Pyrene
Benzo(g,h,i)perylene	Styrene
Benzo(k)fluoranthene	Tetrachloroethene
Benzoic Acid	Toluene
bis(2-ethylhexyl)phthalate	trans-1,2-Dichloroethene
Bromoform	Trichloroethene
Bromomethane	Trichlorofluoromethane
Butylbenzylphthalate	Vinyl Chloride
Carbazole	Xylene
Carbon Disulfide	
Radionuclides	
Americium-241	Radium-226
Cesium-137	Radium-228
Gross Alpha	Strontium-89/90
Gross Beta	Uranium-233/234
Neptunium-237	Uranium-234
Plutonium-238	Uranium-235
Plutonium-239/240	Uranium-238

79

80

Table A-7
Summary of Subsurface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Inorganics (mg/kg)										
Aluminum	2317	2316	100%	0.0014	200	870	110000	16825.19862	10468.24514	110000
Ammonia	3	0	0%	0.331	0.338	ND	ND	NA	NA	0.169
Antimony	2240	493	22%	0.00036	60	0.24	19.3	1.312022312	3.102152489	19.3
Arsenic	2317	2292	99%	0.00022	10	0.48	96.9	5.984620419	4.700030246	96.9
Barium	2358	2356	100%	0.00071	200	8.6	1150	84.16948217	64.37914722	1150
Beryllium	2338	2049	88%	0.000029	5	0.052	103.9	1.01584041	2.394728228	103.9
Boron	2038	1557	76%	0.0036	9.7	0.42	76	3.986290302	3.573211164	76
Cadmium	2309	719	31%	0.000025	5	0.05	530	2.631815021	21.79233488	530
Calcium	2316	2316	100%	0.031	5000	180	328000	12954.22539	29497.22017	328000
Cesium	177	21	12%	9.1	1000	0.95	10.9	3.873809524	2.556248181	10.9
Chromium	2317	2311	100%	0.0001	10	1.2	11000	23.20778018	228.9112035	11000
Chromium VI	4	1	25%	0.52	0.63	0.59	0.59	0.59	0	0.59
Cobalt	2316	2288	99%	0.00029	50	0.47	74	6.410445804	5.14495046	74
Copper	2317	2305	99%	0.00036	25	0.7	810	15.72662039	28.47887078	810
Cyanide	99	19	19%	0.167	0.61	0.191	43	6.174578947	11.69962721	43
Fluoride	41	41	100%	0.159	0.183	0.15	17.6	4.122439024	4.590556492	17.6
Iron	2316	2316	100%	0.012	100	1060	290000	14786.70812	8374.755375	290000
Lead	2321	2319	100%	0.000029	5	0.99	1500	13.39380336	41.44969032	1500
Lithium	2376	2300	97%	0.00095	100	0.4	97.4	11.22017787	6.586867405	97.4
Magnesium	2357	2357	100%	0.016	5000	160	17000	2608.940602	1421.962544	17000
Manganese	2316	2314	100%	0.00022	15	8.8	2800	174.9486825	164.3292686	2800
Mercury	2259	1833	81%	0	0.67	0.0019	16	0.094109329	0.46126933	16
Molybdenum	2355	1471	62%	0.00099	200	0.14	4100	3.915061863	106.8861837	4100
Nickel	2317	2311	100%	0.00034	40	0.72	670	15.61636521	19.37597902	670
Nitrate (as nitrogen)	77	47	61%	0.21	2.4	2.2	400	44.9106383	85.58284122	400
Nitrate / Nitrite	54	50	93%	0.2	127	0.02	5200	625.74758	1169.975882	5200
Nitrate / Nitrite (as nitrogen)	25	25	100%	0.21	478	0.71	6100	545.6172	1283.301593	6100
Nitrite (as nitrogen)	3	1	33%	0.26	0.34	2.4	2.4	2.4	0	2.4
Potassium	2400	2391	100%	0.029	5000	139	21100	1755.655793	1068.477833	21100
Selenium	2317	237	10%	0.00054	7.7	0.06	4.3	0.894067511	0.519170194	4.3
Silver	2311	599	26%	0.0000094	10	0.062	110	1.290898164	7.514474823	110
Sodium	2357	949	40%	0.033	5000	43.7	11000	604.1754478	954.6753066	11000

18

Table A-7
Summary of Subsurface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Strontium	2316	2311	100%	0.00072	400	2.3	487	36.19666811	42.64632303	487
Sulfide	80	6	8%	10	200	12.7	18.6	15.53333333	2.687501938	18.6
Thallium	2318	329	14%	0.00016	10	0.1	6.7	1.134863222	0.878649218	6.7
Tin	2294	206	9%	0.00078	200	0.49	392	7.530640777	31.1330697	392
Titanium	2023	2023	100%	0.00022	0.5	14	1420	191.5267425	127.598303	1420
Uranium, total	88	6	7%	1.07	26.2	1.43	4.46	2.906666667	1.172171774	4.46
Vanadium	2401	2400	100%	0.00063	50	3	740	33.704375	21.97317801	740
Zinc	2355	2347	100%	0.00056	20	2.2	1800	39.8404772	71.29187307	1800
Organics (ug/kg)										
1,1,1,2-Tetrachloroethane	2530	0	0%	0.497	62500	ND	ND	NA	NA	31250
1,1,1-Trichloroethane	2908	40	1%	0.11	100000	1	690000	22757.23475	113174.1656	690000
1,1,2,2-Tetrachloroethane	3001	3	0.1%	0.56	100000	3	1000	401	528.0179921	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	2571	5	0.2%	0.34	100000	1	12.7	5.404	5.537515688	12.7
1,1,2-Trichloroethane	3006	0	0%	0.497	62500	ND	ND	NA	NA	31250
1,1-Dichloroethane	2907	7	0.2%	0.11	100000	1.3	15.7	4.638571429	5.087607259	15.7
1,1-Dichloroethene	2906	15	1%	0.31	100000	1	110	20.70933333	30.51748994	110
1,2,3-Trichloropropane	2612	1	0.0%	0.44	100000	4	4	4	0	4
1,2,4,5-Tetrachlorobenzene	4	0	0%	380	400	ND	ND	NA	NA	200
1,2,4-Trichlorobenzene	2838	30	1%	0.17	100000	0.49	9500	432.904	1764.875719	9500
1,2,4-Trimethylbenzene	98	0	0%	5	7	ND	ND	NA	NA	3.5
1,2-Dibromo-3-chloropropane	99	1	1%	5	7	3	3	3	0	3
1,2-Dibromoethane	2614	0	0%	0.497	62500	ND	ND	NA	NA	31250
1,2-Dichlorobenzene	2813	3	0.1%	0.23	13000000	5.7	270	178.5666667	149.790398	270
1,2-Dichloroethane	2902	15	1%	0.22	100000	1.3	35	4.82	8.539755768	35
1,2-Dichloroethene	258	2	1%	5	1200	32	1200	616	825.9007204	1200
1,2-Dichloropropane	3006	6	0.2%	0.22	100000	1	13	4.906666667	4.713752928	13
1,3,5-Trimethylbenzene	98	1	1%	5	7	9	9	9	0	9
1,3-Dichlorobenzene	2739	2	0.1%	0.22	100000	2.1	70	36.05	48.01255044	70
1,4-Dichlorobenzene	2717	5	0.2%	0.34	13000000	0.24	170	72.848	61.74524694	170
123478-HxCDD	17	2	12%	0	1.1	0.0001	0.00022	0.00016	8.48528E-05	0.00022
123678-HxCDD	15	4	27%	0	0	0.00014	0.0038	0.0013725	0.001723086	0.0038
123789-HxCDD	15	5	33%	0	0	0.00011	0.0012	0.00047	0.000452272	0.0012
2,4,5-Trichlorophenol	889	0	0%	51	30000	ND	ND	NA	NA	15000

Table A-7
Summary of Subsurface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
2,4,6-Trichlorophenol	889	0	0%	10	12000	ND	ND	NA	NA	6000
2,4,6-Trinitrotoluene	10	0	0%	0.2	250	ND	ND	NA	NA	125
2,4-D	3	0	0%	84	90	ND	ND	NA	NA	45
2,4-Dichlorophenol	889	0	0%	10	12000	ND	ND	NA	NA	6000
2,4-Dimethylphenol	890	2	0.2%	10	12000	81	89	85	5.656854249	89
2,4-Dinitrophenol	889	1	0.1%	51	30000	470	470	470	0	470
2,4-Dinitrotoluene	843	1	0.1%	0.04	12000	43	43	43	0	43
2,6-Dinitrotoluene	893	0	0%	10	12000	ND	ND	NA	NA	6000
2378-TCDD	17	1	6%	0	0.439	0.00059	0.00059	0.00059	0	0.00059
2-Butanone	2813	154	5%	2.7	2000000	1	500	38.73181818	75.62012018	500
2-Chloronaphthalene	892	0	0%	10	12000	ND	ND	NA	NA	6000
2-Chlorophenol	890	3	0.3%	10	12000	8.5	77	43.16666667	34.25760256	77
2-Methylnaphthalene	893	63	7%	10	12000	35	1400	229.6603175	314.8360324	1400
2-Methylphenol	839	1	0.1%	10	12000	93	93	93	0	93
2-Nitroaniline	841	0	0%	51	30000	ND	ND	NA	NA	15000
3,3'-Dichlorobenzidine	841	1	0.1%	20	12000	160	160	160	0	160
4,4'-DDD	157	2	1%	0.3	31	4.2	7.6	5.9	2.404163056	7.6
4,4'-DDE	157	4	3%	0.32	34	0.46	4.8	2.215	1.922385671	4.8
4,4'-DDT	158	3	2%	0.34	38	0.79	19	8.863333333	9.278687048	19
4,6-Dinitro-2-methylphenol	837	0	0%	51	30000	ND	ND	NA	NA	15000
4-Chloro-3-methylphenol	839	1	0.1%	10	12000	54	54	54	0	54
4-Chloroaniline	833	0	0%	10	12000	ND	ND	NA	NA	6000
4-Isopropyltoluene	2516	25	1%	0.26	100000	1.2	3000	138.8196	601.3374692	3000
4-Methyl-2-pentanone	2896	26	1%	2	1000000	3	850	51.61653846	164.1714382	850
4-Methylphenol	840	4	0.5%	10	12000	95	460	213.75	166.401873	460
4-Nitroaniline	159	0	0%	51	30000	ND	ND	NA	NA	15000
4-Nitrophenol	837	0	0%	51	30000	ND	ND	NA	NA	15000
4-Nitrotoluene	1	0	0%	250	250	ND	ND	NA	NA	125
Acenaphthene	895	138	15%	10	12000	25	7900	415.7898551	956.1713453	7900
Acenaphthylene	892	1	0.1%	10	12000	94	94	94	0	94
Acetone	2948	734	25%	3.4	2000000	1	17000	103.8081744	806.1353258	17000
Aldrin	145	1	1%	0.41	42	4.4	4.4	4.4	0	4.4
alpha-BHC	78	1	1%	1.7	20	3	3	3	0	3

83

Table A-7
Summary of Subsurface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
alpha-Chlordane	90	0	0%	1.8	200	ND	ND	NA	NA	100
Anthracene	896	153	17%	10	12000	36	13000	546.5490196	1489.181345	13000
Benzene	3008	15	0.5%	0.1	100000	0.79	240	23.994	64.91834979	240
Benzo(a)anthracene	193	23	12%	330	12000	21	7300	687.3478261	1617.202905	7300
Benzo(a)pyrene	190	20	11%	330	12000	5.7	6000	642.985	1440.00377	6000
Benzo(b)fluoranthene	839	179	21%	10	12000	36	29000	816.1452514	2591.801669	29000
Benzo(g,h,i)perylene	782	130	17%	27	810	41	22000	801.9769231	2349.657192	22000
Benzo(k)fluoranthene	839	165	20%	10	12000	37	29000	842.0545455	2759.634361	29000
Benzoic Acid	798	24	3%	51	2000	85	4900	531.875	960.2862034	4900
Benzyl Alcohol	110	0	0%	10	870	ND	ND	NA	NA	435
beta-BHC	77	0	0%	1.8	20	ND	ND	NA	NA	10
bis(2-Chloroethyl) ether	146	0	0%	10	12000	ND	ND	NA	NA	6000
bis(2-Chloroisopropyl) ether	548	0	0%	10	12000	ND	ND	NA	NA	6000
bis(2-ethylhexyl)phthalate	841	101	12%	10	12000	38	48000	880.7524752	5033.144265	48000
Bromodichloromethane	3005	0	0%	0.497	62500	ND	ND	NA	NA	31250
Bromoform	3005	1	0.03%	0.26	100000	1	1	1	0	1
Bromomethane	2963	1	0.03%	0.33	100000	7450	7450	7450	0	7450
Butylbenzylphthalate	208	16	8%	10	12000	16.5	1400	197.40625	345.9698069	1400
Carbazole	41	2	5%	330	12000	410	1300	855	629.3250353	1300
Carbon Disulfide	2906	12	0.4%	0.24	100000	1	290	28.72666667	82.58265824	290
Carbon Tetrachloride	2991	45	2%	0.18	100000	0.64	628000	15293.52689	93783.79626	628000
Chlordane (technical)	67	0	0%	18	1800	ND	ND	NA	NA	900
Chlorobenzene	2898	1	0.03%	0.18	100000	3	3	3	0	3
Chloroethane	2874	0	0%	0.847	62500	ND	ND	NA	NA	31250
Chloroform	3012	39	1%	0.11	100000	0.74	320	31.5125641	78.66416364	320
Chloromethane	2904	3	0.1%	0.22	100000	1.8	86	30.6	47.99041571	86
Chrysene	893	250	28%	10	12000	24	36000	811.1	2905.013622	36000
cis-1,2-Dichloroethene	2538	36	1%	0.11	100000	0.91	181	17.41166667	44.23873251	181
cis-1,3-Dichloropropene	472	0	0%	5	62500	ND	ND	NA	NA	31250
delta-BHC	78	1	1%	1.7	20	42	42	42	0	42
Dibenz(a,h)anthracene	140	2	1%	330	12000	460	1700	1080	876.8124087	1700
Dibenzofuran	838	65	8%	10	12000	15	3300	346.7230769	605.086164	3300
Dibromochloromethane	3005	0	0%	0.497	62500	ND	ND	NA	NA	31250

Table A-7
Summary of Subsurface Soil ECOI Data in the
Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Dichlorodifluoromethane	2557	6	0.2%	0.21	100000	2	26	11.64166667	7.910768399	26
Dieldrin	158	4	3%	0.32	58	1.4	6.7	4.425	2.564338771	6.7
Diethylphthalate	871	8	1%	31	12000	20	330	93.4875	101.9871902	330
Dimethylphthalate	889	2	0.2%	10	12000	89	460	274.5	262.3366158	460
Di-n-butylphthalate	70	20	29%	330	810	27	420	167	132.6078508	420
Di-n-octylphthalate	156	3	2%	330	12000	20.9	72	45.96666667	25.56371126	72
Endosulfan I	157	1	1%	0.33	41	3.6	3.6	3.6	0	3.6
Endosulfan II	157	3	2%	0.35	71	0.91	12	6.003333333	5.59991369	12
Endosulfan sulfate	157	2	1%	0.3	31	0.87	5.3	3.085	3.132483041	5.3
Endrin	157	4	3%	0.39	41	2.8	12	6.7	4.032369031	12
Endrin aldehyde	81	3	4%	0.43	160	5.4	21	11.8	8.168231143	21
Endrin ketone	91	1	1%	0.36	38	62	62	62	0	62
ethyl acetate	1	1	100%			1000	1000	1000	0	1000
Ethylbenzene	2916	93	3%	0.1	100000	1	1100	23.35870968	115.5070432	1100
Fluoranthene	892	285	32%	10	12000	5.8	66000	1574.227368	5615.953936	66000
Fluorene	894	103	12%	10	12000	21	6300	472.2718447	995.8424475	6300
gamma-BHC (Lindane)	144	0	0%	1.8	180	ND	ND	NA	NA	90
gamma-Chlordane	90	0	0%	1.8	200	ND	ND	NA	NA	100
Heptachlor	144	0	0%	1.8	180	ND	ND	NA	NA	90
Heptachlor epoxide	145	2	1%	0.33	39	4.2	14	9.1	6.929646456	14
Hexachlorobenzene	892	3	0.3%	10	12000	170	260	210	45.82575695	260
Hexachlorobutadiene	2829	2	0.1%	0.32	100000	2.2	7	4.6	3.39411255	7
Hexachlorocyclopentadiene	840	0	0%	10	12000	ND	ND	NA	NA	6000
Hexachloroethane	841	0	0%	10	12000	ND	ND	NA	NA	6000
HMX	1	0	0%	250	250	ND	ND	NA	NA	125
Indeno(1,2,3-cd)pyrene	842	150	18%	10	12000	36	20000	642.2	1965.503573	20000
Isophorone	840	1	0.1%	10	12000	840	840	840	0	840
Isopropylbenzene	2606	10	0.4%	0.18	100000	1.5	300	42.428	93.01497296	300
m,p-Xylene	13	0	0%	6	63	ND	ND	NA	NA	31.5
Methoxychlor	145	5	3%	0.18	200	0.26	22	4.712	9.664619496	22
Methylene Chloride	3084	473	15%	0.41	100000	0.82	1100	22.67071882	101.571045	1100
Naphthalene	2865	467	16%	0.4	100000	0.7	350000	909.9201285	16227.41234	350000
Nitrobenzene	893	0	0%	10	12000	ND	ND	NA	NA	6000

Table A-7
Summary of Subsurface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
N-Nitrosodiethylamine	4	0	0%	760	790	ND	ND	NA	NA	395
N-Nitrosodimethylamine	4	0	0%	760	790	ND	ND	NA	NA	395
N-Nitrosodi-n-butylamine	4	0	0%	380	400	ND	ND	NA	NA	200
N-Nitroso-di-n-propylamine	840	2	0.2%	10	12000	450	700	575	176.7766953	700
N-nitrosodiphenylamine	872	3	0.3%	10	12000	67	250	179	98.14784766	250
o-Xylene	30	0	0%	6	620	ND	ND	NA	NA	310
PCB-1016	618	7	1%	1.9	3500	2.6	17000	2472.5	6406.212326	17000
PCB-1221	618	0	0%	33	3900	ND	ND	NA	NA	1950
PCB-1232	653	0	0%	33	3900	ND	ND	NA	NA	1950
PCB-1242	618	0	0%	33	3900	ND	ND	NA	NA	1950
PCB-1248	618	16	3%	3.6	720	44	5900	1721.5625	1911.047495	5900
PCB-1254	653	128	20%	4.3	4500	4.9	170000	4277.064844	20655.32476	170000
PCB-1260	619	99	16%	1.4	5000	6.6	62000	2787.345455	9077.145403	62000
Pentachlorobenzene	4	0	0%	380	400	ND	ND	NA	NA	200
Pentachlorophenol	890	6	1%	51	30000	120	2400	663.3333333	871.1984083	2400
Phenanthrene	893	279	31%	10	12000	25	62000	1434.594982	5506.807596	62000
Phenol	889	7	1%	10	12000	59	160	107	34.46254005	160
Pyrene	891	267	30%	10	12000	17	67000	1545.52809	5659.839573	67000
Styrene	2998	5	0.2%	0.21	100000	2.5	25.7	11.492	10.35129557	25.7
Tetrachloroethene	2946	206	7%	0.25	100000	0.9	27000000	207269.1973	2029805.557	27000000
Toluene	3029	460	15%	0.1	100000	0.24	1600	85.28667391	179.5016695	1600
Toxaphene	144	0	0%	170	18000	ND	ND	NA	NA	9000
trans-1,2-Dichloroethene	2567	1	0.04%	0.11	100000	90	90	90	0	90
trans-1,3-Dichloropropene	412	0	0%	5	62500	ND	ND	NA	NA	31250
Trichloroethene	2919	90	3%	0.29	100000	0.8	3700000	59176.32169	415359.736	3700000
Trichlorofluoromethane	2507	22	1%	0.23	100000	0.71	15	3.254545455	3.907750208	15
Vinyl acetate	266	0	0%	10	65	ND	ND	NA	NA	32.5
Vinyl Chloride	2950	2	0.1%	0.23	100000	2.8	7.67	5.235	3.443610024	7.67
Xylene	438	7	2%	0.1	1200	1	1200	188.7	447.7097609	1200
Radionulcides (pCi/g)										
Americium-241	807	341	42%	0	70.3	-0.005	1220	5.331943158	66.25407923	1220
Cesium-137	141	136	96%	0.011	0.47	-0.0504	0.42	0.02166576	0.061943588	0.42
Gross Alpha	274	274	100%	1.1	23.5	-0.498	116.7	19.12751825	14.13827667	116.7

Table A-7
Summary of Subsurface Soil ECOI Data in the Industrial Area Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Gross Beta	292	292	100%	1.5	10.11	8.09	151	26.64140411	10.88251612	151
Neptunium-237	2	2	100%	0.00483	0.00528	0.000922	0.003078	0.0020002	0.001524239	0.003078
Plutonium-238	34	32	94%	0.00278	0.0388	-0.00177	0.1973	0.013380941	0.036500874	0.1973
Plutonium-239/240	918	453	49%	0	66	-0.00373	1690	7.838657141	83.94449718	1690
Radium-226	111	109	98%	0	0.94	0.37	9.28	1.429042202	1.51698745	9.28
Radium-228	127	126	99%	0	2.6	0	3.9	1.594729365	0.579389869	3.9
Strontium-89/90	16	13	81%	0.2	0.8155	-0.1776	1.31	0.337515385	0.500355577	1.31
Uranium-233/234	941	928	99%	0	1.55	0.04465	28.9	1.329152425	2.210520895	28.9
Uranium-234	1	1	100%	0.0148	0.0148	0.6	0.6	0.6	0	0.6
Uranium-235	942	421	45%	0	1.85	-0.0104	2.91	0.142516154	0.272310516	2.91
Uranium-238	942	930	99%	0	1.77	0.132	101.1	1.242887742	3.567826719	101.1

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
01A0160-001	7090101	11	NA	11
01A0160-002	7090201	192	NA	192
01A0160-003	7090301	192.5	NA	
01A0160-004	7090401	18.9	NA	18.9
01A0160-005	7090501	194	NA	194
01N0163-001	B771UBC00801	213.5	NA	213.5
01N0163-002	B771UBC00801	7.2	NA	7.2
01N0190-001	B771UBC01301	4.9	NA	4.9
01N0190-002	B771UBC01301	214.5	NA	214.5
01N0192-001	B771UBC00701	175	NA	175
01N0192-002	B771UBC00701	175	NA	175
01N0194-001	B771UBC00101	211.5	NA	211.5
01N0194-002	B771UBC00101	211.5	NA	211.5
01N0202-001	B771UBC01201	230.5	NA	230.5
01N0202-002	B771UBC01201	203.5	NA	203.5
01N0203-001	B771UBC01501	206.5	NA	206.5
01N0203-002	B771UBC01501	205.5	NA	205.5
01N0208-001	B771UBC00501	208.5	NA	208.5
01N0212-001	B771UBC00201	213.5	NA	213.5
01N0212-002	B771UBC00201	17.4	NA	17.4
01N0213-001	B771UBC00301	212.5	NA	212.5
01N0213-002	B771UBC00301	227.5	NA	227.5
02E0021-001	S452WC-B01	54	19	73
02E0021-003	S452WC-B02	15	19	34
02E0021-005	S452WC-B03	19	19	38
02E0021-007	W883WC-B04	18	18	36
02E0021-009	W883WC-B05	17.5	17.5	35
02E0021-011	W883WC-B06	17.5	17.5	35
02E0067-002	CP40-000	11	18	29
02E0067-003	CP40-000	18	18	36
02E0067-004	CP40-000	19	19	38
02E0068-002	CN40-001	18.5	18.5	37
02E0068-003	CN40-001	20	20	40
02E0068-004	CN40-001	18.5	18.5	37
02E0068-005	CN40-001	18	18	36
02E0068-009	CO40-001	19.5	19.5	39
02E0068-010	CO40-001	20.5	20.5	41
02E0068-011	CO40-001	19.5	19.5	39
02E0068-014	CO40-003	20	20	40
02E0068-015	CO40-003	19.5	19.5	39
02E0068-016	CO40-003	19.5	19.5	39
02E0068-017	CO40-003	19	19	38
02E0068-020	CN40-000	48	48	96
02E0068-023	CN40-000	18.5	18.5	37
02E0068-026	CO40-000	19	19	38
02E0068-027	CO40-000	19	19	38
02E0068-028	CO40-000	19.5	19.5	39
02E0068-029	CO40-000	19	19	38
02E0068-032	CO40-002	19.5	19.5	39

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
02E0068-033	CO40-002	19	19	38
02E0068-034	CO40-002	20	20	40
02E0077-026	CP40-003	5800	1900	7700
02E0077-027	CP40-003	4000	1750	5750
02E0077-028	CP40-003	110	19.5	129.5
02E0077-029	CP40-003	10000	1200	11200
02E0085-009	CQ41-000	6.7	17.5	24.2
02E0085-010	CQ41-000	17	17	34
02E0085-011	CQ41-000	20	20	40
02E0085-012	CQ41-000	9000	9600	18600
02E0088-002	CQ40-000	640	100	740
02E0088-003	CQ40-000	3500	900	4400
02E0088-004	CQ40-000	20000	22000	42000
02E0088-005	CQ40-000	2500	2800	5300
02E0088-008	CP40-002	17.5	17.5	35
02E0088-009	CP40-002	18.5	18.5	37
02E0088-010	CP40-002	19.5	19.5	39
02E0088-011	CP40-002	18.5	18.5	37
02E0133-002	CP40-001	180	51	231
02E0133-004	CP40-001	18	18	36
02E0133-005	CP40-001	18.5	18.5	37
02E0133-007	CQ40-001	310	120	430
02E0133-008	CQ40-001	18	18	36
02E0133-009	CQ40-001	18.5	18.5	37
02E0133-010	CQ40-001	18	18	36
02E0133-013	CQ40-002	19	19	38
02E0133-014	CQ40-002	7	19.5	26.5
02E0133-015	CQ40-002	19.5	19.5	39
02E0133-016	CQ40-002	18.5	18.5	37
02E0162-004	BZ39-011	18	18	36
02E0164-004	BZ39-014	15	18.5	33.5
02E0164-008	BZ39-017	17.5	38	55.5
02E0164-010	BZ39-010	18.5	18.5	37
02E0164-012	BZ39-013	18.5	18.5	37
02E0164-016	BZ39-016	18	40	58
02E0165-002	BZ39-007	19	19	38
02E0174-013	452 N. TRANSFORMER	19	19	38
02E0199-001	CP41-000	19	19	38
02E0199-003	CP41-000	27	17.5	44.5
02E0199-004	CP41-000	37	19	56
02E0199-007	CQ41-001	11000	3500	14500
02E0199-008	CQ41-001	9000	3500	12500
02E0199-009	CQ41-001	9300	3500	12800
02E0199-012	CQ41-002	1200	450	1650
02E0199-013	CQ41-002	8	20	28
02E0199-014	CQ41-002	15	19.5	34.5
02E0200-001	CQ41-003	2400	250	2650
02E0200-003	CQ41-003	840	91	931
02E0200-004	CQ41-003	360	19.5	379.5

88

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
02E0200-005	CQ41-003	140	21.5	161.5
02E0200-007	CQ40-003	980	210	1190
02E0200-008	CQ40-003	3900	2500	6400
02E0200-009	CQ40-003	6900	18.5	6918.5
02E0200-021	CP41-002	290	53	343
02E0200-022	CP41-002	19	19	38
02E0200-023	CP41-002	17.5	17.5	35
02E0200-024	CP41-002	20.5	20.5	41
02E0205-001	CQ41-005	1800	830	2630
02E0205-002	CQ41-005	21000	7300	28300
02E0205-003	CQ41-005	170000	62000	232000
02E0205-004	CQ41-005	160000	60000	220000
02E0209-001	CQ41-006	330	180	510
02E0209-003	CQ41-006	7.9	17	24.9
02E0209-004	CQ41-006	6.2	18.5	24.7
02E0209-005	CQ41-006	19.5	19.5	39
02E0209-007	CQ41-007	91	38	129
02E0209-008	CQ41-007	9.8	19	28.8
02E0209-009	CQ41-007	17.5	17.5	35
02E0209-010	CQ41-007	19.5	19.5	39
02E0209-012	CQ41-004	2900	270	3170
02E0209-013	CQ41-004	3600	1500	5100
02E0209-014	CQ41-004	780	85	865
02E0209-015	CQ41-004	97	43	140
02E0237-001	CQ41-010	32	18.5	50.5
02E0237-002	CQ41-010	18	18	36
02E0237-003	CQ41-010	19.5	19.5	39
02E0237-004	CQ41-010	18	18	36
03F0345-002	CE45-010	18	11	29
03F0345-003	CE45-011	18.5	18.5	37
03F0345-004	CE45-011	17.5	17.5	35
03F0345-005	CE45-014	18	18	36
03F0345-006	CE45-014	17.5	17.5	35
03F0348-002	CD46-000	17	6.7	23.7
03F0348-004	CE46-002	18	18	36
03F1111-001	CG48-020	18.5	18.5	37
03F1136-003	CG48-008	23.5	23.5	47
03F1136-005	CG48-022	19	19	38
03F1138-001	CG48-011	18.5	18.5	37
03F1141-001	CG48-007	19.5	19.5	39
03F1141-003	CG48-006	40	90	130
03F1165-005	CH48-014	13	17.5	30.5
03F1165-006	CH48-015	18.5	18.5	37
03F1186-002	CG48-016	20.5	20.5	41
03F1282-001	CE49-008	19	19	38
03F1345-006	CE49-009	18.5	18.5	37
03F1424-004	CH48-010	18	18	36
03F1424-005	CH48-013	19.5	19.5	39
03F1425-001	CH48-009	18	18	36

89

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
03F1425-002	CH49-003	20	20	40
03F1497-002	BW38-001	18.5	18.5	37
03F1497-003	BW38-001	19.5	19.5	39
03F1497-004	BW38-001	19	19	38
03F1497-005	BW38-001	18.5	18.5	37
03F1497-007	BW38-002	19	19	38
03F1497-008	BW38-002	18.5	18.5	37
03F1497-009	BW38-002	18.5	18.5	37
03F1497-010	BW38-002	18.5	18.5	37
03F1950-002	BW38-004	18	18	36
03F1950-003	BW38-004	17.5	17.5	35
03F1950-004	BW38-004	18	18	36
03F1950-005	BW38-004	17.5	17.5	35
03F2168-001	BW36-010	19	19	38
03F2168-002	BW36-010	18.5	18.5	37
03F2168-003	BW36-011	19	19	38
03F2168-004	BW36-011	19.5	19.5	39
03F2168-005	BW36-008	20	20	40
03F2168-006	BW36-008	19	19	38
03F2178-001	CG38-022	39	29	68
03F2178-002	CG38-024	18	24	42
03F2178-003	CG38-025	17	40	57
03F2178-004	CG38-026	150	62	212
03F2178-005	CG39-003	6.3	17	23.3
04F0055-002	CC44-009	17.5	17.5	35
04F0055-003	CC44-009	17	17	34
04F0055-004	CC44-009	16.5	16.5	33
04F0055-006	CC44-010	19	27	46
04F0055-007	CC44-010	18.5	18.5	37
04F0055-008	CC44-010	17	8.6	25.6
04F0056-002	CC44-007	18	18	36
04F0056-003	CC44-007	18	18	36
04F0056-004	CC44-007	17	17	34
04F0186-002	CC43-010	170	170	340
04F0186-003	CC43-010	17	17	34
04F0186-004	CC43-010	17	17	34
04F0186-006	CC43-014	96	44	140
04F0186-007	CC43-014	17	17	34
04F0186-008	CC43-014	17.5	17.5	35
04F0186-010	CC43-018	18	14	32
04F0186-011	CC43-018	18.5	6.6	25.1
04F0186-012	CC43-018	18	18	36
04F0186-016	CC43-022	17.5	9.6	27.1
04F0186-017	CC43-022	18.5	18.5	37
04F0186-018	CC43-022	17.5	17.5	35
04F0187-002	CC43-009	18.5	18.5	37
04F0187-003	CC43-009	17.5	17.5	35
04F0187-004	CC43-009	90	90	180
04F0187-006	CC43-013	18.5	18.5	37

90

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
04F0187-007	CC43-013	18.5	18.5	37
04F0187-008	CC43-013	17.5	17.5	35
04F0298-006	BY35-017	18	16	34
04F0767-008	CI45-001	19	24	43
04F0770-002	CA43-012	17.5	9.6	27.1
04F0770-006	CA43-014	19	19	38
04F0770-008	CA43-015	90	470	560
04F0770-010	CB43-036	18.5	300	318.5
04F0770-012	CB43-037	18.5	34	52.5
04F0770-014	CB43-038	18	50	68
04F0770-016	CB43-039	19	93	112
04F0808-002	CB44-012	18	18	36
04F0808-003	CB44-012	17	17	34
04F0808-004	CB44-012	19.5	19.5	39
04F0808-016	CB44-006	17.5	17.5	35
04F0808-018	CB44-010	18	18	36
04F0808-019	CB44-010	20	20	40
04F0808-020	CB44-010	19.5	19.5	39
04F0808-024	CB44-011	20	20	40
04F0809-001	CB44-001	17	17	34
04F0809-002	CB44-005	22	17	39
04F0809-010	CB44-002	200	17	217
04F0809-011	CB44-003	74	17	91
04F0815-001	CB44-000	770	19	789
04F0815-003	CB44-007	20.5	20.5	41
04F0815-004	CB44-007	18.5	18.5	37
04F0815-005	CB44-007	17.5	17.5	35
04F0815-007	CB44-009	19.5	19.5	39
04F0815-008	CB44-009	18.5	18.5	37
04F0815-009	CB44-009	20	20	40
04F0815-012	CC42-014	17.5	17.5	35
04F0815-013	CC42-016	17	17	34
04F0816-002	CI45-021	18.5	9800	9818.5
04F0816-003	CI45-000	17.5	9800	9817.5
04F0816-004	CI45-001	17.5	6100	6117.5
04F0816-005	CI45-002	18	1200	1218
04F1024-002	CB44-015	17	17	34
04F1024-003	CB44-015	19.5	19.5	39
04F1024-004	CB44-015	19.5	19.5	39
04F1088-002	CC42-023	19	19	38
04F1088-003	CC42-023	18	18	36
04F1088-004	CC42-023	18	18	36
04F1088-005	CC42-026	19	19	38
04F1206-007	BY35-008	18	27	45
04F1206-009	BY35-012	21.5	87	108.5
04F1208-001	CB43-031	18.5	18.5	37
04F1208-002	CC43-005	18	18	36
04F1208-003	CC43-007	19	19	38
04F1208-004	CC43-012	20	20	40

91

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
04F1208-005	CC43-019	19	19	38
04F1208-006	CC43-025	18.5	18.5	37
04F1229-001	CC42-021	18	18	36
04F1229-002	CC42-022	18.5	18.5	37
04F1229-011	CC42-017	17.5	17.5	35
04F1229-012	CC42-019	19	19	38
04F1230-008	CC42-025	18.5	18.5	37
04F1230-009	CC42-027	18	18	36
04F1230-010	CC42-020	17	17	34
04F1230-011	CC42-024	19	19	38
04F1268-001	CC42-015	20	20	40
04F1268-004	CC42-018	19	19	38
04F1365-002	CG42-003	17.5	17.5	35
04F1372-007	CC44-006	9300	490	9790
04F1372-009	CC44-005	17.5	17.5	35
04F1372-010	CC44-005	18	18	36
04F1372-011	CC44-005	19	19	38
04F1372-013	CC44-008	18	18	36
04F1372-014	CC44-008	21	21	42
04F1372-015	CC44-008	18.5	18.5	37
04F1373-004	CG49-023	45	20	65
04F1373-008	CH49-022	7.7	21.5	29.2
04F1373-011	CG49-026	500	100	600
04F1377-002	BW37-017	7.3	18.5	25.8
04F1439-001	CC43-008	19	19	38
04F1439-002	CC43-024	50	18.5	68.5
04F1461-002	CH49-024	13	21	34
04F1461-005	CH49-020	17	17	34
04F1461-007	CH49-023	26	20.5	46.5
04F1470-002	CA44-001	20	20	40
04F1470-003	CA44-001	19.5	19.5	39
04F1470-004	CA44-001	19	19	38
04F1470-006	CA44-005	160	18.5	178.5
04F1470-007	CA44-005	18	18	36
04F1470-008	CA44-005	18.5	18.5	37
04F1471-002	CA44-002	17.5	17.5	35
04F1471-003	CA44-002	18.5	18.5	37
04F1471-004	CA44-002	17.5	17.5	35
04F1471-006	CA44-003	17.5	17.5	35
04F1471-007	CA44-003	20	20	40
04F1471-008	CA44-003	20	20	40
04F1471-010	CA44-006	18.5	18.5	37
04F1471-011	CA44-006	19	19	38
04F1471-012	CA44-006	17.5	17.5	35
04F1525-002	CB44-018	17.5	17.5	35
04F1525-003	CB44-018	19	19	38
04F1525-004	CB44-018	20	20	40
04F1525-007	CC43-003	20	20	40
04F1525-008	CC43-003	18.5	18.5	37

92

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
04F1525-009	CC43-003	18	18	36
04F1545-001	CB43-033	17.5	17.5	35
04F1545-003	CC43-023	17	17	34
04F1545-004	CC43-023	17.5	17.5	35
04F1545-005	CC43-023	18	18	36
04F1545-006	CC43-027	2300	185	2485
04F1545-007	CC43-028	17.5	17.5	35
04F1545-008	CC43-029	19.5	19.5	39
04F1546-001	CI45-022	90	1500	1590
04F1546-002	CI45-023	90	1100	1190
04F1546-003	CI45-024	360	6000	6360
04F1546-004	CI45-025	90	520	610
04F1553-004	CG43-022	17	17	34
04F1553-007	CG43-019	17	17	34
04F1556-002	CB44-017	17.5	17.5	35
04F1556-003	CB44-017	20	20	40
04F1556-004	CB44-017	19.5	19.5	39
04F1558-002	CA44-000	17	17	34
04F1558-003	CA44-000	17.5	17.5	35
04F1558-004	CA44-000	20	20	40
04F1558-011	CB44-013	90	17.5	107.5
04F1558-012	CB44-013	17.5	17.5	35
04F1558-013	CB44-013	19.5	19.5	39
04F1559-012	CB44-016	17.5	51	68.5
04F1559-013	CB44-016	19	7.1	26.1
04F1559-014	CB44-016	20	20	40
04F1566-001	BY35-017-01	19.5	19.5	39
04F1566-002	BY35-017-01	17.5	17.5	35
04F1566-003	BY35-017-01	17.5	17.5	35
04F1566-021	BW37-013	18	18	36
04F1591-010	CG49-013	440	90	530
04F1591-012	CG49-010	19	19	38
04F1591-014	CG49-011	280	18	298
04F1592-001	CC42-028	18	18	36
04F1598-002	BY35-009	19	19	38
04F1598-004	BY35-013	17.5	17.5	35
04F1611-002	CC43-004	18	18	36
04F1611-003	CC43-004	17	17	34
04F1611-004	CC43-004	17	17	34
04F1611-010	CA44-004	18	18	36
04F1611-011	CA44-004	17	17	34
04F1611-012	CA44-004	20	20	40
04F1611-014	CC43-006	17	17	34
04F1611-015	CC43-006	17	17	34
04F1611-016	CC43-006	17	17	34
04F1611-018	CC43-026	19.5	19.5	39
04F1611-019	CC43-026	20	20	40
04F1611-020	CC43-026	17	17	34
04F1613-002	CC44-004	17.5	17.5	35

93

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
04F1613-003	CC44-004	17	17	34
04F1613-004	CC44-004	20	20	40
04F1619-002	CB44-004	17	17	34
04F1619-003	CB44-004	17	17	34
04F1619-004	CB44-004	17	17	34
04F1619-006	CB44-014	17.5	17.5	35
04F1619-007	CB44-014	19.5	19.5	39
04F1619-008	CB44-014	19.5	19.5	39
04F1620-006	CB43-034	280	17.5	297.5
04F1620-007	CB43-034	18	18	36
04F1620-008	CB43-034	17.5	17.5	35
04F1621-011	CB43-035	17.5	17.5	35
04F1621-012	CB43-035	17	17	34
04F1621-013	CB43-035	18	18	36
04F1621-016	CB43-032	17	17	34
04F1723-002	CG49-028	38	20	58
04F1723-004	CG49-029	140	19	159
04F1723-006	CG49-030	110	19.5	129.5
04F1723-008	CG49-025	350	18.5	368.5
04F1723-011	CG49-019	430	90	520
04F1724-015	CE45-016	19	18	37
04F1733-004	BY36-026	17.5	17.5	35
04F1733-011	BW37-012	18.5	18.5	37
04F1733-015	BX35-012	19.5	19.5	39
04F1734-002	CD45-000	17.5	17.5	35
04F1734-004	CE45-004	20.5	20.5	41
04F1734-009	CE45-000	18	18	36
04F1734-011	CE45-002	18.5	18.5	37
04F1736-002	CG48-028	440	95	535
04F1736-004	CG48-029	19.5	19.5	39
04F1736-006	CG48-030	19	19	38
04F1736-008	CG48-031	19	19	38
04F1736-010	CG48-032	17	17	34
04F1736-012	CG49-027	78	18.5	96.5
04F1736-014	CH48-052	19.5	19.5	39
04F1737-008	CD45-004	18.5	68	86.5
04F1737-010	CE45-003	85	85	170
04F1737-012	CE45-008	85	85	170
04F1737-014	CE45-015	18	18	36
04F1737-025	CE46-004	18	18	36
04F1737-027	CE46-005	19.5	19.5	39
04F1765-002	CE45-006	370	85	455
04F1772-009	BW35-043	19	19	38
04F1776-002	CE44-001	12	18	30
04F1776-004	CE44-000	17.5	17.5	35
04F1776-007	CE44-002	250	17.5	267.5
04F1776-009	CE45-005	18.5	18.5	37
04F1803-012	CD45-001	18.5	18.5	37
04F1803-014	CD46-001	20.5	20.5	41

94

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
04F1808-011	CE45-001	20.5	20.5	41
04F1808-013	CE46-006	19	210	229
04F1808-014	CE46-007	200	19	219
04F1808-015	CE46-007	19.5	19.5	39
04F1817-002	CE45-007	19	19	38
04F1817-004	CE45-013	140	18.5	158.5
04F1817-006	CE46-003	19	29	48
04F1820-006	CD45-002	17.5	17.5	35
04F1820-008	CD45-003	19.5	19.5	39
04F1820-010	CE45-009	17.5	17.5	35
04F1820-012	CE45-012	19.5	19.5	39
04F1845-005	CE45-025	18.5	14	32.5
04F1852-013	CA35-004	20.5	20.5	41
04F1852-015	CA36-025	20.5	20.5	41
04F1852-017	CA36-030	17	17	34
04F1862-009	CA35-000	20	20	40
04F1943-002	CA35-003	20	20	40
04F1943-006	CA36-024	19	19	38
04F1943-008	CA36-029	19	19	38
04F1951-002	CI45-026	18.5	130	148.5
04F1955-004	CA35-005	18	18	36
04F1955-008	CA36-026	17.5	17.5	35
04F2111-002	CJ44-016	19.5	19.5	39
04F2111-005	CJ43-001	20.5	20.5	41
04F2111-007	CJ43-002	20	20	40
04F2111-009	CH42-002	19	40	59
04F2111-012	CJ42-003	18.5	18.5	37
04F2111-013	CJ42-004	19.5	19.5	39
04F2127-001	CG49-036	160	20.5	180.5
04F2127-002	CG49-039	60	19.5	79.5
04F2127-003	CG49-040	19.5	19.5	39
04F2127-004	CG49-042	860	19.5	879.5
04F2127-005	CG49-050	20.5	20.5	41
04F2127-006	CG49-052	21	21	42
04F2127-008	CG49-055	11000	500	11500
04F2127-010	CG49-057	21.5	21.5	43
04F2152-002	CI41-000	18.5	18.5	37
04F2152-004	CJ41-001	19	19	38
04F2152-006	CJ41-003	19.5	19.5	39
04F2152-009	CI41-002	18	18	36
04F2152-011	CI41-004	17.5	17.5	35
04F2153-002	CJ42-009	38	18	56
04F2153-004	CI42-002	17.5	17.5	35
04F2153-006	CJ42-001	18.5	18.5	37
04F2153-009	CJ42-002	19	19	38
04F2153-011	CI42-008	17.5	17.5	35
04F2154-002	CI41-001	18	18	36
04F2154-004	CJ41-000	17.5	17.5	35
04F2154-006	CJ41-002	17.5	17.5	35

95

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
04F2154-011	CI43-009	21.5	21.5	43
04F2154-013	CJ43-012	20.5	20.5	41
04F2154-015	CJ43-003	19.5	19.5	39
04F2156-002	CJ43-008	19	19	38
04F2156-005	CJ43-004	19	19	38
04F2156-007	CJ43-005	18	18	36
04F2156-009	CJ43-006	19.5	19.5	39
04F2156-011	CJ43-007	20	20	40
04F2157-002	CI43-000	20	20	40
04F2157-004	CI44-000	17	17	34
04F2157-012	CI42-001	19	19	38
04F2157-014	CI43-001	17.5	17.5	35
04F2157-016	CI43-004	19	19	38
04F2159-002	CI41-006	19	19	38
04F2159-004	CI41-003	19.5	19.5	39
04F2159-006	CI41-005	18.5	18.5	37
04F2159-011	CI43-007	20.5	20.5	41
04F2159-013	CI43-008	18.5	18.5	37
04F2159-015	CH42-000	18.5	18.5	37
04F2160-002	CI42-009	20.5	20.5	41
04F2160-004	CI42-010	20.5	20.5	41
04F2160-006	CI42-011	18	18	36
04F2161-002	CI42-000	20.5	20.5	41
04F2161-004	CJ42-000	19	19	38
04F2161-007	CJ42-005	19	19	38
04F2188-002	CH41-000	19.5	19.5	39
04F2188-009	CH42-001	18.5	18.5	37
04F2195-008	CI43-002	20.5	20.5	41
04F2195-010	CI43-003	20.5	20.5	41
04F2195-012	CI43-005	20.5	20.5	41
04F2195-014	CI43-006	20.5	20.5	41
04F2206-002	CG49-046	22.5	22.5	45
04F2234-002	CG49-063	22	22	44
04F2234-004	CG49-064	22	22	44
04F2234-006	CH49-033	20	20	40
04F2234-008	CH49-034	12	20.5	32.5
04F2246-002	CI42-005	19	19	38
04F2246-004	CI42-003	19	19	38
04F2246-006	CI42-004	19	19	38
04F2246-010	CI42-006	17.5	17.5	35
04F2246-012	CI42-007	19	19	38
04F8069-001	CC43-011	17.5	17.5	35
04F8069-002	CC43-015	17	17	34
04F8069-003	CC43-016	18	18	36
04F8069-004	CC43-017	17	17	34
04F8069-005	CC43-020	17.5	17.5	35
04F8069-006	CC43-021	17.5	17.5	35
05F0004-003	CG43-020	17	17	34
05F0004-004	CG43-021	17	17	34

96

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
05F0093-001	CG49-072	5400	390	5790
05F0093-002	CG49-073	20.5	20.5	41
05F0093-003	CG49-074	2900	210	3110
05F0093-004	CG49-075	20.5	20.5	41
05F0093-005	CG49-076	8100	410	8510
05F0100-001	CG49-082	1500	105	1605
05F0100-002	CG49-083	160	20.5	180.5
05F0100-003	CG49-084	440	21.5	461.5
05F0100-004	CG49-085	21.5	21.5	43
05F0100-005	CG49-086	850	105	955
05F0104-002	CG49-043	130	23	153
05F0104-003	CG49-044	16	21	37
05F0104-004	CG49-045	24.5	24.5	49
05F0104-005	CG49-051	260	22.5	282.5
05F0104-006	CG49-058	45	22	67
05F0104-007	CG49-059	22	22	44
05F0104-008	CG49-060	23	22.5	45.5
05F0104-009	CG49-061	140	22	162
05F0104-010	CG49-062	12000	1200	13200
05F0123-001	CG49-065	78	20	98
99A7636-003	13070199	20.5	NA	20.5
99A7636-004	13070199	21.5	NA	21.5
99A7636-008	13070299	20	NA	20
99A7636-009	13070299	20	NA	20
99A7636-011	13070399	20.5	NA	20.5
99A7636-013	13070399	20.5	NA	20.5
99A7636-014	13070399	19.5	NA	19.5
99A7636-018	13070499	20.5	NA	20.5
99A7636-019	13070499	20	NA	20
99A7763-003	13110199	20	NA	20
99A7763-008	13110299	43.5	NA	43.5
99A7763-013	13110399	36.5	NA	36.5
99A7763-018	13110499	200	NA	200
BH00003EB	40191	175	175	350
BH00004EB	40191	165	165	330
BH00137EBU1	31991	180	180	360
BH00143EBU1	31991	185	185	370
BH00202EBU1	32091	180	180	360
BH00205EBU1	32091	190	190	380
BH00208EBU1	32091	190	190	380
BH00216EBU1	32191	195	195	390
BH00219EBU1	32191	200	200	400
BH00229EBU1	32391	95	95	190
BH00231EBU1	32391	95	95	190
BH00355WCU2	09991	90	90	180
BH00357WCU2	09991	90	90	180
BH00365WCU2	09891	90	90	180
BH00379EBU1	34291	190	190	380
BH00381EBU1	34291	195	195	390

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
BH00391EBU1	34691	185	185	370
BH00394EBU1	34691	180	180	360
BH00403EBU1	34891	190	190	380
BH00407EBU1	34891	190	190	380
BH00413EBU1	34991	185	185	370
BH00415EBU1	34991	175	175	350
BH00458EBU1	36091	175	175	350
BH00461EBU1	36091	195	195	390
BH00488EBU1	36591	185	185	370
BH00491EBU1	36591	175	175	350
BH00499EBU1	36791	480	190	670
BH00523EBU1	36391	185	185	370
BH00526EBU1	36391	190	190	380
BH00602EBU1	36791	190	190	380
BH00609EBU1	36891	180	180	360
BH00612EBU1	36891	185	185	370
BH00624EBU1	37091	180	180	360
BH00627EBU1	37091	190	190	380
BH20842WC	14395	4200	220	4420
BH20849WC	14195	54	20	74
BH20853WC	14495	520	84	604
BH20854WC	14495	19	19	38
BH40253AE	42293	95	95	190
BH40256AE	42293	95	95	190
BH40319AE	43493	90	90	180
BH40322AE	43493	90	90	180
BH40324AE	43393	95	95	190
BH40419AE	41593	105	105	210
BH40427AE	42193	85	85	170
BH40440AE	42493	85	85	170
BH40450AE	42593	90	90	180
BH40512AE	43393	85	85	170
BH40520AE	43693	85	85	170
BH40770AE	46993	95	95	190
BH40786AE	46593	85	85	170
BH40792AE	46693	95	95	190
BH40798AE	46793	90	90	180
BH40804AE	46893	90	90	180
BH40807AE	46893	85	85	170
BH40810AE	46993	85	85	170
BH40816AE	47093	85	85	170
BH60752WC	60492	95	95	190
BH60757WC	60392	95	95	190
BH60765WC	60292	100	100	200
BH60772WC	60092	940	95	1035
BH60777WC	60192	100	100	200
BH60783WC	77492	100	100	200
BH60785WC	60092	100	100	200
BH60792WC	60692	100	100	200

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
BHG4886JE	01795	68	21	89
BHG4887JE	01595	19.5	19.5	39
BHG4890JE	01695	19	19	38
BHG4893JE	01495	20	20	40
BHG4896JE	01395	19.5	19.5	39
BHG4897JE	01395	19	19	38
BHG4944JE	04495	18.5	18.5	37
BHG4946JE	04395	17.5	17.5	35
BHG4948JE	04595	17	17	34
SS00016RM	SS00016RM	18	140	158
SS00026RM	SS00026RM	18	56	74
SS00028RM	SS00028RM	18	18	36
SS00033RM	SS00033RM	19.5	1300	1319.5
SS00070RM	SS00070RM	18	18	36
SS00079RM	SS00079RM	210	17.5	227.5
SS00090RM	SS00090RM	18.5	18.5	37
SS00094RM	SS00094RM	19	19	38
SS00097RM	SS00097RM	17.5	17.5	35
SS00132RM	SS00132RM	580	18.5	598.5
SS00145RM	SS00145RM	18.5	18.5	37
SS00150RM	SS00150RM	120	17.5	137.5
SS00160RM	SS00160RM	18	54	72
SS00162RM	SS00162RM	19	19	38
SS00165RM	SS00165RM	19.5	52	71.5
SS00168RM	SS00168RM	18.5	18.5	37
SS00170RM	SS00170RM	18.5	18.5	37
SS00171RM	SS00171RM	19	19	38
SS00177RM	SS00177RM	1100	17	1117
SS00185RM	SS00185RM	840	550	1390
SS00197RM	SS00197RM	18.5	18.5	37
SS00203RM	SS00203RM	18.5	18.5	37
SS00206RM	SS00206RM	7000	5000	12000
SS00212RM	SS00212RM	1600	450	2050
SS00213RM	SS00213RM	1800	260	2060
SS00217RM	SS00217RM	310	220	530
SS00256RM	SS00256RM	47	17.5	64.5
SS00258RM	SS00258RM	20	20	40
SS00265RM	SS00265RM	20	20	40
SS00352RM	SS00352RM	170	3100	3270
SS00359RM	SS00359RM	17.5	230	247.5
SS00367RM	SS00367RM	17	240	257
SS00430RM	SS00430RM	19	120	139
SS00434RM	SS00434RM	18.5	460	478.5
SS00437RM	SS00437RM	18.5	440	458.5
SS00438RM	SS00438RM	17.5	180	197.5
SS00441RM	SS00441RM	20	20	40
SS00447RM	SS00447RM	18	270	288
SS00450RM	SS00450RM	18.5	18.5	37
SS00455RM	SS00455RM	18.5	670	688.5

99

Table A-8
Total PCB Concentrations in Subsurface Soil in the Industrial Area Exposure Unit
DRAFT

Sample Number	Location Code	PCB-1254	PCB-1260	Total PCB[1]
SS00460RM	SS00460RM	18	110	128
SS00463RM	SS00463RM	17	420	437
SS00464RM	SS00464RM	18	270	288
SS00473RM	SS00473RM	19	280	299
SS00477RM	SS00477RM	17.5	130	147.5
SS00481RM	SS00481RM	17.5	340	357.5
SS00495RM	SS00495RM	175	4100	4275
SS00497RM	SS00497RM	94	3000	3094
SS00500RM	SS00500RM	18	800	818
SS00526RM	SS00526RM	190	11000	11190
SS00531RM	SS00531RM	190	5700	5890
SS00539RM	SS00539RM	1850	15000	16850
SS00616RM	SS00616RM	2500	560	3060
SS10006ST	SS100293	90	90	180
SS40140AE	46593	95	95	190
SS40144AE	46993	90	90	180

Maximum	232000

Note: All data are presented in ug/kg

[1]Total PCB is equal to the sum of the individual PCBs. If the PCB was not detected, 1/2 of the detection limit was used in the calculation.

NA = Not Analyzed

100

Table A-9
Total Dioxin Concentrations in Subsurface Soil in the Industrial Area Exposure Unit

Sample Number	Location Code	123478-HxCDD	123678-HxCDD	123789-HxCDD	2378-TCDD	Total Dioxin[1]
04F0770-014	CB43-038	0.00055	NA	NA	0.0002195	0.0007695
04F0815-012	CC42-014	0.00051	NA	NA	0.0002035	0.0007135
04F1208-005	CC43-019	0.0000395	0.000035	0.00011	0.00008	0.0002645
04F1230-011	CC42-024	0.0001	0.00014	0.00016	0.00005	0.00045
04F1372-009	CC44-005	0.000255	0.00026	0.00024	0.000165	0.00092
04F1372-010	CC44-005	0.00009	0.0001	0.00009	0.000075	0.000355
04F1372-011	CC44-005	0.00006	0.000065	0.00027	0.000085	0.00048
04F1545-007	CC43-028	0.00006	0.00015	0.000055	0.000085	0.00035
04F1556-002	CB44-017	0.00025	0.00027	0.00025	0.0002	0.00097
04F1556-003	CB44-017	0.000105	0.00011	0.000105	0.00017	0.00049
04F1556-004	CB44-017	0.00015	0.00016	0.00015	0.00018	0.00064
04F1558-011	CB44-013	0.00012	0.0038	0.0012	0.000145	0.005265
04F1558-012	CB44-013	0.000145	0.00016	0.000145	0.000185	0.000635
04F1558-013	CB44-013	0.000175	0.000175	0.00017	0.00018	0.0007
04F1620-006	CB43-034	0.00022	0.0014	0.00061	0.00059	0.00282
04F1620-007	CB43-034	0.000038	0.0000395	0.000036	0.00007	0.0001835
04F1620-008	CB43-034	0.000033	0.0000355	0.000032	0.000065	0.0001655

Maximum	0.005265

Note: All data are presented in ug/kg

[1]Total dioxin is equal to the sum of the individual dioxins. If the dioxin was not detected, 1/2 of the detection limit was used in the calculation.

NA = Not Analyzed

101

Table A-10
Accelerated Action Screening Step for Subsurface Soil
in the Industrial Area Exposure Unit

ECOI	Screening EPC[1]	Prairie Dog ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Inorganics (mg/kg)					
Aluminum	110000	NA	NA	No	Yes
Antimony	19.3	18.7236698	Yes	Yes	No
Arsenic	96.9	9.35125657	Yes	Yes	No
Barium	1150	3224.20018	No	No	No
Beryllium	103.9	210.860087	No	No	No
Boron	76	236.820515	No	No	No
Cadmium	530	197.649682	Yes	Yes	No
Calcium	328000	NA	NA	No	Yes
Cesium	10.9	NA	NA	No	Yes
Chromium	11000	586206.896	No	No	No
Chromium VI	0.59	702.50589	No	No	No
Cobalt	74	2461.4186	No	No	No
Copper	810	837.571067	No	No	No
Cyanide	43	2199.59658	No	No	No
Fluoride	17.6	994	No	No	No
Iron	290000	NA	NA	No	Yes
Lead	1500	1849.61892	No	No	No
Lithium	97.4	3177.82285	No	No	No
Magnesium	17000	NA	NA	No	Yes
Manganese	2800	221.064012	Yes	Yes	No
Mercury	16	3.14904307	Yes	Yes	No
Molybdenum	4100	27.1433091	Yes	Yes	No
Nickel	670	38.3476957	Yes	Yes	No
Nitrate (as nitrogen)	400	16232.8307	No	No	No
Nitrate / Nitrite	5200	16232.8307	No	No	No
Nitrate / Nitrite (as nitrogen)	6100	16232.8307	No	No	No
Nitrite (as nitrogen)	2.4	NA	NA	No	Yes
Potassium	21100	NA	NA	No	Yes
Selenium	4.3	2.8025582	Yes	Yes	No
Silver	110	NA	NA	No	Yes
Sodium	11000	NA	NA	No	Yes
Strontium	487	3519.195	No	No	No
Sulfide	18.6	NA	NA	No	Yes
Thallium	6.7	204.342273	No	No	No
Tin	392	80.567193	Yes	Yes	No
Titanium	1420	NA	NA	No	Yes
Uranium, total	4.46	1225.77132	No	No	No
Vanadium	740	83.5222527	Yes	Yes	No
Zinc	1800	1174.06767	Yes	Yes	No
Organics (ug/kg)					
1,1,1-Trichloroethane	690000	48540626.7	No	No	No
1,1,2,2-Tetrachloroethane	1000	4699669.82	No	No	No
1,1,2-Trichloro-1,2,2-trifluoroethane	12.7	NA	NA	No	Yes
1,1-Dichloroethane	15.7	215359.957	No	No	No
1,1-Dichloroethene	110	1284203.34	No	No	No
1,2,3-Trichloropropane	4	1165832.02	No	No	No

Table A-10
Accelerated Action Screening Step for Subsurface Soil
in the Industrial Area Exposure Unit

ECOI	Screening EPC[1]	Prairie Dog ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
1,2,4-Trichlorobenzene	9500	94484.4196	No	No	No
1,2-Dibromo-3-chloropropane	3	NA	NA	No	Yes
1,2-Dichlorobenzene	270	NA	NA	No	Yes
1,2-Dichloroethane	35	2003898.7	No	No	No
1,2-Dichloroethene	1200	1874410.87	No	No	No
1,2-Dichloropropane	13	3923401.47	No	No	No
1,3,5-Trimethylbenzene	9	855709.392	No	No	No
1,3-Dichlorobenzene	70	NA	NA	No	Yes
1,4-Dichlorobenzene	170	5932310.49	No	No	No
2,4-Dimethylphenol	89	NA	NA	No	Yes
2,4-Dinitrophenol	470	4896745.85	No	No	No
2,4-Dinitrotoluene	43	24733.2806	No	No	No
2-Butanone	500	49368605.9	No	No	No
2-Chlorophenol	77	21597.9755	No	No	No
2-Methylnaphthalene	1400	319120.642	No	No	No
2-Methylphenol	93	9256574.41	No	No	No
3,3'-Dichlorobenzidine	160	NA	NA	No	Yes
4,4'-DDD	7.6	6193718.43	No	No	No
4,4'-DDE	4.8	54420.4225	No	No	No
4,4'-DDT	19	175708.324	No	No	No
4-Chloro-3-methylphenol	54	NA	NA	No	Yes
4-Isopropyltoluene	3000	NA	NA	No	Yes
4-Methyl-2-pentanone	850	859130.596	No	No	No
4-Methylphenol	460	NA	NA	No	Yes
Acenaphthene	7900	NA	NA	No	Yes
Acenaphthylene	94	NA	NA	No	Yes
Acetone	17000	247687.428	No	No	No
Aldrin	4.4	11281.7056	No	No	No
alpha-BHC	3	3424.84699	No	No	No
Anthracene	13000	NA	NA	No	Yes
Benzene	240	1095615.06	No	No	No
Benzo(a)anthracene	7300	NA	NA	No	Yes
Benzo(a)pyrene	6000	502520.62	No	No	No
Benzo(b)fluoranthene	29000	NA	NA	No	Yes
Benzo(g,h,i)perylene	22000	NA	NA	No	Yes
Benzo(k)fluoranthene	29000	NA	NA	No	Yes
Benzoic Acid	4900	NA	NA	No	Yes
bis(2-ethylhexyl)phthalate	48000	2759554.97	No	No	No
Bromoform	1	198570.676	No	No	No
Bromomethane	7450	NA	NA	No	Yes
Butylbenzylphthalate	1400	3372398.6	No	No	No
Carbazole	1300	NA	NA	No	Yes
Carbon Disulfide	290	410940.707	No	No	No
Carbon Tetrachloride	628000	736153.789	No	No	No
Chlorobenzene	3	413811.575	No	No	No
Chloroform	320	560030.155	No	No	No
Chloromethane	86	NA	NA	No	Yes

Table A-10
Accelerated Action Screening Step for Subsurface Soil
in the Industrial Area Exposure Unit

ECOI	Screening EPC[1]	Prairie Dog ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Chrysene	36000	NA	NA	No	**Yes**
cis-1,2-Dichloroethene	181	132701.654	No	No	No
delta-BHC	42	3424.84699	No	No	No
Dibenz(a,h)anthracene	1700	NA	NA	No	**Yes**
Dibenzofuran	3300	2440000	No	No	No
Dichlorodifluoromethane	26	59980.1002	No	No	No
Dieldrin	6.7	301.247163	No	No	No
Diethylphthalate	330	221016204	No	No	No
Dimethylphthalate	460	13493260.4	No	No	No
Di-n-butylphthalate	420	40554535.6	No	No	No
Di-n-octylphthalate	72	257827984	No	No	No
Endosulfan I	3.6	8725.94223	No	No	No
Endosulfan II	12	8725.94223	No	No	No
Endosulfan sulfate	5.3	8725.94223	No	No	No
Endrin	12	8060.3812	No	No	No
Endrin aldehyde	21	8060.3812	No	No	No
Endrin ketone	62	8060.3812	No	No	No
ethyl acetate	1000	3136026.47	No	No	No
Ethylbenzene	1100	NA	NA	No	**Yes**
Fluoranthene	66000	NA	NA	No	**Yes**
Fluorene	6300	NA	NA	No	**Yes**
Heptachlor epoxide	14	9120.98985	No	No	No
Hexachlorobenzene	260	190142.119	No	No	No
Hexachlorobutadiene	7	150894.088	No	No	No
Indeno(1,2,3-cd)pyrene	20000	NA	NA	No	**Yes**
Isophorone	840	NA	NA	No	**Yes**
Isopropylbenzene	300	NA	NA	No	**Yes**
Methoxychlor	22	228896.142	No	No	No
Methylene Chloride	1100	209559.797	No	No	No
Naphthalene	350000	16000000	No	No	No
N-Nitroso-di-n-propylamine	700	NA	NA	No	**Yes**
N-nitrosodiphenylamine	250	2150592.28	No	No	No
Pentachlorophenol	2400	18372.6238	No	No	No
Phenanthrene	62000	NA	NA	No	**Yes**
Phenol	160	1489991.06	No	No	No
Pyrene	67000	NA	NA	No	**Yes**
Styrene	25.7	1526151.66	No	No	No
Tetrachloroethene	27000000	72494.2942	Yes	**Yes**	No
Toluene	1600	1223383.21	No	No	No
Total Dioxin	0.005265	0.11610356	No	No	No
Total PCB	237068	37962.67	Yes	**Yes**	No
trans-1,2-Dichloroethene	90	1874410.87	No	No	No
Trichloroethene	3700000	32424.3624	Yes	**Yes**	No
Trichlorofluoromethane	15	NA	NA	No	**Yes**
Vinyl Chloride	7.67	6494.15091	No	No	No
Xylene	1200	111663.347	No	No	No
Radionuclides (pCi/g)					

Table A-10
Accelerated Action Screening Step for Subsurface Soil
in the Industrial Area Exposure Unit

ECOI	Screening EPC[1]	Prairie Dog ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Americium-241	1220	3890	No	No	No
Cesium-137	0.42	20.8	No	No	No
Gross Alpha	116.7	NA	NA	No	Yes
Gross Beta	151	NA	NA	No	Yes
Neptunium-237	0.003078	NA	NA	No	Yes
Plutonium-238	0.1973	NA	NA	No	Yes
Plutonium-239/240	1690	6110	No	No	No
Radium-226	9.28	50.6	No	No	No
Radium-228	3.9	43.9	No	No	No
Strontium-89/90	1.31	22.5	No	No	No
Uranium-233/234	28.9	NA	NA	No	Yes
Uranium-234	0.6	NA	NA	No	Yes
Uranium-235	2.91	2770	No	No	No
Uranium-238	101.1	1580	No	No	No

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

NA = No ESL Available

Table A-11 - Rocky Flats Background Data - Surface Soil
Industrial Area Exposure Unit

Analyte	Total Samples		Statistical Distribution Testing Results								Comparison Test				$^{95}UCL_{90}$
			Background				Site								
	Back	Site	Distribution Recommended by ProUCL	UCL Recommended by ProUCL	UCL Value	% NDs	Distribution Recommended by ProUCL	UCL Recommended by ProUCL	UCL Value	% Ds	Test	p Value	Decision	Max Detect	Result
2-Methylnaphthalene	N/A	960	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.14E+01	10.4	N/A	N/A	N/A	19000.0	390.00
Aluminum	20	1620	NORMAL	95% Student's-t UCL	1.17E+04		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.14E+04	99.9	WRS	0.1608	BKG	61000.0	20000.00
Antimony	20	1561	GAMMA	95% Approximate Gamma UCL	3.57E-01		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	1.19E+00	19.3	WRS	0.5890	BKG	29.0	1.70
Arsenic	20	1611	NORMAL	95% Student's-t UCL	6.89E+00		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	4.78E+00	98.3	WRS	0.0001	BKG	56.2	8.10
Barium	20	1622	NON-PARAMETRIC	95% Student's-t UCL	1.10E+02		NON-PARAMETRIC	95% Student's-t UCL	7.90E+01	99.9	WRS	0.0000	BKG	1500.0	125.00
Benzo(a)pyrene	N/A	342	N/A	N/A	N/A		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	9.18E+02	62.4	N/A	N/A	N/A	13000.0	1700.00
Beryllium	20	1616	NORMAL	95% Student's-t UCL	7.23E-01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	6.91E-01	87.2	WRS	0.0074	BKG	26.8	1.10
bis(2-ethylhexyl)phthalate	N/A	961	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	8.11E+02	29.4	N/A	N/A	N/A	75000.0	420.00
Boron	N/A	1023	N/A	N/A	N/A		GAMMA	95% Approximate Gamma UCL	3.40E+00	83.4	N/A	N/A	N/A	28.0	6.80
Cadmium	20	1615	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.16E+00		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	1.88E+00	35.2	WRS	0.0000	BKG	270.0	0.97
Chromium	20	1622	NORMAL	95% Student's-t UCL	1.26E+01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.79E+01	99.7	WRS	0.9489	Not BKG	210.0	26.00
Cobalt	20	1620	NORMAL	95% Student's-t UCL	8.07E+00		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	7.06E+00	99.0	WRS	0.0002	BKG	137.0	10.80
Copper	20	1620	NON-PARAMETRIC	95% Student's-t UCL	1.40E+01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	3.13E+01	99.3	WRS	0.9694	Not BKG	1860.0	39.00
Di-n-butylphthalate	N/A	242	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	2.56E+02	13.2	N/A	N/A	N/A	180.0	200.00
Fluoride	N/A	9	N/A	N/A	N/A		GAMMA	95% Approximate Gamma UCL	2.74E+00	100.0	N/A	N/A	N/A	3.61	3.61
Lead	20	1611	NORMAL	95% Student's-t UCL	3.77E+01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	2.27E+01	100.0	WRS	0.0000	BKG	590.0	37.50
Lithium	20	1652	NORMAL	95% Student's-t UCL	8.54E+00		NON-PARAMETRIC	95% Student's-t UCL	8.66E+00	97.3	WRS	0.6590	BKG	50.0	14.00
Manganese	20	1615	NORMAL	95% Student's-t UCL	2.64E+02		NON-PARAMETRIC	95% Student's-t UCL	2.02E+02	99.9	WRS	0.0004	BKG	1240.0	330.00
Mercury	20	1598	NON-PARAMETRIC	95% Student's-t UCL	8.38E-02		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	6.32E-02	56.5	WRS	0.0000	BKG	2.4	0.10
Molybdenum	20	1620	NORMAL	95% Student's-t UCL	6.66E-01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	9.62E-01	53.8	WRS	0.7442	BKG	12.6	1.90
Nickel	20	1619	NORMAL	95% Student's-t UCL	1.07E+01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.33E+01	97.8	WRS	0.6504	BKG	280.0	19.70
Plutonium-239/240	50	1105	GAMMA	95% Approximate Gamma UCL	4.25E-02		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	4.08E+01	79.9	WRS	0.9999	Not BKG	8130.0	2.48
Selenium	20	1611	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	9.45E-01		NON-PARAMETRIC	95% Student's-t UCL	3.71E-01	6.1	WRS	0.0000	BKG	2.0	0.46
Silver	20	1620	NORMAL	95% Student's-t UCL	2.10E-01		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	2.52E+00	30.7	WRS	0.1561	BKG	364.0	1.30
Sodium	20	1620	NORMAL	95% Student's-t UCL	6.97E+01		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	3.78E+02	56.8	WRS	1.0000	Not BKG	6600.0	820.00
Thallium	16	1601	NORMAL	95% Student's-t UCL	4.20E-01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	5.03E-01	11.6	WRS	0.2912	BKG	5.8	0.92
Tin	20	1620	GAMMA	95% Approximate Gamma UCL	2.65E+00		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	2.40E+00	7.5	WRS	0.0000	BKG	161.0	2.40
Vanadium	20	1670	NORMAL	95% Student's-t UCL	3.12E+01		NON-PARAMETRIC	95% Student's-t UCL	2.77E+01	99.9	WRS	0.1569	BKG	184.0	44.00
Zinc	20	1620	NORMAL	95% Student's-t UCL	5.45E+01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.26E+02	99.8	WRS	0.2759	BKG	11900.0	165.00
PCB-total	N/A	480	N/A	N/A	N/A		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	1.47E+03		N/A	N/A	N/A	N/A	1300.00
Total dioxins	N/A	10	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	8.02E-03		N/A	N/A	N/A	N/A	0.01

Table A-12 - Rocky Flats Background Data - Subsurface Soil
Industrial Area Exposure Unit

Analyte	Total Samples		Statistical Distribution Testing Results								Comparison Test				$^{95}UCL_{90}$
	Back	Site	Background				Site				Test	p Value	Decision	Max Detect	Result
			Distribution Recommended	UCL Recommended by ProUCL	UCL Value	% NDs	Distribution Recommended by ProUCL	UCL Recommended by ProUCL	UCL Value	% Ds					
Antimony	66	2240	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	6.50E+00		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	9.41E-01	22.0	WRS	0.0000	BKG	19.3	1.10
Arsenic	99	2317	GAMMA	95% Approximate Gamma UCL	4.17E+00		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	6.36E+00	98.9	WRS	1.0000	Not BKG	96.9	11.00
Cadmium	81	2309	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	7.27E-01		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	2.46E+00	31.1	WRS	0.0000	BKG	530.0	0.55
Manganese	99	2317	LOGNORMAL	95% H-UCL	2.30E+02		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.90E+02	99.9	WRS	0.0968	BKG	2800.0	300.00
Mercury	86	2259	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	3.51E-01		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	1.35E-01	81.1	WRS	0.0000	BKG	16.0	0.14
Molybdenum	99	2355	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.47E+01		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	1.34E+01	62.5	WRS	0.0000	BKG	4100.0	1.50
Nickel	96	2316	GAMMA	95% Approximate Gamma UCL	2.23E+01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.73E+01	99.7	WRS	0.0021	BKG	670.0	25.00
Selenium	82	2317	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.47E+00		NON-PARAMETRIC	95% Student's-t UCL	4.39E-01	10.2	WRS	0.0002	BKG	4.3	0.52
Tetrachloroethene	N/A	2946	N/A	N/A	N/A		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	7.64E+04	7.0	N/A	N/A	N/A	27000000.0	3.15
Tin	92	2294	NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	1.35E+02		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	2.68E+00	9.0	WRS	0.0000	BKG	392.0	2.35
Trichloroethene	N/A	2919	N/A	N/A	N/A		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	1.03E+04	3.1	N/A	N/A	N/A	3700000.0	3.00
Vanadium	99	2400	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	4.40E+01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	3.56E+01	100.0	WRS	0.9949	Not BKG	740.0	55.00
Zinc	98	2354	NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	6.87E+01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	4.61E+01	99.7	WRS	0.9321	Not BKG	1800.0	63.00
PCB-total	N/A	654	N/A	N/A	N/A		NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	4.45E+03		N/A	N/A	N/A	N/A	879.50

107

Table B-1
ECOIs Detected in Sediment in the North Walnut Creek Aquatic Exposure Unit

ECOIs Detected in Sediment in the North Walnut Creek Aquatic Exposure Unit		
	Inorganics	
Aluminum		Manganese
Antimony		Mercury
Arsenic		Molybdenum
Barium		Nickel
Beryllium		Nitrate (as nitrogen)
Boron		Nitrate / Nitrite
Cadmium		Nitrite (as nitrogen)
Calcium		Potassium
Cesium		Selenium
Chromium		Silver
Chromium VI		Sodium
Cobalt		Strontium
Copper		Thallium
Fluoride		Tin
Iron		Titanium
Lead		Vanadium
Lithium		Zinc
Magnesium		
	Organics	
1,1,2,2-Tetrachloroethane		Chrysene
1,2-Dichloroethene		delta-BHC
2-Butanone		Dibenz(a,h)anthracene
2-Methylnaphthalene		Dibenzofuran
2-Methylphenol		Diethylphthalate
4,4'-DDT		Di-n-butylphthalate
4-Isopropyltoluene		Di-n-octylphthalate
4-Methyl-2-pentanone		Endosulfan I
Acenaphthene		Fluoranthene
Acetone		Fluorene
Aldrin		Indeno(1,2,3-cd)pyrene
Anthracene		Methylene Chloride
Atrazine		Naphthalene
Benzene		PCB-1254
Benzo(a)anthracene		PCB-1260
Benzo(a)pyrene		Pentachlorophenol
Benzo(b)fluoranthene		Phenanthrene
Benzo(g,h,i)perylene		Phenol
Benzo(k)fluoranthene		Pyrene
Benzoic Acid		Tetrachloroethene
bis(2-ethylhexyl)phthalate		Toluene
Butylbenzylphthalate		Trichloroethene
Carbazole		
	Radionuclides	
Americium-241		Radium-228
Cesium-137		Strontium-89/90
Gross Alpha		Uranium-233/234
Gross Beta		Uranium-235
Plutonium-239/240		Uranium-238
Radium-226		

108

109

Table B-2
Summary of ECOI Sediment Data in the North Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC
Inorganics (mg/kg)											
Aluminum	65	65	100%	1.3	200	1290	27400	9913.692308	5225.6371	15900	27400
Antimony	56	12	21%	0.28	17	0.59	41.4	19.05	14.573346	2	41.4
Arsenic	69	67	97%	0.15	10	0.57	10.2	5.102537313	1.9454316	9.79	10.2
Barium	69	69	100%	0.13	200	22	219	113.9565217	51.342508	189	219
Beryllium	64	31	48%	0.1	5	0.21	2.1	0.67483871	0.3450495	NA	2.1
Boron	4	4	100%	1	1.1	2.9	4.8	3.425	0.917878	NA	4.8
Cadmium	68	13	19%	0.064	5	0.23	4.4	2.025384615	1.2862906	0.99	4.4
Calcium	69	69	100%	3.4	5000	950	140000	11538.26087	17089.485	NA	140000
Cesium	59	16	27%	4.51	1000	1.7	5.8	3.55625	1.376938	NA	5.8
Chromium	64	61	95%	0.13	10	2	66.5	12.64098361	9.0542877	43.4	66.5
Chromium VI	21	6	29%	0.005	0.005	0.005	0.008	0.006833333	1.17E-03	43.4	0.008
Cobalt	65	60	92%	0.13	50	2.8	20.1	8.661666667	3.5005129	NA	20.1
Copper	64	62	97%	0.045	25	7.1	77.6	18.75	9.3258455	31.6	77.6
Fluoride	21	12	57%	2.5	2.5	2.38	16.72	4.995833333	3.9527699	0.01	16.72
Iron	64	64	100%	1.23	100	6080	37100	15960.15625	5079.3221	20000	37100
Lead	69	69	100%	0.21	3	5.2	234	25.49565217	28.550726	35.8	234
Lithium	85	59	69%	0.02	100	1.8	16.6	7.559322034	3.2351048	NA	16.6
Magnesium	69	69	100%	7.5	5000	595	6000	2922.42029	1189.152	NA	6000
Manganese	69	69	100%	0.13	15	84	1760	372.5507246	303.74305	630	1760
Mercury	69	17	25%	0.0051	0.2	0.017	0.47	0.183470588	0.120023	0.18	0.47
Molybdenum	69	6	9%	0.25	200	0.33	2.7	0.931666667	0.8915922	NA	2.7
Nickel	64	55	86%	0.13	40	3.8	31.6	15.44545455	6.5783545	22.7	31.6
Nitrate (as nitrogen)	2	2	100%	2.5	2.5	1.67	4.53	3.1	2.0223254	NA	4.53
Nitrate / Nitrite	21	8	38%	0.2	2.5	0.72	52.9	11.9775	17.200683	NA	52.9
Nitrite (as nitrogen)	15	1	7%	2.5	2.5	5.61	5.61	5.61	NA	NA	5.61
Potassium	69	63	91%	4.6	5000	402	3860	1810.174603	776.49167	NA	3860
Selenium	63	14	22%	0.616	5	0.41	2.4	1.307857143	0.5769306	0.95	2.4
Silver	59	2	3%	0.077	10	1.9	4.1	3	1.5556349	1	4.1
Sodium	69	63	91%	4.72	5000	60.3	2010	526.7095238	349.87306	NA	2010
Strontium	69	69	100%	0.058	200	5.5	526	56.47681159	62.204866	NA	526
Thallium	68	9	13%	0.31	10	0.35	1.6	0.735555556	0.4161764	NA	1.6
Tin	69	4	6%	0.38	200	7	12.9	9.525	2.4595054	NA	12.9
Titanium	4	4	100%	0.087	0.093	40	180	114.75	62.585275	NA	180
Uranium, total	9	0	0%	2.2	5.1	ND	ND	NA	NA	NA	2.55
Vanadium	69	69	100%	0.25	50	6.5	62.7	29.07826087	10.9127	NA	62.7
Zinc	64	64	100%	0.13	20	31.1	704	133.6234375	129.01675	121	704

Table B-2
Summary of ECOI Sediment Data in the North Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC
Organics (ug/kg)											
1,1,1,2-Tetrachloroethane	8	0	0%	1.324	7	ND	ND	NA	NA	NA	3.5
1,1,1-Trichloroethane	70	0	0%	1.175	1600	ND	ND	NA	NA	159	800
1,1,2,2-Tetrachloroethane	75	1	1%	5	21	2	2	2	NA	1900	2
1,1,2-Trichloro-1,2,2-trifluoroethane	8	0	0%	2	7	ND	ND	NA	NA	NA	3.5
1,1,2-Trichloroethane	75	0	0%	0.995	1600	ND	ND	NA	NA	NA	800
1,1-Dichloroethane	70	0	0%	1.056	1600	ND	ND	NA	NA	NA	800
1,1-Dichloroethene	70	0	0%	1.587	1600	ND	ND	NA	NA	NA	800
1,2,3-Trichloropropane	8	0	0%	1.11	7	ND	ND	NA	NA	NA	3.5
1,2,4-Trichlorobenzene	92	0	0%	1.539	2700	ND	ND	NA	NA	429	1350
1,2-Dibromoethane	8	0	0%	1.194	7	ND	ND	NA	NA	NA	3.5
1,2-Dichlorobenzene	86	0	0%	1.374	2700	ND	ND	NA	NA	NA	1350
1,2-Dichloroethane	70	0	0%	1.204	1600	ND	ND	NA	NA	NA	800
1,2-Dichloroethene	55	1	2%	5	21	3	3	3	NA	NA	3
1,2-Dichloropropane	75	0	0%	0.974	1600	ND	ND	NA	NA	NA	800
1,3-Dichlorobenzene	83	0	0%	1.513	1600	ND	ND	NA	NA	NA	800
1,4-Dichlorobenzene	77	0	0%	1.186	1000	ND	ND	NA	NA	NA	500
2,4,5-T	1	0	0%	60	60	ND	ND	NA	NA	NA	30
2,4,5-TP (Silvex)	1	0	0%	60	60	ND	ND	NA	NA	NA	30
2,4,5-Trichlorophenol	90	0	0%	700	6800	ND	ND	NA	NA	NA	3400
2,4,6-Trichlorophenol	90	0	0%	350	2700	ND	ND	NA	NA	NA	1350
2,4-D	1	0	0%	180	180	ND	ND	NA	NA	NA	90
2,4-DB	1	0	0%	1400	1400	ND	ND	NA	NA	NA	700
2,4-Dichlorophenol	90	0	0%	350	2700	ND	ND	NA	NA	NA	1350
2,4-Dimethylphenol	90	0	0%	350	2700	ND	ND	NA	NA	NA	1350
2,4-Dinitrophenol	85	0	0%	860	7900	ND	ND	NA	NA	NA	3950
2,4-Dinitrotoluene	81	0	0%	350	1600	ND	ND	NA	NA	NA	800
2,6-Dinitrotoluene	90	0	0%	350	2700	ND	ND	NA	NA	NA	1350
2-Butanone	69	12	17%	7	180	2	43	13.83333333	12.967325	NA	43
2-Chloronaphthalene	90	0	0%	350	2700	ND	ND	NA	NA	NA	1350
2-Chlorophenol	90	0	0%	350	2700	ND	ND	NA	NA	NA	1350
2-Methylnaphthalene	90	7	8%	33	2700	46	2000	349.2857143	728.50777	20.2	2000
2-Methylphenol	81	1	1%	42	1000	200	200	200	NA	6970	200
2-Nitroaniline	81	0	0%	860	7900	ND	ND	NA	NA	NA	3950
3,3'-Dichlorobenzidine	80	0	0%	350	3100	ND	ND	NA	NA	NA	1550
4,4'-DDD	79	0	0%	3.5	180	ND	ND	NA	NA	4.88	90
4,4'-DDE	79	0	0%	3.5	180	ND	ND	NA	NA	3.16	90
4,4'-DDT	79	4	5%	3.5	180	2.9	4.9	4.175	0.9215024	4.16	4.9

Table B-2
Summary of ECOI Sediment Data in the North Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC
4,6-Dinitro-2-methylphenol	77	0	0%	860	7900	ND	ND	NA	NA	NA	3950
4-Chloro-3-methylphenol	81	0	0%	350	3100	ND	ND	NA	NA	NA	1550
4-Chloroaniline	79	0	0%	350	3100	ND	ND	NA	NA	NA	1550
4-Isopropyltoluene	8	1	13%	5.59	8.99	39	39	39	NA	NA	39
4-Methyl-2-pentanone	70	1	1%	7	89.9	6	6	6	NA	NA	6
4-Methylphenol	81	0	0%	350	1600	ND	ND	NA	NA	12.3	800
4-Nitroaniline	69	0	0%	860	4800	ND	ND	NA	NA	NA	2400
4-Nitrophenol	81	0	0%	860	7900	ND	ND	NA	NA	NA	3950
Acenaphthene	90	24	27%	32	2700	24	620	141.4583333	149.41945	6.71	620
Acenaphthylene	90	0	0%	350	2700	ND	ND	NA	NA	5.87	1350
Acetone	69	7	10%	5.1	180	6.7	260	82.24285714	87.771177	NA	260
Aldrin	69	1	1%	1.8	89	54	54	54	NA	8.25	54
alpha-BHC	70	0	0%	1.8	89	ND	ND	NA	NA	2.37	44.5
alpha-Chlordane	79	0	0%	1.8	890	ND	ND	NA	NA	3.24	445
Anthracene	90	38	42%	24	2700	20	970	161.8157895	209.745	57.2	970
Atrazine	1	1	100%	0.05	0.05	120	120	120	NA	NA	120
Benzene	75	1	1%	5	21	3	3	3	NA	260	3
Benzo(a)anthracene	78	44	56%	330	2700	26	1400	233.9090909	288.18952	108	1400
Benzo(a)pyrene	78	41	53%	330	2700	23	1300	255.4634146	290.54708	150	1300
Benzo(b)fluoranthene	81	41	51%	30	1000	25	1500	286.2926829	293.5685	NA	1500
Benzo(g,h,i)perylene	50	8	16%	28	710	86	270	185.75	71.685324	13	270
Benzo(k)fluoranthene	81	28	35%	33	1000	35	1100	231.0714286	222.75612	240	1100
Benzoic Acid	57	8	14%	300	4100	95	510	244	132.20439	NA	510
Benzyl Alcohol	48	0	0%	370	990	ND	ND	NA	NA	NA	495
beta-BHC	70	0	0%	1.8	89	ND	ND	NA	NA	2.37	44.5
bis(2-Chloroethyl) ether	42	0	0%	350	2700	ND	ND	NA	NA	NA	1350
bis(2-Chloroisopropyl) ether	56	0	0%	370	2700	ND	ND	NA	NA	NA	1350
bis(2-ethylhexyl)phthalate	81	40	49%	74	1000	27	7800	566.05	1362.4057	24900	7800
Bromodichloromethane	75	0	0%	0.732	1600	ND	ND	NA	NA	NA	800
Bromoform	75	0	0%	1.188	1600	ND	ND	NA	NA	NA	800
Bromomethane	75	0	0%	1.707	3100	ND	ND	NA	NA	3.43	1550
Butylbenzylphthalate	68	3	4%	330	2700	34	120	68.33333333	45.54485	11400	120
Carbazole	21	10	48%	350	1000	28	300	89.6	91.526802	25.2	300
Carbon Disulfide	70	0	0%	1.55	1600	ND	ND	NA	NA	NA	800
Carbon Tetrachloride	75	0	0%	1.256	1600	ND	ND	NA	NA	7890	800
Chlorobenzene	70	0	0%	1.057	1600	ND	ND	NA	NA	NA	800
Chloroethane	70	0	0%	2.83	3100	ND	ND	NA	NA	NA	1550
Chloroform	75	0	0%	0.957	1600	ND	ND	NA	NA	NA	800

112

Table B-2
Summary of ECOI Sediment Data in the North Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC
Chloromethane	70	0	0%	1.493	3100	ND	ND	NA	NA	NA	1550
Chrysene	90	63	70%	29	2700	22	1500	279.8253968	311.20751	166	1500
cis-1,2-Dichloroethene	8	0	0%	1.336	7	ND	ND	NA	NA	NA	3.5
cis-1,3-Dichloropropene	67	0	0%	5	1600	ND	ND	NA	NA	NA	800
Dalapon	1	0	0%	2300	2300	ND	ND	NA	NA	NA	1150
delta-BHC	70	1	1%	1.8	89	13	13	13	NA	2.37	13
Dibenz(a,h)anthracene	69	4	6%	330	1000	41	200	116.75	66.520047	33	200
Dibenzofuran	81	5	6%	37	1000	26	300	147.2	102.02549	325	300
Dibromochloromethane	75	0	0%	1.069	1600	ND	ND	NA	NA	NA	800
Dicamba	1	0	0%	96	96	ND	ND	NA	NA	NA	48
Dichlorodifluoromethane	8	0	0%	2.885	7	ND	ND	NA	NA	NA	3.5
Dieldrin	79	0	0%	3.5	180	ND	ND	NA	NA	NA	90
Diethylphthalate	80	1	1%	32	2700	25	25	25	NA	108	25
Dimethylphthalate	80	0	0%	350	2700	ND	ND	NA	NA	NA	1350
Di-n-butylphthalate	38	3	8%	330	710	51	86	70.66666667	17.897858	612	86
Di-n-octylphthalate	59	3	5%	330	1000	45	130	80.33333333	44.275652	NA	130
Dinoseb	1	0	0%	84	84	ND	ND	NA	NA	NA	42
Endosulfan I	79	1	1%	1.8	89	20	20	20	NA	0.69	20
Endosulfan II	79	0	0%	3.5	180	ND	ND	NA	NA	0.69	90
Endosulfan sulfate	79	0	0%	3.5	180	ND	ND	NA	NA	0.69	90
Endrin	79	0	0%	3.5	180	ND	ND	NA	NA	NA	90
Endrin aldehyde	21	0	0%	3.5	17	ND	ND	NA	NA	NA	8.5
Endrin ketone	70	0	0%	3.5	180	ND	ND	NA	NA	NA	90
Ethylbenzene	70	0	0%	0.923	1600	ND	ND	NA	NA	NA	800
Fluoranthene	90	68	76%	23	2700	44	3100	531.1176471	611.52463	423	3100
Fluorene	90	17	19%	35	2700	21	650	164.5294118	168.03203	77.4	650
gamma-BHC (Lindane)	70	0	0%	1.8	89	ND	ND	NA	NA	2.37	44.5
gamma-Chlordane	67	0	0%	1.8	240	ND	ND	NA	NA	3.24	120
Heptachlor	70	0	0%	1.8	89	ND	ND	NA	NA	0.132	44.5
Heptachlor epoxide	70	0	0%	1.8	89	ND	ND	NA	NA	2.47	44.5
Hexachlorobenzene	90	0	0%	350	2700	ND	ND	NA	NA	NA	1350
Hexachlorobutadiene	92	0	0%	1.62	2700	ND	ND	NA	NA	23	1350
Hexachlorocyclopentadiene	78	0	0%	350	1600	ND	ND	NA	NA	NA	800
Hexachloroethane	81	0	0%	350	1600	ND	ND	NA	NA	NA	800
Indeno(1,2,3-cd)pyrene	81	26	32%	23	1000	23	510	174.8076923	120.33188	17	510
Isophorone	81	0	0%	350	1600	ND	ND	NA	NA	NA	800
Isopropylbenzene	8	0	0%	1.382	7	ND	ND	NA	NA	NA	3.5
MCPA	1	0	0%	94000	94000	ND	ND	NA	NA	NA	47000

Table B-2
Summary of ECOI Sediment Data in the North Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[4]
MCPP	1	0	0%	140000	140000	ND	ND	NA	NA	NA	70000
Methoxychlor	70	0	0%	18	890	ND	ND	NA	NA	24	445
Methylene Chloride	74	4	5%	5	21	5	7	6.5	1	NA	7
Naphthalene	85	9	11%	0.95	1000	1.1	310	134.2666667	107.75183	176	310
Nitrobenzene	90	0	0%	350	2700	ND	ND	NA	NA	NA	1350
N-Nitroso-di-n-propylamine	81	0	0%	350	1600	ND	ND	NA	NA	NA	800
N-nitrosodiphenylamine	90	0	0%	350	2700	ND	ND	NA	NA	NA	1350
PCB-1016[2]	98	0	0%	35	890	ND	ND	NA	NA	40	445
PCB-1221[2]	98	0	0%	35	890	ND	ND	NA	NA	40	445
PCB-1232[2]	107	0	0%	35	890	ND	ND	NA	NA	40	445
PCB-1242[2]	98	0	0%	35	890	ND	ND	NA	NA	40	445
PCB-1248[2]	98	0	0%	35	890	ND	ND	NA	NA	40	445
PCB-1254[2]	110	30	27%	4.5	1800	7.3	920	172.98	216.82112	40	920
PCB-1260[2]	98	1	1%	6.2	1800	180	180	180	NA	40	180
Pentachlorophenol	90	1	1%	120	6800	39	39	39	NA	255	39
Phenanthrene	90	63	70%	36	2700	26	3300	441.2063492	598.74746	204	3300
Phenol	90	1	1%	36	2700	22	22	22	NA	773	22
Pyrene	90	67	74%	140	2700	37	3900	508.1343284	658.83874	195	3900
Simazine	1	0	0%	50	50	ND	ND	NA	NA	NA	25
Styrene	75	0	0%	1.115	1600	ND	ND	NA	NA	NA	800
Tetrachloroethene	70	1	1%	5	21	2	2	2	NA	3050	2
Toluene	75	22	29%	5	21	2	860	118.8181818	221.05712	1660	860
Toxaphene	70	0	0%	180	1800	ND	ND	NA	NA	NA	900
trans-1,2-Dichloroethene	8	0	0%	1.485	7	ND	ND	NA	NA	NA	3.5
trans-1,3-Dichloropropene	62	0	0%	5	1600	ND	ND	NA	NA	NA	800
Trichloroethene	70	3	4%	5	21	3	13	7.666666667	5.033223	22800	13
Trichlorofluoromethane	8	0	0%	1.389	7	ND	ND	NA	NA	NA	3.5
Vinyl acetate	39	0	0%	10	38	ND	ND	NA	NA	NA	19
Vinyl Chloride	70	0	0%	2.87	3100	ND	ND	NA	NA	NA	1550
Xylene	55	0	0%	6	1600	ND	ND	NA	NA	91	800
Radionuclides (pCi/g)											
Americium-241	68	60	88%	0	0.218	0.003103	13.23	1.138471883	2.8174814	5150	13.23
Cesium-137	81	59	73%	0.022	0.2	0.003429	0.6853	0.271151847	0.1866229	3120	0.6853
Gross Alpha	78	78	100%	1.6	56	-6.2	70.68	21.17602564	13.570878	NA	70.68
Gross Beta	82	82	100%	2.23	21	8.02	39.25	27.04256098	5.9334981	NA	39.25
Plutonium-239/240	97	92	95%	0	0.207	0.008	36.2	2.298425109	6.1511474	5860	36.2

Table B-2
Summary of ECOI Sediment Data in the North Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
Radium-226	40	40	100%	0.12	0.51	-0.34	3.08	1.05825	0.8110578	101	3.08
Radium-228	29	29	100%	0.05	0.63	0.04	2.4	1.574448276	0.4247454	87.8	2.4
Strontium-89/90	4	4	100%	0.18	0.21	0.017	0.321	0.112	0.1405394	582	0.321
Uranium-233/234	92	92	100%	0	0.338	0.14	3.669	1.300256522	0.7387831	NA	3.669
Uranium-235	92	71	77%	0	0.387	-0.0129	0.2013	0.065897324	0.0455133	3730	0.2013
Uranium-238	92	92	100%	0	0.31	0.19	5.9482	1.520945652	1.1599705	2490	5.9482

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

[2]PCBs will be evaluated as total PCB. Total PCB concentrations are calculated for each sample in Table 3.

ND = The ECOI was not detected.

Table B-3
Accelerated Action Screening Step for Sediments in the North Walnut Creek Aquatic Exposure Unit

ECOI	Screening EPC	Sediment ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Inorganics (mg/kg)					
Aluminum	27400	15900	Yes	**Yes**	No
Antimony	41.4	2	Yes	**Yes**	No
Arsenic	10.2	9.79	Yes	**Yes**	No
Barium	219	189	Yes	**Yes**	No
Beryllium	2.1	NA	NA	No	**Yes**
Boron	4.8	NA	NA	No	**Yes**
Cadmium	4.4	0.99	Yes	**Yes**	No
Calcium	140000	NA	NA	No	**Yes**
Cesium	5.8	NA	NA	No	**Yes**
Chromium	66.5	43.4	Yes	**Yes**	No
Chromium VI	0.008	43.4	No	No	No
Cobalt	20.1	NA	NA	No	**Yes**
Copper	77.6	31.6	Yes	**Yes**	No
Fluoride	16.72	0.01	Yes	**Yes**	No
Iron	37100	20000	Yes	**Yes**	No
Lead	234	35.8	Yes	**Yes**	No
Lithium	16.6	NA	NA	No	**Yes**
Magnesium	6000	NA	NA	No	**Yes**
Manganese	1760	630	Yes	**Yes**	No
Mercury	0.47	0.18	Yes	**Yes**	No
Molybdenum	2.7	NA	NA	No	**Yes**
Nickel	31.6	22.7	Yes	**Yes**	No
Nitrate (as nitrogen)	4.53	NA	NA	No	**Yes**
Nitrate / Nitrite	52.9	NA	NA	No	**Yes**
Nitrite (as nitrogen)	5.61	NA	NA	No	**Yes**
Potassium	3860	NA	NA	No	**Yes**
Selenium	2.4	0.95	Yes	**Yes**	No
Silver	4.1	1	Yes	**Yes**	No
Sodium	2010	NA	NA	No	**Yes**
Strontium	526	NA	NA	No	**Yes**
Thallium	1.6	NA	NA	No	**Yes**
Tin	12.9	NA	NA	No	**Yes**
Titanium	180	NA	NA	No	**Yes**
Vanadium	62.7	NA	NA	No	**Yes**
Zinc	704	121	Yes	**Yes**	No
Organics (ug/kg)					
1,1,2,2-Tetrachloroethane	2	1900	No	No	No
1,2-Dichloroethene	3	NA	NA	No	**Yes**
2-Butanone	43	NA	NA	No	**Yes**
2-Methylnaphthalene	2000	20.2	Yes	**Yes**	No
2-Methylphenol	200	6970	No	No	No
4,4'-DDT	4.9	4.16	Yes	**Yes**	No
4-Isopropyltoluene	39	NA	NA	No	**Yes**
4-Methyl-2-pentanone	6	NA	NA	No	**Yes**
Acenaphthene	620	6.71	Yes	**Yes**	No
Acetone	260	NA	NA	No	**Yes**
Aldrin	54	8.25	Yes	**Yes**	No
Anthracene	970	57.2	Yes	**Yes**	No
Atrazine	120	NA	NA	No	**Yes**
Benzene	3	260	No	No	No
Benzo(a)anthracene	1400	108	Yes	**Yes**	No

1/5

Table B-3
Accelerated Action Screening Step for Sediments in the North Walnut Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	Sediment ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Benzo(a)pyrene	1300	150	Yes	**Yes**	No
Benzo(b)fluoranthene	1500	NA	NA	No	**Yes**
Benzo(g,h,i)perylene	270	13	Yes	**Yes**	No
Benzo(k)fluoranthene	1100	240	Yes	**Yes**	No
Benzoic Acid	510	NA	NA	No	**Yes**
bis(2-ethylhexyl)phthalate	7800	24900	No	No	No
Butylbenzylphthalate	120	11400	No	No	No
Carbazole	300	25.2	Yes	**Yes**	No
Chrysene	1500	166	Yes	**Yes**	No
delta-BHC	13	2.37	Yes	**Yes**	No
Dibenz(a,h)anthracene	200	33	Yes	**Yes**	No
Dibenzofuran	300	325	No	No	No
Diethylphthalate	25	108	No	No	No
Di-n-butylphthalate	86	612	No	No	No
Di-n-octylphthalate	130	NA	NA	No	**Yes**
Endosulfan I	20	0.69	Yes	**Yes**	No
Fluoranthene	3100	423	Yes	**Yes**	No
Fluorene	650	77.4	Yes	**Yes**	No
Indeno(1,2,3-cd)pyrene	510	17	Yes	**Yes**	No
Methylene Chloride	7	NA	NA	No	**Yes**
Naphthalene	310	176	Yes	**Yes**	No
PCB-1254[2]	920	40	Yes	**Yes**	No
PCB-1260[2]	180	40	Yes	**Yes**	No
Pentachlorophenol	39	255	No	No	No
Phenanthrene	3300	204	Yes	**Yes**	No
Phenol	22	773	No	No	No
Pyrene	3900	195	Yes	**Yes**	No
Tetrachloroethene	2	3050	No	No	No
Toluene	860	1660	No	No	No
Trichloroethene	13	22800	No	No	No
Radionuclides (pCi/g)					
Americium-241	13.23	5150	No	No	No
Cesium-137	0.6853	3120	No	No	No
Gross Alpha	70.68	NA	NA	No	**Yes**
Gross Beta	39.25	NA	NA	No	**Yes**
Plutonium-239/240	36.2	5860	No	No	No
Radium-226	3.08	101	No	No	No
Radium-228	2.4	87.8	No	No	No
Strontium-89/90	0.321	582	No	No	No
Uranium-233/234	3.669	NA	NA	No	**Yes**
Uranium-235	0.2013	3730	No	No	No
Uranium-238	5.9482	2490	No	No	No

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

[2]PCBs will be evaluated as total PCB. Total PCB concentrations are calculated for each sample in Table 3.

ND = The ECOI was not detected.

Table B-4
North Walnut Creek Aquatic Exposure Unit Sediment
Nondetected Analytes vs. ESL

MediaType	AnalyteGroup	Analyte	Range of Reported Detection Limits	Units	Total Number of Results	ESL	MaxDL > ESL?
Sediment	Organic	1,1,1-Trichloroethane	1.175 - 1600	ug/kg	70	159	Yes
Sediment	Organic	1,2,4-Trichlorobenzene	350 - 2700	ug/kg	84	429	Yes
Sediment	Organic	1,2,4-Trichlorobenzene	1.539 - 7	ug/kg	8	429	No
Sediment	Organic	4,4'-DDD	7.3 - 27	ug/kg	9	4.88	Yes
Sediment	Organic	4,4'-DDD	3.5 - 180	ug/kg	70	4.88	Yes
Sediment	Organic	4,4'-DDE	7.3 - 27	ug/kg	9	3.16	Yes
Sediment	Organic	4,4'-DDE	3.5 - 180	ug/kg	70	3.16	Yes
Sediment	Organic	4-Methylphenol	350 - 1600	ug/kg	81	12.3	Yes
Sediment	Organic	Acenaphthylene	350 - 2700	ug/kg	90	5.87	Yes
Sediment	Organic	alpha-BHC	1.8 - 89	ug/kg	70	2.37	Yes
Sediment	Organic	alpha-Chlordane	1.8 - 890	ug/kg	79	3.24	Yes
Sediment	Organic	beta-BHC	1.8 - 89	ug/kg	70	2.37	Yes
Sediment	Organic	Bromomethane	1.707 - 3100	ug/kg	75	3.43	Yes
Sediment	Organic	Carbon Tetrachloride	1.256 - 1600	ug/kg	75	7890	No
Sediment	Organic	Endosulfan II	7.3 - 27	ug/kg	9	0.69	Yes
Sediment	Organic	Endosulfan II	3.5 - 180	ug/kg	70	0.69	Yes
Sediment	Organic	Endosulfan sulfate	3.5 - 180	ug/kg	79	0.69	Yes
Sediment	Organic	gamma-BHC (Lindane)	1.8 - 89	ug/kg	70	2.37	Yes
Sediment	Organic	gamma-Chlordane	1.8 - 240	ug/kg	67	3.24	Yes
Sediment	Organic	Heptachlor	1.8 - 89	ug/kg	70	0.132	Yes
Sediment	Organic	Heptachlor epoxide	1.8 - 89	ug/kg	70	2.47	Yes
Sediment	Organic	Hexachlorobutadiene	350 - 2700	ug/kg	78	23	Yes
Sediment	Organic	Hexachlorobutadiene	1.62 - 7	ug/kg	8	23	No
Sediment	Organic	Hexachlorobutadiene	700 - 1600	ug/kg	6	23	Yes
Sediment	Organic	Methoxychlor	18 - 890	ug/kg	70	24	Yes
Sediment	Organic	PCB-1016	35 - 890	ug/kg	98	40	Yes
Sediment	Organic	PCB-1221	35 - 890	ug/kg	98	40	Yes
Sediment	Organic	PCB-1232	35 - 890	ug/kg	107	40	Yes
Sediment	Organic	PCB-1242	35 - 890	ug/kg	98	40	Yes
Sediment	Organic	PCB-1248	35 - 890	ug/kg	98	40	Yes
Sediment	Organic	Xylene	6 - 1600	ug/kg	55	91	Yes

Table C-1
ECOIs Detected in Sediment in the South Walnut Creek Aquatic Exposure Unit

ECOIs Detected in Sediment in the South Walnut Creek Aquatic Exposure Unit		
Inorganics		
Aluminum		Magnesium
Antimony		Manganese
Arsenic		Mercury
Barium		Molybdenum
Beryllium		Nickel
Boron		Nitrate (as nitrogen)
Cadmium		Nitrate / Nitrite
Calcium		Potassium
Cesium		Selenium
Chromium		Silver
Chromium VI		Sodium
Cobalt		Strontium
Copper		Thallium
Fluoride		Tin
Iron		Titanium
Lead		Vanadium
Lithium		Zinc
Organics		
1,2,4-Trichlorobenzene		Dibenzofuran
2-Butanone		Dieldrin
2-Methylnaphthalene		Diethylphthalate
4,4'-DDE		Dimethylphthalate
4-Methylphenol		Di-n-butylphthalate
Acenaphthene		Di-n-octylphthalate
Acetone		Ethylbenzene
Anthracene		Fluoranthene
Benzo(a)anthracene		Fluorene
Benzo(a)pyrene		gamma-BHC (Lindane)
Benzo(b)fluoranthene		Heptachlor epoxide
Benzo(g,h,i)perylene		Hexachlorobutadiene
Benzo(k)fluoranthene		Indeno(1,2,3-cd)pyrene
Benzoic Acid		Methoxychlor
Benzyl Alcohol		Methylene Chloride
beta-BHC		Naphthalene
bis(2-ethylhexyl)phthalate		PCB-1254
Bromomethane		PCB-1260
Butylbenzylphthalate		Pentachlorophenol
Carbazole		Phenanthrene
Carbon Tetrachloride		Phenol
Chloroform		Pyrene
Chrysene		Tetrachloroethene
Dibenz(a,h)anthracene		Toluene
Radionuclides		
Americium-241		Radium-228
Cesium-137		Strontium-89/90
Gross Alpha		Uranium-233/234
Gross Beta		Uranium-235
Plutonium-239/240		Uranium-238

Table C-1
ECOIs Detected in Sediment in the
South Walnut Creek Aquatic Exposure Unit

ECOIs Detected in Sediment in the South Walnut Creek Aquatic Exposure Unit		
Radium-226		

120

Table C-2
Summary of Sediment ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detects	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC
Inorganics (mg/kg)										
Aluminum	83	83	100%	0.74	200	763	28000	7690.036145	5613.05841	28000
Antimony	75	15	20%	0.18	60	0.58	25.6	7.012	8.45118014	25.6
Arsenic	82	76	93%	0.29	10	0.69	21.6	4.310394737	2.81245773	21.6
Barium	84	84	100%	0.043	200	7.2	196	89.7202381	54.9964813	196
Beryllium	84	42	50%	0.034	5	0.11	2.2	0.641904762	0.52629973	2.2
Boron	10	7	70%	0.39	1.2	1.2	4.4	2.442857143	1.27652803	4.4
Cadmium	83	26	31%	0.038	5	0.18	6.2	1.330769231	1.27645109	6.2
Calcium	83	83	100%	0.57	5000	653	95700	12387.06024	15784.2857	95700
Cesium	65	18	28%	2	1000	1.4	13.6	4.522222222	3.71919592	13.6
Chromium	83	76	92%	0.059	10	1.3	49	12.875	7.72122831	49
Chromium VI	16	6	38%	0.005	0.005	0.005	0.013	0.007333333	0.00294392	0.013
Cobalt	83	69	83%	0.087	50	1.6	13.3	6.736231884	3.13321724	13.3
Copper	83	77	93%	0.048	25	4.3	324	20.92857143	36.259579	324
Fluoride	16	8	50%	2.5	2.5	0.831	9.27	3.733875	3.34638357	9.27
Iron	83	83	100%	1.25	100	1680	32400	11607.46988	5261.00237	32400
Lead	83	83	100%	0.18	3	2.9	170	24.92771084	22.8357727	170
Lithium	101	80	79%	0.009	100	1.6	23.5	6.24375	3.58995941	23.5
Magnesium	84	84	100%	1.2	5000	263	22900	2634.928571	2520.90054	22900
Manganese	83	83	100%	0.036	15	39.1	639	195.2566265	99.1009047	639
Mercury	77	15	19%	0.0013	0.212	0.047	0.23	0.087	0.04774785	0.23
Molybdenum	85	9	11%	0.08	200	0.26	2.9	0.954444444	0.8412953	2.9
Nickel	83	75	90%	0.08	40	2.9	216	15.81066667	24.7067371	216
Nitrate (as nitrogen)	6	2	33%	0.22	2.5	0.259	0.776	0.5175	0.36557421	0.776
Nitrate / Nitrite	12	7	58%	0.2	1.6	0.7	3	2.014285714	0.83950099	3
Nitrite (as nitrogen)	11	0	0%	0.02	2.5	ND	ND	NA	NA	1.25
Potassium	83	81	98%	3	5000	358	3890	1354.333333	664.231793	3890
Selenium	83	7	8%	0.27	5	0.33	0.93	0.645714286	0.22751243	0.93
Silver	81	13	16%	0.061	10	0.35	102	17.27307692	28.3128844	102
Sodium	84	71	85%	1.5	5000	62.7	922	362.6690141	180.438409	922
Strontium	83	83	100%	0.0068	200	4.6	149	41.04457831	29.9533917	149
Thallium	83	15	18%	0.26	10	0.24	0.98	0.534666667	0.22837521	0.98

121

Table C-2
Summary of Sediment ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detects	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC
Tin	83	6	7%	0.3	200	1.9	39.5	10.03333333	14.5106398	39.5
Titanium	10	10	100%	0.082	0.2	110	330	185.6	71.4021475	330
Uranium, total	13	0	0%	1.1	1.8	ND	ND	NA	NA	0.9
Vanadium	83	80	96%	0.11	50	2.3	47.8	23.8225	11.2871942	47.8
Zinc	84	84	100%	0.11	20	18.6	888	157.5714286	165.341682	888
Organics (ug/kg)										
1,1,1,2-Tetrachloroethane	12	0	0%	1.23	6	ND	ND	NA	NA	3
1,1,1-Trichloroethane	65	0	0%	1.09	1300	ND	ND	NA	NA	650
1,1,2,2-Tetrachloroethane	79	0	0%	0.958	1300	ND	ND	NA	NA	650
1,1,2-Trichloro-1,2,2-trifluoroethane	25	0	0%	0.97	8	ND	ND	NA	NA	4
1,1,2-Trichloroethane	79	0	0%	0.922	1300	ND	ND	NA	NA	650
1,1-Dichloroethane	65	0	0%	0.978	1300	ND	ND	NA	NA	650
1,1-Dichloroethene	64	0	0%	1.47	1300	ND	ND	NA	NA	650
1,2,3-Trichloropropane	25	0	0%	1.03	8	ND	ND	NA	NA	4
1,2,4-Trichlorobenzene	90	1	1%	5	690	2	2	2	0	2
1,2,4-Trimethylbenzene	14	0	0%	5	8	ND	ND	NA	NA	4
1,2-Dibromo-3-chloropropane	14	0	0%	5	8	ND	ND	NA	NA	4
1,2-Dibromoethane	25	0	0%	0.816	8	ND	ND	NA	NA	4
1,2-Dichlorobenzene	81	0	0%	0.727	780	ND	ND	NA	NA	390
1,2-Dichloroethane	65	0	0%	0.991	1300	ND	ND	NA	NA	650
1,2-Dichloroethene	51	0	0%	5	1300	ND	ND	NA	NA	650
1,2-Dichloropropane	79	0	0%	0.851	1300	ND	ND	NA	NA	650
1,3,5-Trimethylbenzene	14	0	0%	5	8	ND	ND	NA	NA	4
1,3-Dichlorobenzene	77	0	0%	1.01	850	ND	ND	NA	NA	425
1,4-Dichlorobenzene	69	0	0%	1.1	780	ND	ND	NA	NA	390
2,4,5-Trichlorophenol	70	0	0%	350	3800	ND	ND	NA	NA	1900
2,4,6-Trichlorophenol	70	0	0%	350	850	ND	ND	NA	NA	425
2,4-Dichlorophenol	70	0	0%	350	850	ND	ND	NA	NA	425
2,4-Dimethylphenol	70	0	0%	350	850	ND	ND	NA	NA	425
2,4-Dinitrophenol	66	0	0%	880	4300	ND	ND	NA	NA	2150
2,4-Dinitrotoluene	69	0	0%	350	850	ND	ND	NA	NA	425
2,6-Dinitrotoluene	70	0	0%	350	850	ND	ND	NA	NA	425

122

Table C-2
Summary of Sediment ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detects	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
2-Butanone	65	11	17%	6	1300	2	51	15.90909091	16.1830439	51
2-Chloronaphthalene	70	0	0%	350	850	ND	ND	NA	NA	425
2-Chlorophenol	70	0	0%	350	850	ND	ND	NA	NA	425
2-Methylnaphthalene	70	1	1%	35	720	41	41	41	0	41
2-Methylphenol	69	0	0%	350	850	ND	ND	NA	NA	425
2-Nitroaniline	69	0	0%	880	4300	ND	ND	NA	NA	2150
3,3'-Dichlorobenzidine	68	0	0%	350	1700	ND	ND	NA	NA	850
4,4'-DDD	66	0	0%	3.5	41	ND	ND	NA	NA	20.5
4,4'-DDE	66	1	2%	1.8	26	4.1	4.1	4.1	0	4.1
4,4'-DDT	66	0	0%	3.5	41	ND	ND	NA	NA	20.5
4,6-Dinitro-2-methylphenol	68	0	0%	880	4300	ND	ND	NA	NA	2150
4-Chloro-3-methylphenol	69	0	0%	350	1700	ND	ND	NA	NA	850
4-Chloroaniline	65	0	0%	350	1700	ND	ND	NA	NA	850
4-Isopropyltoluene	11	0	0%	1.08	6	ND	ND	NA	NA	3
4-Methyl-2-pentanone	65	0	0%	6	1300	ND	ND	NA	NA	650
4-Methylphenol	69	1	1%	61	690	47	47	47	0	47
4-Nitroaniline	59	0	0%	880	3800	ND	ND	NA	NA	1900
4-Nitrophenol	69	0	0%	880	4300	ND	ND	NA	NA	2150
Acenaphthene	70	12	17%	34	720	26	180	81.5	45.4442716	180
Acenaphthylene	70	0	0%	350	780	ND	ND	NA	NA	390
Acetone	67	6	9%	6	1300	30	210	88.16666667	67.3955983	210
Aldrin	65	0	0%	1.8	20	ND	ND	NA	NA	10
alpha-BHC	65	0	0%	1.8	20	ND	ND	NA	NA	10
alpha-Chlordane	65	0	0%	1.8	200	ND	ND	NA	NA	100
Anthracene	70	23	33%	26	720	19	430	112.8695652	98.8038941	430
Atrazine	1	0	0%	50	50	ND	ND	NA	NA	25
Benzene	78	0	0%	0.809	1300	ND	ND	NA	NA	650
Benzo(a)anthracene	56	26	46%	330	720	25	1400	336.7307692	327.371173	1400
Benzo(a)pyrene	56	25	45%	330	720	60	1300	398.6	294.637913	1300
Benzo(b)fluoranthene	69	39	57%	32	690	37	1500	433.6153846	414.883536	1500
Benzo(g,h,i)perylene	44	12	27%	30	330	55	270	151.1666667	62.8487844	270
Benzo(k)fluoranthene	69	37	54%	35	690	31	920	229.3513514	187.298368	920

123

Table C-2
Summary of Sediment ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detects	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Benzoic Acid	53	7	13%	320	2700	110	1400	474.2857143	436.037351	1400
Benzyl Alcohol	44	1	2%	330	540	41	41	41	0	41
beta-BHC	65	1	2%	1.8	13	28	28	28	0	28
bis(2-Chloroethyl) ether	28	0	0%	350	720	ND	ND	NA	NA	360
bis(2-Chloroisopropyl) ether	47	0	0%	350	780	ND	ND	NA	NA	390
bis(2-ethylhexyl)phthalate	69	45	65%	74	690	28	8800	964.9777778	1646.32375	8800
Bromodichloromethane	79	0	0%	0.678	1300	ND	ND	NA	NA	650
Bromoform	79	0	0%	1.1	1300	ND	ND	NA	NA	650
Bromomethane	84	6	7%	5	1300	2	5	3	1.09544512	5
Butylbenzylphthalate	58	6	10%	330	720	21	1700	339.8333333	666.9448	1700
Carbazole	16	6	38%	350	690	25	290	136.8333333	112.262935	290
Carbon Disulfide	65	0	0%	2.74	1300	ND	ND	NA	NA	650
Carbon Tetrachloride	79	2	3%	5	1300	390	440	415	35.3553391	440
Chlordane (technical)	1	0	0%	94	94	ND	ND	NA	NA	47
Chlorobenzene	64	0	0%	0.979	1300	ND	ND	NA	NA	650
Chloroethane	65	0	0%	3.85	1300	ND	ND	NA	NA	650
Chloroform	79	5	6%	5	1300	1	2	1.6	0.54772256	2
Chloromethane	64	0	0%	1.38	1300	ND	ND	NA	NA	650
Chrysene	70	43	61%	31	720	23	1400	326.6046512	297.481983	1400
cis-1,2-Dichloroethene	11	0	0%	1.05	6	ND	ND	NA	NA	3
cis-1,3-Dichloropropene	66	0	0%	5	21	ND	ND	NA	NA	10.5
delta-BHC	65	0	0%	1.8	20	ND	ND	NA	NA	10
Dibenz(a,h)anthracene	55	7	13%	330	690	21	360	174.5714286	117.484548	360
Dibenzofuran	70	4	6%	40	690	20	65	36.5	20.3387971	65
Dibromochloromethane	79	0	0%	0.72	1300	ND	ND	NA	NA	650
Dichlorodifluoromethane	25	0	0%	1.88	13	ND	ND	NA	NA	6.5
Dieldrin	66	1	2%	3	26	4.6	4.6	4.6	0	4.6
Diethylphthalate	62	1	2%	34	720	53	53	53	0	53
Dimethylphthalate	67	4	6%	45	720	75	490	211.25	188.342551	490
Di-n-butylphthalate	34	4	12%	330	330	45	68	55.5	11.7331439	68
Di-n-octylphthalate	52	9	17%	330	690	21	620	190.5555556	194.766598	620
Endosulfan I	66	0	0%	1.8	20	ND	ND	NA	NA	10

124

Table C-2
Summary of Sediment ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detects	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Endosulfan II	66	0	0%	3.5	41	ND	ND	NA	NA	20.5
Endosulfan sulfate	66	0	0%	3.5	41	ND	ND	NA	NA	20.5
Endrin	66	0	0%	3.5	41	ND	ND	NA	NA	20.5
Endrin aldehyde	17	0	0%	3.5	9.4	ND	ND	NA	NA	4.7
Endrin ketone	65	0	0%	3.5	41	ND	ND	NA	NA	20.5
Ethylbenzene	65	2	3%	5	1300	1.4	9	5.2	5.37401154	9
Fluoranthene	70	48	69%	25	720	33	2700	616.5833333	596.912511	2700
Fluorene	70	9	13%	38	720	21	180	75	47.7283983	180
gamma-BHC (Lindane)	65	1	2%	1.8	13	25	25	25	0	25
gamma-Chlordane	62	0	0%	1.8	200	ND	ND	NA	NA	100
Heptachlor	66	0	0%	1.8	20	ND	ND	NA	NA	10
Heptachlor epoxide	66	1	2%	1.8	13	33	33	33	0	33
Hexachlorobenzene	70	0	0%	350	850	ND	ND	NA	NA	425
Hexachlorobutadiene	90	1	1%	5	690	2	2	2	0	2
Hexachlorocyclopentadiene	69	0	0%	350	850	ND	ND	NA	NA	425
Hexachloroethane	69	0	0%	350	850	ND	ND	NA	NA	425
Indeno(1,2,3-cd)pyrene	69	28	41%	25	690	30	910	198.6428571	202.025524	910
Isophorone	69	0	0%	350	850	ND	ND	NA	NA	425
Isopropylbenzene	25	0	0%	1.28	8	ND	ND	NA	NA	4
Methoxychlor	66	1	2%	0.94	130	2.7	2.7	2.7	0	2.7
Methylene Chloride	91	20	22%	5	1300	2	420	62.15	121.668348	420
Naphthalene	76	6	8%	5.2	690	2	120	46.83333333	43.476047	120
Nitrobenzene	70	0	0%	350	850	ND	ND	NA	NA	425
N-Nitroso-di-n-propylamine	69	0	0%	350	850	ND	ND	NA	NA	425
N-nitrosodiphenylamine	70	0	0%	350	850	ND	ND	NA	NA	425
PCB-1016[2]	83	0	0%	35	220	ND	ND	NA	NA	110
PCB-1221[2]	83	0	0%	35	220	ND	ND	NA	NA	110
PCB-1232[2]	83	0	0%	35	220	ND	ND	NA	NA	110
PCB-1242[2]	83	0	0%	35	220	ND	ND	NA	NA	110
PCB-1248[2]	83	0	0%	35	220	ND	ND	NA	NA	110

125

Table C-2
Summary of Sediment ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detects	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
PCB-1254[2]	83	21	25%	6.5	430	27	1700	352.047619	414.32312	1700
PCB-1260[2]	83	5	6%	1.6	430	53	2000	638.6	790.056833	2000
Pentachlorophenol	70	3	4%	73	2700	420	1100	696.6666667	357.258077	1100
Phenanthrene	70	42	60%	39	720	35	1800	419.0238095	372.902033	1800
Phenol	70	1	1%	39	720	110	110	110	0	110
Pyrene	70	46	66%	43	720	20	1700	495.8695652	430.402943	1700
Simazine	1	0	0%	50	50	ND	ND	NA	NA	25
Styrene	79	0	0%	1.03	1300	ND	ND	NA	NA	650
Tetrachloroethene	65	3	5%	5	1300	3	7	4.666666667	2.081666	7
Toluene	78	17	22%	5	1300	2	360	43.82352941	83.8460161	360
Toxaphene	66	0	0%	170	940	ND	ND	NA	NA	470
trans-1,2-Dichloroethene	11	0	0%	1.38	6	ND	ND	NA	NA	3
trans-1,3-Dichloropropene	52	0	0%	5	21	ND	ND	NA	NA	10.5
Trichloroethene	64	0	0%	0.655	1300	ND	ND	NA	NA	650
Trichlorofluoromethane	11	0	0%	1.29	6	ND	ND	NA	NA	3
Vinyl acetate	36	0	0%	10	24	ND	ND	NA	NA	12
Vinyl Chloride	65	0	0%	2.9	1300	ND	ND	NA	NA	650
Xylene	51	0	0%	5	1300	ND	ND	NA	NA	650
Radionuclides (pCi/g)										
Americium-241	120	86	72%	0	0.171	0.004	7.452	0.464222581	0.96123733	7.452
Cesium-137	63	40	63%	0.019	0.2	0.01768	0.9586	0.16413	0.19573226	0.9586
Gross Alpha	71	71	100%	1.6	56	3.2	160	19.86360563	19.2983176	160
Gross Beta	71	71	100%	1.94	21	18.7	125.2	29.96788732	13.5046809	125.2
Plutonium-239/240	150	125	83%	0	0.241	-0.0083	24.09	1.03809232	2.85272312	24.09
Radium-226	35	35	100%	0.16	0.625	-9.84	1.593	0.30224	1.81766131	1.593
Radium-228	28	28	100%	0.071	0.61	0.888	2.082	1.436371429	0.31042159	2.082
Strontium-89/90	1	1	100%	0.18	0.18	0.047	0.047	0.047	0	0.047
Uranium-233/234	120	120	100%	0	0.209	0.294	9.807	1.096815833	0.91885403	9.807
Uranium-235	120	81	68%	0	0.167	-0.00604	0.8517	0.066756975	0.09586673	0.8517
Uranium-238	120	120	100%	0	0.177	0	59	1.6099225	5.34692398	59

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

Table C-2
Summary of Sediment ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI[2]	Number of Samples	Number of Detects	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]

[2]PCBs will be evaluated as total PCB. Total PCB concentrations are calculated for each sample in Table 3.

ND = The ECOI was not detected.

Table C-3
Accelerated Action Screening Step for Sediment in the South Walnut Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	Sediment ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Inorganics (mg/kg)					
Aluminum	28000	15900	Yes	Yes	No
Antimony	25.6	2	Yes	Yes	No
Arsenic	21.6	9.79	Yes	Yes	No
Barium	196	189	Yes	Yes	No
Beryllium	2.2	NA	NA	No	Yes
Boron	4.4	NA	NA	No	Yes
Cadmium	6.2	0.99	Yes	Yes	No
Calcium	95700	NA	NA	No	Yes
Cesium	13.6	NA	NA	No	Yes
Chromium	49	43.4	Yes	Yes	No
Chromium VI	0.013	43.4	No	No	No
Cobalt	13.3	NA	NA	No	Yes
Copper	324	31.6	Yes	Yes	No
Fluoride	9.27	0.01	Yes	Yes	No
Iron	32400	20000	Yes	Yes	No
Lead	170	35.8	Yes	Yes	No
Lithium	23.5	NA	NA	No	Yes
Magnesium	22900	NA	NA	No	Yes
Manganese	639	630	Yes	Yes	No
Mercury	0.23	0.18	Yes	Yes	No
Molybdenum	2.9	NA	NA	No	Yes
Nickel	216	22.7	Yes	Yes	No
Nitrate (as nitrogen)	0.776	NA	NA	No	Yes
Nitrate / Nitrite	3	NA	NA	No	Yes
Potassium	3890	NA	NA	No	Yes
Selenium	0.93	0.95	No	No	No
Silver	102	1	Yes	Yes	No
Sodium	922	NA	NA	No	Yes
Strontium	149	NA	NA	No	Yes
Thallium	0.98	NA	NA	No	Yes
Tin	39.5	NA	NA	No	Yes
Titanium	330	NA	NA	No	Yes
Vanadium	47.8	NA	NA	No	Yes
Zinc	888	121	Yes	Yes	No
Organics (ug/kg)					
1,2,4-Trichlorobenzene	2	429	No	No	No
2-Butanone	51	NA	NA	No	Yes
2-Methylnaphthalene	41	20.2	Yes	Yes	No
4,4'-DDE	4.1	3.16	Yes	Yes	No
4-Methylphenol	47	12.3	Yes	Yes	No
Acenaphthene	180	6.71	Yes	Yes	No
Acetone	210	NA	NA	No	Yes
Anthracene	430	57.2	Yes	Yes	No
Benzo(a)anthracene	1400	108	Yes	Yes	No
Benzo(a)pyrene	1300	150	Yes	Yes	No
Benzo(b)fluoranthene	1500	NA	NA	No	Yes
Benzo(g,h,i)perylene	270	13	Yes	Yes	No

Table C-3
Accelerated Action Screening Step for Sediment
in the South Walnut Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	Sediment ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Benzo(k)fluoranthene	920	240	Yes	Yes	No
Benzoic Acid	1400	NA	NA	No	Yes
Benzyl Alcohol	41	NA	NA	No	Yes
beta-BHC	28	2.37	Yes	Yes	No
bis(2-ethylhexyl)phthalate	8800	24900	No	No	No
Bromomethane	5	3.43	Yes	Yes	No
Butylbenzylphthalate	1700	11400	No	No	No
Carbazole	290	25.2	Yes	Yes	No
Carbon Tetrachloride	440	7890	No	No	No
Chloroform	2	NA	NA	No	Yes
Chrysene	1400	166	Yes	Yes	No
Dibenz(a,h)anthracene	360	33	Yes	Yes	No
Dibenzofuran	65	325	No	No	No
Dieldrin	4.6	NA	NA	No	Yes
Diethylphthalate	53	108	No	No	No
Dimethylphthalate	490	NA	NA	No	Yes
Di-n-butylphthalate	68	612	No	No	No
Di-n-octylphthalate	620	NA	NA	No	Yes
Ethylbenzene	9	NA	NA	No	Yes
Fluoranthene	2700	423	Yes	Yes	No
Fluorene	180	77.4	Yes	Yes	No
gamma-BHC (Lindane)	25	2.37	Yes	Yes	No
Heptachlor epoxide	33	2.47	Yes	Yes	No

128

Table C-3
Accelerated Action Screening Step for Sediment in the South Walnut Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	Sediment ESL	EPC> ESL?	Carry Forward?	Discuss in Uncertainty Section?
Hexachlorobutadiene	2	23	No	No	No
Indeno(1,2,3-cd)pyrene	910	17	Yes	**Yes**	No
Methoxychlor	2.7	24	No	No	No
Methylene Chloride	420	NA	NA	No	**Yes**
Naphthalene	120	176	No	No	No
PCB-1254	1700	40	Yes	**Yes**	No
PCB-1260	2000	40	Yes	**Yes**	No
Pentachlorophenol	1100	255	Yes	**Yes**	No
Phenanthrene	1800	204	Yes	**Yes**	No
Phenol	110	773	No	No	No
Pyrene	1700	195	Yes	**Yes**	No
Tetrachloroethene	7	3050	No	No	No
Toluene	360	1660	No	No	No
Radionuclides (pCi/g)					
Americium-241	7.452	5150	No	No	No
Cesium-137	0.9586	3120	No	No	No
Gross Alpha	160	NA	NA	No	**Yes**
Gross Beta	125.2	NA	NA	No	**Yes**
Plutonium-239/240	24.09	5860	No	No	No
Radium-226	1.593	101	No	No	No
Radium-228	2.082	87.8	No	No	No
Strontium-89/90	0.047	582	No	No	No
Uranium-233/234	9.807	NA	NA	No	**Yes**
Uranium-235	0.8517	3730	No	No	No
Uranium-238	59	2490	No	No	No

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

130

Table C-4
South Walnut Creek Aquatic Exposure Unit Sediment
Nondetected Analytes vs. ESL

MediaType	AnalyteGroup	Analyte	Range of Reported Detection Limits	Units	Total Number of Results	ESL	MaxDL > ESL?
Sediment	Organic	1,1,1-Trichloroethane	1.09 - 1300	ug/kg	65	159	Yes
Sediment	Organic	1,1,2,2-Tetrachloroethane	0.958 - 1300	ug/kg	79	1900	No
Sediment	Organic	2-Methylphenol	350 - 850	ug/kg	69	6970	No
Sediment	Organic	4,4'-DDD	3.5 - 41	ug/kg	65	4.88	Yes
Sediment	Organic	4,4'-DDD	9.4 - 9.4	ug/kg	1	4.88	Yes
Sediment	Organic	4,4'-DDT	3.5 - 41	ug/kg	66	4.16	Yes
Sediment	Organic	Acenaphthylene	350 - 780	ug/kg	70	5.87	Yes
Sediment	Organic	Aldrin	1.8 - 20	ug/kg	65	8.25	Yes
Sediment	Organic	alpha-BHC	1.8 - 20	ug/kg	65	2.37	Yes
Sediment	Organic	alpha-Chlordane	1.8 - 200	ug/kg	65	3.24	Yes
Sediment	Organic	Benzene	0.809 - 1300	ug/kg	78	260	Yes
Sediment	Organic	Chlordane (technical)	94 - 94	ug/kg	1	3.24	Yes
Sediment	Organic	delta-BHC	1.8 - 20	ug/kg	65	2.37	Yes
Sediment	Organic	Endosulfan I	1.8 - 20	ug/kg	65	0.69	Yes
Sediment	Organic	Endosulfan I	9.4 - 9.4	ug/kg	1	0.69	Yes
Sediment	Organic	Endosulfan II	3.5 - 41	ug/kg	65	0.69	Yes
Sediment	Organic	Endosulfan II	9.4 - 9.4	ug/kg	1	0.69	Yes
Sediment	Organic	Endosulfan sulfate	3.5 - 41	ug/kg	66	0.69	Yes
Sediment	Organic	gamma-Chlordane	1.8 - 200	ug/kg	62	3.24	Yes
Sediment	Organic	Heptachlor	1.8 - 20	ug/kg	66	0.132	Yes
Sediment	Organic	PCB-1016	35 - 220	ug/kg	83	40	Yes
Sediment	Organic	PCB-1221	35 - 220	ug/kg	83	40	Yes
Sediment	Organic	PCB-1232	35 - 220	ug/kg	83	40	Yes
Sediment	Organic	PCB-1242	35 - 220	ug/kg	83	40	Yes
Sediment	Organic	PCB-1248	35 - 220	ug/kg	83	40	Yes
Sediment	Organic	Trichloroethene	0.655 - 1300	ug/kg	64	22800	No
Sediment	Organic	Xylene	5 - 1300	ug/kg	51	91	Yes

Table D-1
ECOIs Detected in Sediment in the Woman Creek Aquatic Exposure Unit

ECOIs Detected in Sediment in the Woman Creek Aquatic Exposure Unit		
	Inorganics	
Aluminum		Magnesium
Antimony		Manganese
Arsenic		Mercury
Barium		Molybdenum
Beryllium		Nickel
Boron		Nitrate / Nitrite
Cadmium		Potassium
Calcium		Selenium
Cesium		Silver
Chromium		Sodium
Chromium VI		Strontium
Cobalt		Thallium
Copper		Tin
Fluoride		Titanium
Iron		Vanadium
Lead		Zinc
Lithium		
	Organics	
2-Butanone		Dibenzofuran
2-Methylnaphthalene		Diethylphthalate
4,4'-DDT		Di-n-butylphthalate
4-Methyl-2-pentanone		Di-n-octylphthalate
4-Methylphenol		Endosulfan I
Acenaphthene		Fluoranthene
Acetone		Fluorene
Aldrin		gamma-BHC (Lindane)
alpha-Chlordane		Heptachlor
Anthracene		Heptachlor epoxide
Benzo(a)anthracene		Indeno(1,2,3-cd)pyrene
Benzo(a)pyrene		Methylene Chloride
Benzo(b)fluoranthene		Naphthalene
Benzo(k)fluoranthene		PCB-1254
Benzoic Acid		Phenanthrene
beta-BHC		Phenol
bis(2-ethylhexyl)phthalate		Pyrene
Butylbenzylphthalate		Tetrachloroethene
Chrysene		Toluene
delta-BHC		Trichloroethene
Dibenz(a,h)anthracene		
Radionuclides		
Americium-241		Radium-228
Cesium-137		Strontium-89/90
Gross Alpha		Uranium-233/234
Gross Beta		Uranium-235
Plutonium-239/240		Uranium-238
Radium-226		

132

Table D-2
Summary of ECOI Sediment Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
Inorganics (mg/kg)											
Aluminum	40	40	100%	5.96	200	1140	30200	8499	5569.9868	15900	30200
Antimony	46	3	7%	0.39	60	2.5	51.3	30.1	25.021591	2	51.3
Arsenic	49	47	96%	0.12	10	0.48	9.8	4.196595745	2.0898807	9.79	9.8
Barium	50	49	98%	0.03	200	14.6	404	123.0142857	77.752827	189	404
Beryllium	39	25	64%	0.03	5	0.11	1.7	0.7164	0.3745651	NA	1.7
Boron	1	1	100%	1.4	1.4	14	14	14	NA	NA	14
Cadmium	46	11	24%	0.09	5	0.15	3.6	1.294545455	1.053303	0.99	3.6
Calcium	49	49	100%	3.4	5000	673	48200	10225.77551	10871.215	NA	48200
Cesium	32	10	31%	2	1000	0.68	5.2	2.881	1.3484019	NA	5.2
Chromium	40	39	98%	0.21	10	2.9	70.1	13.03846154	10.759026	43.4	70.1
Chromium VI	4	1	25%	0.005	0.005	0.012	0.012	0.012	NA	43.4	0.012
Cobalt	39	36	92%	0.26	50	1.3	12.8	6.544444444	3.5292609	NA	12.8
Copper	40	35	88%	0.063	25	2.2	212	31.32	44.700486	31.6	212
Fluoride	4	1	25%	2.5	2.5	20.3	20.3	20.3	NA	0.01	20.3
Iron	40	40	100%	1.38	100	2660	29700	12988.25	6836.182	20000	29700
Lead	49	49	100%	0.29	3.1	2.6	118	24.98653061	20.147077	35.8	118
Lithium	68	57	84%	0.41	100	1.7	18.2	8.080701754	4.0617307	NA	18.2
Magnesium	50	50	100%	1.2	5000	448	6600	2425.82	1522.4108	NA	6600
Manganese	49	49	100%	0.229	15	53	1580	290.655102	247.40182	630	1580
Mercury	49	10	20%	0.0071	0.339	0.045	3.8	1.2313	1.1043436	0.18	3.8
Molybdenum	46	1	2%	0.41	200	0.56	0.56	0.56	NA	NA	0.56
Nickel	40	29	73%	0.27	40	2.2	32.1	13.95862069	7.413767	22.7	32.1
Nitrate / Nitrite	53	39	74%	0.02	7.4	0.429	32	3.872205128	6.776903	NA	32
Nitrite (as nitrogen)	2	0	0%	2.5	2.5	ND	ND	NA	NA	NA	1.25
Potassium	49	40	82%	50	5000	276	3440	1431.7	886.42026	NA	3440
Selenium	36	10	28%	0.688	5	0.69	3.8	1.402	0.8931194	0.95	3.8
Silver	38	4	11%	0.11	10	0.96	7.7	4.265	3.1596783	1	7.7
Sodium	50	43	86%	5.27	5000	23.3	2060	274.4418605	330.98942	NA	2060
Strontium	49	48	98%	0.081	400	4.8	167	52.95	40.732699	NA	167
Thallium	45	7	16%	0.31	10	0.24	1.6	0.728571429	0.5169922	NA	1.6
Tin	48	5	10%	1.2	200	3.4	77.2	24.22	29.965931	NA	77.2
Titanium	1	1	100%	0.12	0.12	190	190	190	NA	NA	190

133

Table D-2

Summary of ECOI Sediment Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
Vanadium	49	49	100%	0.65	50	4.9	68.6	24.80204082	13.586781	NA	68.6
Zinc	41	41	100%	0.03	20	14.4	2080	177.1146341	345.44434	121	2080
Organics (ug/kg)											
1,1,1,2-Tetrachloroethane	1	0	0%	0.952	0.952	ND	ND	NA	NA	NA	0.476
1,1,1-Trichloroethane	52	0	0%	0.841	16	ND	ND	NA	NA	159	8
1,1,2,2-Tetrachloroethane	52	0	0%	0.928	16	ND	ND	NA	NA	1900	8
1,1,2-Trichloro-1,2,2-trifluoro	1	0	0%	0.84	0.84	ND	ND	NA	NA	NA	0.42
1,1,2-Trichloroethane	52	0	0%	1.57	16	ND	ND	NA	NA	NA	8
1,1-Dichloroethane	52	0	0%	0.782	16	ND	ND	NA	NA	NA	8
1,1-Dichloroethene	52	0	0%	0.873	16	ND	ND	NA	NA	NA	8
1,2,3-Trichloropropane	1	0	0%	1.08	1.08	ND	ND	NA	NA	NA	0.54
1,2,4-Trichlorobenzene	53	0	0%	1.76	2100	ND	ND	NA	NA	429	1050
1,2-Dibromoethane	1	0	0%	1.34	1.34	ND	ND	NA	NA	NA	0.67
1,2-Dichlorobenzene	53	0	0%	1.08	2100	ND	ND	NA	NA	NA	1050
1,2-Dichloroethane	52	0	0%	1.17	16	ND	ND	NA	NA	NA	8
1,2-Dichloroethene	23	0	0%	5	15	ND	ND	NA	NA	NA	7.5
1,2-Dichloropropane	52	0	0%	0.747	16	ND	ND	NA	NA	NA	8
1,3-Dichlorobenzene	53	0	0%	0.911	2100	ND	ND	NA	NA	NA	1050
1,4-Dichlorobenzene	53	0	0%	1.32	2100	ND	ND	NA	NA	NA	1050
2,4,5-Trichlorophenol	53	0	0%	410	10000	ND	ND	NA	NA	NA	5000
2,4,6-Trichlorophenol	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
2,4-Dichlorophenol	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
2,4-Dimethylphenol	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
2,4-Dinitrophenol	49	0	0%	960	10000	ND	ND	NA	NA	NA	5000
2,4-Dinitrotoluene	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
2,6-Dinitrotoluene	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
2-Butanone	50	8	16%	10	140	3	380	84.75	131.39988	NA	380
2-Chloronaphthalene	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
2-Chlorophenol	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
2-Methylnaphthalene	53	1	2%	43	820	110	110	110	NA	20.2	110
2-Methylphenol	53	0	0%	350	2100	ND	ND	NA	NA	6970	1050
2-Nitroaniline	53	0	0%	960	10000	ND	ND	NA	NA	NA	5000
3,3'-Dichlorobenzidine	52	0	0%	380	4100	ND	ND	NA	NA	NA	2050
4,4'-DDD	57	0	0%	3.8	200	ND	ND	NA	NA	4.88	100

134

Table D-2
Summary of ECOI Sediment Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC
4,4'-DDE	57	0	0%	3.8	200	ND	ND	NA	NA	3.16	100
4,4'-DDT	57	1	2%	3.8	200	18	18	18	NA	4.16	18
4,6-Dinitro-2-methylphenol	51	0	0%	960	10000	ND	ND	NA	NA	NA	5000
4-Chloro-3-methylphenol	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
4-Chloroaniline	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
4-Isopropyltoluene	1	0	0%	0.99	0.99	ND	ND	NA	NA	NA	0.495
4-Methyl-2-pentanone	52	1	2%	10	70	3	3	3	NA	NA	3
4-Methylphenol	53	4	8%	69	820	68	510	217.75	203.07039	12.3	510
4-Nitroaniline	48	0	0%	960	10000	ND	ND	NA	NA	NA	5000
4-Nitrophenol	53	0	0%	960	10000	ND	ND	NA	NA	NA	5000
Acenaphthene	53	1	2%	56	820	510	510	510	NA	6.71	510
Acenaphthylene	53	0	0%	350	2100	ND	ND	NA	NA	5.87	1050
Acetone	58	12	21%	10	140	3	890	150	256.80272	NA	890
Aldrin	58	2	3%	1.9	120	0	0	0	0	8.25	0
alpha-BHC	57	0	0%	1.9	99	ND	ND	NA	NA	2.37	49.5
alpha-Chlordane	58	2	3%	1.9	1200	0	0	0	0	3.24	0
Anthracene	53	1	2%	80	820	470	470	470	NA	57.2	470
Atrazine	3	0	0%	50	410	ND	ND	NA	NA	NA	205
Benzene	52	0	0%	0.9	16	ND	ND	NA	NA	260	8
Benzo(a)anthracene	52	6	12%	330	820	22	1200	235	472.98457	108	1200
Benzo(a)pyrene	52	5	10%	330	820	37	970	242.6	407.69633	150	970
Benzo(b)fluoranthene	53	4	8%	78	820	84	1500	473.5	685.74704	NA	1500
Benzo(g,h,i)perylene	24	0	0%	360	2100	ND	ND	NA	NA	13	1050
Benzo(k)fluoranthene	53	4	8%	84	820	72	690	245.5	296.87427	240	690
Benzoic Acid	49	6	12%	350	3900	190	660	390	171.69741	NA	660
Benzyl Alcohol	49	0	0%	350	2100	ND	ND	NA	NA	NA	1050
beta-BHC	58	2	3%	1.9	120	0	0	0	0	2.37	0
bis(2-Chloroethyl) ether	34	0	0%	350	820	ND	ND	NA	NA	NA	410
bis(2-Chloroisopropyl) ether	48	0	0%	350	2100	ND	ND	NA	NA	NA	1050
bis(2-ethylhexyl)phthalate	54	30	56%	87	1200	49	2600	388.8666667	618.26474	24900	2600
Bromodichloromethane	52	0	0%	1.08	16	ND	ND	NA	NA	NA	8
Bromoform	52	0	0%	1.18	16	ND	ND	NA	NA	NA	8
Bromomethane	52	0	0%	4.43	32	ND	ND	NA	NA	3.43	16
Butylbenzylphthalate	30	1	3%	330	1200	210	210	210	NA	11400	210

135

Table D-2
Summary of ECOI Sediment Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC
Carbazole	3	0	0%	380	480	ND	ND	NA	NA	25.2	240
Carbon Disulfide	52	0	0%	0.898	16	ND	ND	NA	NA	NA	8
Carbon Tetrachloride	52	0	0%	0.823	16	ND	ND	NA	NA	7890	8
Chlorobenzene	52	0	0%	0.717	16	ND	ND	NA	NA	NA	8
Chloroethane	52	0	0%	2.23	32	ND	ND	NA	NA	NA	16
Chloroform	52	0	0%	0.777	16	ND	ND	NA	NA	NA	8
Chloromethane	49	0	0%	2.51	32	ND	ND	NA	NA	NA	16
Chrysene	54	9	17%	42	1200	41	1200	236.5555556	369.46688	166	1200
cis-1,2-Dichloroethene	1	0	0%	1.13	1.13	ND	ND	NA	NA	NA	0.565
cis-1,3-Dichloropropene	51	0	0%	5	16	ND	ND	NA	NA	NA	8
delta-BHC	58	2	3%	1.9	120	0	0	0	0	2.37	0
Dibenz(a,h)anthracene	47	1	2%	330	820	220	220	220	NA	33	220
Dibenzofuran	53	1	2%	62	820	230	230	230	NA	325	230
Dibromochloromethane	52	0	0%	1.17	16	ND	ND	NA	NA	NA	8
Dichlorodifluoromethane	1	0	0%	2.76	2.76	ND	ND	NA	NA	NA	1.38
Dieldrin	57	0	0%	3.8	200	ND	ND	NA	NA	NA	100
Diethylphthalate	31	1	3%	41	1200	79	79	79	NA	108	79
Dimethylphthalate	30	0	0%	360	2100	ND	ND	NA	NA	NA	1050
Di-n-butylphthalate	17	3	18%	330	610	39	70	55.33333333	15.567059	612	70
Di-n-octylphthalate	30	2	7%	330	1200	21	96	58.5	53.033009	NA	96
Endosulfan I	58	2	3%	1.9	190	0	0	0	0	0.69	0
Endosulfan II	57	0	0%	3.8	200	ND	ND	NA	NA	0.69	100
Endosulfan sulfate	57	0	0%	3.8	200	ND	ND	NA	NA	0.69	100
Endrin	57	0	0%	3.8	200	ND	ND	NA	NA	NA	100
Endrin aldehyde	4	0	0%	3.8	11	ND	ND	NA	NA	NA	5.5
Endrin ketone	57	0	0%	3.8	200	ND	ND	NA	NA	NA	100
Ethylbenzene	52	0	0%	0.657	16	ND	ND	NA	NA	NA	8
Fluoranthene	54	14	26%	48	1200	31	2900	336.9285714	745.9719	423	2900
Fluorene	53	1	2%	67	820	400	400	400	NA	77.4	400
gamma-BHC (Lindane)	57	1	2%	1.9	99	4.4	4.4	4.4	NA	2.37	4.4
gamma-Chlordane	32	0	0%	1.9	500	ND	ND	NA	NA	3.24	250
Heptachlor	58	3	5%	1.9	120	0	3.1	1.033333333	1.7897858	0.132	3.1
Heptachlor epoxide	58	2	3%	1.9	120	0	0	0	0	2.47	0
Hexachlorobenzene	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050

136

Table D-2
Summary of ECOI Sediment Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
Hexachlorobutadiene	53	0	0%	1.13	2100	ND	ND	NA	NA	23	1050
Hexachlorocyclopentadiene	52	0	0%	350	2100	ND	ND	NA	NA	NA	1050
Hexachloroethane	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
Indeno(1,2,3-cd)pyrene	53	2	4%	54	820	24	440	232	294.15642	17	440
Isophorone	53	0	0%	270	2100	ND	ND	NA	NA	NA	1050
Isopropylbenzene	1	0	0%	0.516	0.516	ND	ND	NA	NA	NA	0.258
Methoxychlor	57	0	0%	19	990	ND	ND	NA	NA	24	495
Methylene Chloride	59	11	19%	5	41	2	220	38.90909091	70.362568	NA	220
Naphthalene	54	2	4%	7	820	2	300	151	210.71782	176	300
Nitrobenzene	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
N-Nitroso-di-n-propylamine	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
N-nitrosodiphenylamine	53	0	0%	350	2100	ND	ND	NA	NA	NA	1050
PCB-1016[2]	59	0	0%	36	990	ND	ND	NA	NA	40	495
PCB-1221[2]	59	0	0%	36	990	ND	ND	NA	NA	40	495
PCB-1232[2]	59	0	0%	36	990	ND	ND	NA	NA	40	495
PCB-1242[2]	59	0	0%	36	990	ND	ND	NA	NA	40	495
PCB-1248[2]	59	0	0%	36	990	ND	ND	NA	NA	40	495
PCB-1254[2]	61	10	16%	33	2300	19	250	109	78.813422	40	250
PCB-1260[2]	57	0	0%	38	2000	ND	ND	NA	NA	40	1000
Pentachlorophenol	53	0	0%	960	10000	ND	ND	NA	NA	255	5000
Phenanthrene	54	10	19%	51	1200	24	2900	373.1	890.20078	204	2900
Phenol	53	1	2%	67	820	150	150	150	NA	773	150
Pyrene	54	13	24%	69	1200	45	3100	351.7692308	830.43213	195	3100
Simazine	2	0	0%	50	50	ND	ND	NA	NA	NA	25
Styrene	52	0	0%	0.9	16	ND	ND	NA	NA	NA	8
Tetrachloroethene	52	2	4%	5	15	1	1	1	0	3050	1
Toluene	56	14	25%	5	15	2	520	190.5	202.57373	1660	520
Toxaphene	57	0	0%	85	2000	ND	ND	NA	NA	NA	1000
trans-1,2-Dichloroethene	1	0	0%	1.09	1.09	ND	ND	NA	NA	NA	0.545
trans-1,3-Dichloropropene	51	0	0%	5	16	ND	ND	NA	NA	NA	8
Trichloroethene	53	1	2%	5	34	23	23	23	NA	22800	23
Trichlorofluoromethane	1	0	0%	0.935	0.935	ND	ND	NA	NA	NA	0.4675
Vinyl acetate	47	0	0%	11	32	ND	ND	NA	NA	NA	16

137

Table D-2
Summary of ECOI Sediment Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
Vinyl Chloride	52	0	0%	2.45	32	ND	ND	NA	NA	NA	16
Xylene	29	0	0%	5	16	ND	ND	NA	NA	91	8
Radionuclides (pCi/g)											
Americium-241	86	71	83%	0	0.222	0.003427	0.869	0.11384969	0.1627726	5150	0.869
Cesium-137	52	45	87%	0.0196	0.2	-0.00176	0.5643	0.156475067	0.1331076	3120	0.5643
Gross Alpha	78	78	100%	1.5	56	-9.7	320	29.0329359	39.829233	NA	320
Gross Beta	79	79	100%	2.3	21	4.95	74.93	29.08582278	12.388073	NA	74.93
Plutonium-239/240	102	94	92%	0	0.182	0	182	3.584690255	19.922683	5860	182
Radium-226	19	19	100%	0.1	0.545	-1.897	2.19	0.832805263	0.8991277	101	2.19
Radium-228	20	20	100%	0.04	0.53	0.7321	2.9	1.4059	0.58386	87.8	2.9
Strontium-89/90	4	1	25%	0.3	0.4	0.0192	0.0192	0.0192	NA	582	0.0192
Uranium-233/234	86	86	100%	0	0.246	0.23	4.775	1.31837093	0.9008038	NA	4.775
Uranium-235	86	60	70%	0	0.2	-0.00529	0.265	0.070547167	5.32E-02	3730	0.265
Uranium-238	86	86	100%	0	0.172	0.3	10.13	1.407522093	1.3367157	2490	10.13

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

[2]PCBs will be evaluated as total PCB. Total PCB concentrations are calculated for each sample in Table 3.

ND = The ECOI was not detected.

Table D-3
Accelerated Action Screening Step for Sediment in the Woman Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	Sediment ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Inorganics (mg/kg)					
Aluminum	30200	15900	Yes	Yes	No
Antimony	51.3	2	Yes	Yes	No
Arsenic	9.8	9.79	Yes	Yes	No
Barium	404	189	Yes	Yes	No
Beryllium	1.7	NA	NA	No	Yes
Boron	14	NA	NA	No	Yes
Cadmium	3.6	0.99	Yes	Yes	No
Calcium	48200	NA	NA	No	Yes
Cesium	5.2	NA	NA	No	Yes
Chromium	70.1	43.4	Yes	Yes	No
Chromium VI	0.012	43.4	No	No	No
Cobalt	12.8	NA	NA	No	Yes
Copper	212	31.6	Yes	Yes	No
Fluoride	20.3	0.01	Yes	Yes	No
Iron	29700	20000	Yes	Yes	No
Lead	118	35.8	Yes	Yes	No
Lithium	18.2	NA	NA	No	Yes
Magnesium	6600	NA	NA	No	Yes
Manganese	1580	630	Yes	Yes	No
Mercury	3.8	0.18	Yes	Yes	No
Molybdenum	0.56	NA	NA	No	Yes
Nickel	32.1	22.7	Yes	Yes	No
Nitrate / Nitrite	32	NA	NA	No	Yes
Potassium	3440	NA	NA	No	Yes
Selenium	3.8	0.95	Yes	Yes	No
Silver	7.7	1	Yes	Yes	No
Sodium	2060	NA	NA	No	Yes
Strontium	167	NA	NA	No	Yes
Thallium	1.6	NA	NA	No	Yes
Tin	77.2	NA	NA	No	Yes
Titanium	190	NA	NA	No	Yes
Vanadium	68.6	NA	NA	No	Yes
Zinc	2080	121	Yes	Yes	No
Organics (ug/kg)					
2-Butanone	380	NA	NA	No	Yes
2-Methylnaphthalene	110	20.2	Yes	Yes	No
4,4'-DDT	18	4.16	Yes	Yes	No
4-Methyl-2-pentanone	3	NA	NA	No	Yes
4-Methylphenol	510	12.3	Yes	Yes	No
Acenaphthene	510	6.71	Yes	Yes	No
Acetone	890	NA	NA	No	Yes
Aldrin	0	8.25	No	No	No
alpha-Chlordane	0	3.24	No	No	No
Anthracene	470	57.2	Yes	Yes	No
Benzo(a)anthracene	1200	108	Yes	Yes	No
Benzo(a)pyrene	970	150	Yes	Yes	No

Table D-3
Accelerated Action Screening Step for Sediment in the Woman Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	Sediment ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Benzo(b)fluoranthene	1500	NA	NA	No	**Yes**
Benzo(k)fluoranthene	690	240	Yes	**Yes**	No
Benzoic Acid	660	NA	NA	No	**Yes**
beta-BHC	0	2.37	No	No	No
bis(2-ethylhexyl)phthalate	2600	24900	No	No	No
Butylbenzylphthalate	210	11400	No	No	No
Chrysene	1200	166	Yes	**Yes**	No
delta-BHC	0	2.37	No	No	No
Dibenz(a,h)anthracene	220	33	Yes	**Yes**	No
Dibenzofuran	230	325	No	No	No
Diethylphthalate	79	108	No	No	No
Di-n-butylphthalate	70	612	No	No	No
Di-n-octylphthalate	96	NA	NA	No	**Yes**
Endosulfan I	0	0.69	No	No	No
Fluoranthene	2900	423	Yes	**Yes**	No
Fluorene	400	77.4	Yes	**Yes**	No
gamma-BHC (Lindane)	4.4	2.37	Yes	**Yes**	No
Heptachlor	3.1	0.132	Yes	**Yes**	No
Heptachlor epoxide	0	2.47	No	No	No
Indeno(1,2,3-cd)pyrene	440	17	Yes	**Yes**	No
Methylene Chloride	220	NA	NA	No	**Yes**
Naphthalene	300	176	Yes	**Yes**	No
PCB-1254	250	40	Yes	**Yes**	No
Phenanthrene	2900	204	Yes	**Yes**	No
Phenol	150	773	No	No	No
Pyrene	3100	195	Yes	**Yes**	No
Tetrachloroethene	1	3050	No	No	No
Toluene	520	1660	No	No	No
Trichloroethene	23	22800	No	No	No
Radionuclides (pCi/g)					
Americium-241	0.869	5150	No	No	No
Cesium-137	0.5643	3120	No	No	No
Gross Alpha	320	NA	NA	No	**Yes**
Gross Beta	74.93	NA	NA	No	**Yes**
Plutonium-239/240	182	5860	No	No	No
Radium-226	2.19	101	No	No	No
Radium-228	2.9	87.8	No	No	No
Strontium-89/90	0.0192	582	No	No	No
Uranium-233/234	4.775	NA	NA	No	**Yes**
Uranium-235	0.265	3730	No	No	No
Uranium-238	10.13	2490	No	No	No

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

139

Table D-4
Rocky Flats Background Data - Sediment (Background Stream Sediments)
Woman Creek Aquatic Exposure Unit

Analyte	Total Samples		Statistical Distribution Testing Results								Comparison Test						$^{95}UCL_{90}$	COC (Detect, >ESL, Not BKG, +5% D)
			Background				Site											
	Back	Site	Distribution Recommended by ProUCL	UCL Recommended by ProUCL	UCL Value	% NDs	Distribution Recommended by ProUCL	UCL Recommended by ProUCL	UCL Value	% Ds	Test	p Value	Qunatile Test p Value	Slippage Test	Decision	Max Detect	Result	
2-Methylnaphthalene	N/A	52	N/A	N/A	N/A		NON-PARAMETRIC	95% Student's-t UCL	3.47E+02	1.89	WRS					110.0	700.00	
4,4'-DDT	N/A	57	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	2.80E+01	1.75	WRS					18.0	50.00	
4-Methylphenol	N/A	52	N/A	N/A	N/A		NON-PARAMETRIC	95% Student's-t UCL	3.43E+02	7.55	WRS					510.0	700.00	4-Methylphenol
Acenaphthene	N/A	52	N/A	N/A	N/A		NON-PARAMETRIC	95% Student's-t UCL	3.55E+02	1.89	WRS					510.0	700.00	
Aluminum	59	40	GAMMA	95% Approximate Gamma UCL	7.13E+03		GAMMA	95% Approximate Gamma UCL	1.03E+04	100.00	WRS	0.9960	0.9548		Not BKG	30200.0	16100.00	Aluminum
Americium-241	37	86	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	5.20E-01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.71E-01	82.56	WRS	0.9999	0.1076		Not BKG	0.9	0.42	Americium-241
Anthracene	N/A	52	N/A	N/A	N/A		NON-PARAMETRIC	95% Student's-t UCL	3.54E+02	1.89	WRS					470.0	700.00	
Antimony	52	46	LOGNORMAL	95% H-UCL	3.96E+00		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.28E+01	6.52	WRS	0.9999	0.9907		Not BKG	51.3	19.55	Antimony
Arsenic	59	49	GAMMA	95% Approximate Gamma UCL	2.89E+00		NORMAL	95% Student's-t UCL	4.56E+00	95.92	WRS	1.0000	0.9967		Not BKG	9.8	7.50	Arsenic
Barium	57	50	LOGNORMAL	95% H-UCL	1.04E+02		GAMMA	95% Approximate Gamma UCL	1.44E+02	98.00	WRS	0.9985	0.9997		Not BKG	404.0	256.00	Barium
Benzo(a)anthracene	N/A	52	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	4.48E+02	11.54	WRS					1200.0	900.00	Benzo(a)anthracene
Benzo(a)pyrene	N/A	52	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	4.36E+02	9.62	WRS					970.0	900.00	Benzo(a)pyrene
Benzo(k)fluoranthene	N/A	52	N/A	N/A	N/A		NON-PARAMETRIC	95% Student's-t UCL	3.51E+02	7.55	WRS					690.0	700.00	Benzo(k)fluoranthene
Beryllium	57	39	LOGNORMAL	95% H-UCL	7.36E-01		GAMMA	95% Approximate Gamma UCL	6.55E-01	64.10	WRS	0.7031	0.9046		BKG	1.7	1.40	
Boron	N/A	1	N/A	N/A	N/A		0	Too Few Observations To Calculate UCLs	N/A	100.00	WRS					14.0	1.40	Boron
Cadmium	51	46	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	7.62E-01		GAMMA	95% Approximate Gamma UCL	8.95E-01	23.91	WRS	0.9919	0.8057		Not BKG	3.6	1.80	Cadmium
Calcium	59	49	LOGNORMAL	95% H-UCL	5.29E+03		GAMMA	95% Approximate Gamma UCL	1.30E+04	100.00	WRS	1.0000	0.9767		Not BKG	48200.0	36600.00	Calcium
Cesium	56	32	GAMMA	95% Approximate Gamma UCL	9.00E+01		GAMMA	95% Approximate Gamma UCL	6.54E+00	31.25	WRS	0.0000	0.0221		BKG	5.2	19.15	
Cesium-137	35	52	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	5.45E-01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	2.29E-01	86.54	WRS	0.5121	0.1660		BKG	0.6	0.49	
Chromium	59	40	GAMMA	95% Approximate Gamma UCL	1.01E+01		GAMMA	95% Approximate Gamma UCL	1.54E+01	97.50	WRS	0.9991	0.4694		Not BKG	70.1	23.90	Chromium
Chromium VI	N/A	4	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.52E-02	25.00	WRS					0.0	0.01	Chromium VI
Chrysene	N/A	53	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	4.39E+02	16.67	WRS					1200.0	900.00	Chrysene
Cobalt	59	39	NORMAL	95% Student's-t UCL	5.76E+00		NORMAL	95% Student's-t UCL	7.28E+00	92.31	t-Test_N	0.9658	0.8394		Not BKG	12.8	12.32	Cobalt
Copper	59	40	NORMAL	95% Student's-t UCL	1.19E+01		LOGNORMAL	95% H-UCL	3.82E+01	87.50	WRS	0.9998	0.9972		Not BKG	212.0	167.00	Copper
Dibenz(a,h)anthracene	N/A	47	N/A	N/A	N/A		GAMMA	95% Approximate Gamma UCL	2.84E+02	2.13	WRS					220.0	410.00	
Fluoranthene	N/A	53	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	5.66E+02	25.93	WRS					2900.0	900.00	Fluoranthene
Fluorene	N/A	52	N/A	N/A	N/A		NON-PARAMETRIC	95% Student's-t UCL	3.52E+02	1.89	WRS					400.0	700.00	
Fluoride	N/A	4	N/A	N/A	N/A		NON-PARAMETRIC	99% Chebyshev (Mean, Sd) UCL	5.36E+01	25.00	WRS					20.3	20.30	Fluoride
gamma-BHC (Lindane)	N/A	57	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.51E+01	1.75	WRS					4.4	37.00	
Gross Alpha	45	78	GAMMA	95% Approximate Gamma UCL	2.90E+01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	4.87E+01	100.00	WRS	0.9415	0.2388		Not BKG	320.0	59.00	Gross Alpha
Gross Beta	43	79	NORMAL	95% Student's-t UCL	3.79E+01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	3.52E+01	100.00	WRS	0.0025	0.0767		BKG	74.9	46.00	
Heptachlor	N/A	57	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.64E+01	5.17	WRS					3.1	45.50	Heptachlor
Indeno(1,2,3-cd)pyrene	N/A	52	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	4.15E+02	3.77	WRS					440.0	700.00	
Iron	59	40	GAMMA	95% Approximate Gamma UCL	1.03E+04		NORMAL	95% Student's-t UCL	1.48E+04	100.00	WRS	0.9994	0.9067		Not BKG	29700.0	24200.00	Iron
Lead	59	49	LOGNORMAL	95% H-UCL	2.84E+01		GAMMA	95% Approximate Gamma UCL	2.96E+01	100.00	WRS	0.9996	0.4937		Not BKG	118.0	55.60	Lead
Lithium	57	68	GAMMA	95% Approximate Gamma UCL	8.81E+00		NORMAL	95% Student's-t UCL	8.34E+00	83.82	WRS	0.7004	0.3775		BKG	18.2	14.20	
Magnesium	59	50	GAMMA	95% Approximate Gamma UCL	1.79E+03		GAMMA	95% Approximate Gamma UCL	2.86E+03	100.00	WRS	0.9999	0.9747		Not BKG	6600.0	5480.00	Magnesium
Manganese	59	49	GAMMA	95% Approximate Gamma UCL	2.72E+02		GAMMA	95% Approximate Gamma UCL	3.45E+02	100.00	WRS	0.9826	0.9046		Not BKG	1580.0	609.00	Manganese
Mercury	49	49	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.10E-01		NON-PARAMETRIC	99% Chebyshev (Mean, Sd) UCL	1.26E+00	20.41	WRS	0.7560	0.9987		BKG	3.8	1.70	
Molybdenum	58	46	NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	8.76E+00		GAMMA	95% Approximate Gamma UCL	1.74E+00	2.17	WRS	0.0012	0.0020		BKG	0.6	3.25	
Naphthalene	N/A	52	N/A	N/A	N/A		NON-PARAMETRIC	95% Student's-t UCL	3.50E+02	3.70	WRS					300.0	700.00	
Nickel	57	40	GAMMA	95% Approximate Gamma UCL	8.15E+00		GAMMA	95% Approximate Gamma UCL	1.39E+01	72.50	WRS	0.9994	0.9967		Not BKG	32.1	26.90	Nickel
PCB-1254	N/A	58	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	3.39E+02	16.39	WRS					250.0	900.00	PCB-1254
Phenanthrene	N/A	53	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	5.77E+02	18.52	WRS					2900.0	900.00	Phenanthrene
Plutonium-239/240	45	102	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.58E+00		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.16E+01	92.16	WRS	1.0000	0.4355		Not BKG	182.0	3.22	Plutonium-239/240
Potassium	58	49	GAMMA	95% Approximate Gamma UCL	1.01E+03		GAMMA	95% Approximate Gamma UCL	1.57E+03	81.63	WRS	0.9998	0.9752[a]		Not BKG	3440.0	2930.00	Potassium
Pyrene	N/A	53	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	5.94E+02	24.07	WRS					3100.0	900.00	Pyrene
Radium-226	21	19	GAMMA	95% Approximate Gamma UCL	9.93E-01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.73E+00	100.00	WRS	0.6376	0.9576		BKG	2.2	2.19	
Radium-228	20	20	NORMAL	95% Student's-t UCL	1.99E+00		LOGNORMAL	95% Student's-t UCL	1.63E+00	100.00	WRS	0.0632	0.3025		BKG	2.9	2.90	
Selenium	58	36	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	7.40E-01		LOGNORMAL	95% H-UCL	8.34E-01	27.78	WRS	0.9999	0.7784		Not BKG	3.8	1.60	Selenium
Silver	54	38	LOGNORMAL	95% H-UCL	7.43E-01		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	2.09E+00	10.53	WRS	0.9151	0.9497		Not BKG	7.7	6.10	Silver
Sodium	59	50	LOGNORMAL	95% H-UCL	1.91E+02		LOGNORMAL	95% H-UCL	3.19E+02	86.00	t-Test_LN	0.9638	0.8986		Not BKG	2060.0	709.69	Sodium
Strontium	58	49	LOGNORMAL	95% H-UCL	4.90E+01		GAMMA	95% Approximate Gamma UCL	6.41E+01	97.96	WRS	0.9991	0.8997		Not BKG	167.0	147.00	Strontium
Strontium-89/90	43	4	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	3.89E-01		NORMAL	95% Student's-t UCL	9.14E-02	25.00	WRS	0.0090	0.6919		BKG	0.0	0.06	
Thallium	50	45	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	4.42E-01		GAMMA	95% Approximate Gamma UCL	4.77E-01	15.56	WRS	0.9990	0.8975		Not BKG	1.6	1.10	Thallium
Tin	55	48	LOGNORMAL	95% H-UCL	1.20E+01		LOGNORMAL	95% H-UCL	1.87E+01	10.42	t-Test_LN	0.6451	0.8902		BKG	77.2	42.59	
Titanium	N/A	1	N/A	N/A	N/A		0	Too Few Observations To Calculate UCLs	N/A	100.00	WRS					190.0	56.00	Titanium
Uranium-233/234	47	86	GAMMA	95% Approximate Gamma UCL	2.01E+00		GAMMA	95% Approximate Gamma UCL	1.48E+00	100.00	WRS	0.0429	0.0787		BKG	4.8	3.19	
Uranium-235	49	86	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	9.15E-02		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	8.52E-02	69.77	WRS	0.4735	0.2328		BKG	0.3	0.15	
Uranium-238	36	86	GAMMA	95% Approximate Gamma UCL	1.76E+00		LOGNORMAL	95% H-UCL	1.60E+00	100.00	WRS	0.4188	0.2548		BKG	10.1	3.14	
Vanadium	57	49	GAMMA	95% Approximate Gamma UCL	2.18E+01		NORMAL	95% Student's-t UCL	2.81E+01	100.00	WRS	0.9978	0.9735		Not BKG	68.6	46.50	Vanadium
Zinc	59	41	LOGNORMAL	95% H-UCL	6.39E+01		NON-PARAMETRIC	99% Chebyshev (Mean, Sd) UCL	7.14E+02	100.00	WRS	1.0000	0.9999		Not BKG	2080.0	728.00	Zinc
PAH-total	N/A	54	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	7.01E+03		WRS					N/A	8100.00	
PCB-total	N/A	60	N/A	N/A	N/A		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	9.03E+02		WRS					N/A	2240.00	

[a] Nine specific PAHs and four PCBs per McDonald, et al., 2000.

Table D-5
Woman Creek Aquatic Exposure Unit
Sediment
Nondetected Analyte vs. ESL

MediaType	AnalyteGroup	Analyte	Range of Reported Detection Limits	Units	Total Number of Results	ESL	MaxDL > ESL?
Sediment	Organic	1,1,1-Trichloroethane	0.841 - 16	ug/kg	52	159	No
Sediment	Organic	1,1,2,2-Tetrachloroethane	0.928 - 16	ug/kg	52	1900	No
Sediment	Organic	1,2,4-Trichlorobenzene	350 - 2100	ug/kg	52	429	Yes
Sediment	Organic	1,2,4-Trichlorobenzene	1.76 - 1.76	ug/kg	1	429	No
Sediment	Organic	2-Methylphenol	350 - 2100	ug/kg	53	6970	No
Sediment	Organic	4,4'-DDD	3.8 - 200	ug/kg	57	4.88	Yes
Sediment	Organic	4,4'-DDE	3.8 - 200	ug/kg	57	3.16	Yes
Sediment	Organic	Acenaphthylene	350 - 2100	ug/kg	53	5.87	Yes
Sediment	Organic	alpha-BHC	1.9 - 99	ug/kg	57	2.37	Yes
Sediment	Organic	Benzene	0.9 - 16	ug/kg	52	260	No
Sediment	Organic	Benzo(g,h,i)perylene	360 - 2100	ug/kg	24	13	Yes
Sediment	Organic	Bromomethane	4.43 - 32	ug/kg	52	3.43	Yes
Sediment	Organic	Carbazole	380 - 480	ug/kg	3	25.2	Yes
Sediment	Organic	Carbon Tetrachloride	0.823 - 16	ug/kg	52	7890	No
Sediment	Organic	Endosulfan II	3.8 - 200	ug/kg	57	0.69	Yes
Sediment	Organic	Endosulfan sulfate	3.8 - 200	ug/kg	57	0.69	Yes
Sediment	Organic	gamma-Chlordane	1.9 - 500	ug/kg	32	3.24	Yes
Sediment	Organic	Hexachlorobutadiene	1.13 - 1.13	ug/kg	1	23	No
Sediment	Organic	Hexachlorobutadiene	350 - 2100	ug/kg	52	23	Yes
Sediment	Organic	Methoxychlor	19 - 990	ug/kg	57	24	Yes
Sediment	Organic	PCB-1016	36 - 990	ug/kg	59	40	Yes
Sediment	Organic	PCB-1221	36 - 990	ug/kg	59	40	Yes
Sediment	Organic	PCB-1232	36 - 990	ug/kg	59	40	Yes
Sediment	Organic	PCB-1242	36 - 990	ug/kg	59	40	Yes
Sediment	Organic	PCB-1248	36 - 990	ug/kg	59	40	Yes
Sediment	Organic	PCB-1260	38 - 2000	ug/kg	57	40	Yes
Sediment	Organic	Pentachlorophenol	960 - 10000	ug/kg	53	255	Yes
Sediment	Organic	Xylene	5 - 16	ug/kg	29	91	No

Table E-1
ECOIs Detected in Sediment in the No Name Gulch Aquatic Exposure Unit

ECOIs Detected in Sediment in the No Name Gulch Aquatic Exposure Unit		
	Inorganics	
Aluminum		Manganese
Arsenic		Mercury
Barium		Molybdenum
Beryllium		Nickel
Calcium		Nitrate / Nitrite
Cesium		Potassium
Chromium		Selenium
Cobalt		Sodium
Copper		Strontium
Iron		Thallium
Lead		Tin
Lithium		Vanadium
Magnesium		Zinc
	Organics	
Anthracene		Chrysene
Benzo(a)anthracene		Fluoranthene
Benzo(a)pyrene		Indeno(1,2,3-cd)pyrene
Benzo(b)fluoranthene		Phenanthrene
Benzo(k)fluoranthene		Pyrene
bis(2-ethylhexyl)phthalate		Toluene
Radionuclides		
Americium-241		Radium-226
Cesium-137		Radium-228
Gross Alpha		Uranium-233/234
Gross Beta		Uranium-235
Plutonium-239/240		Uranium-238

142

143

Table E-2
Summary of ECOI Sediment Data in the No Name Gulch Drainage Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
Inorganics (mg/kg)											
Aluminum	3	3	100%	40	40	6950	20400	11503.33333	7705.4548	15900	20400
Antimony	4	0	0%	8	14.7	ND	ND	NA	NA	2	7.35
Arsenic	5	5	100%	0.14	2	3.6	7.1	5.48	1.3663821	9.79	7.1
Barium	5	5	100%	0.88	40	114	240	163.8	54.732988	189	240
Beryllium	3	2	67%	1	1	0.76	1.1	0.93	0.2404163	NA	1.1
Cadmium	5	0	0%	0.82	1	ND	ND	NA	NA	0.99	0.5
Calcium	5	5	100%	3.7	1000	5590	7620	6514	906.245	NA	7620
Cesium	4	1	25%	95.2	200	3.9	3.9	3.9	NA	NA	3.9
Chromium	3	3	100%	2	2	6.5	14.5	9.366666667	4.4557079	43.4	14.5
Cobalt	3	3	100%	10	10	7.2	9.9	8.933333333	1.5044379	NA	9.9
Copper	3	3	100%	5	5	15.6	18.2	16.53333333	1.4468356	31.6	18.2
Iron	3	3	100%	20	20	9050	21500	15116.66667	6231.0379	20000	21500
Lead	5	5	100%	0.6	1.2	16.1	24.1	20.78	3.5590729	35.8	24.1
Lithium	8	7	88%	0.39	20	4.3	10.9	8.2	2.3986107	NA	10.9
Magnesium	5	5	100%	10.8	1000	2150	3810	2874	650.63815	NA	3810
Manganese	5	5	100%	0.48	3	122	377	224.8	103.38617	630	377
Mercury	5	1	20%	0.089	0.1	0.09	0.09	0.09	NA	0.18	0.09
Molybdenum	5	1	20%	1.9	40	5.2	5.2	5.2	NA	NA	5.2
Nickel	3	3	100%	8	8	10	13.3	11.8	1.6703293	22.7	13.3
Nitrate / Nitrite	10	7	70%	0.2	1.1	0.638	3.2	1.688285714	0.9493229	NA	3.2
Potassium	5	4	80%	204	1000	1060	2810	1650	804.19732	NA	2810
Selenium	2	1	50%	1	1	0.71	0.71	0.71	NA	0.95	0.71
Silver	3	0	0%	0.83	1.7	ND	ND	NA	NA	1	0.85
Sodium	5	4	80%	9.1	1000	38.1	190	126.775	67.845431	NA	190
Strontium	5	5	100%	1.4	40	41.7	67.6	52.28	9.7783946	NA	67.6
Thallium	5	2	40%	0.29	2	0.31	0.31	0.31	0	NA	0.31
Tin	5	2	40%	7.4	40	10.1	10.7	10.4	0.4242641	NA	10.7
Vanadium	5	5	100%	1.2	10	18.7	58.1	30.78	15.962362	NA	58.1
Zinc	3	3	100%	4	4	56	77.6	65.03333333	11.225121	121	77.6
Organics (ug/kg)											
1,1,1-Trichloroethane	6	0	0%	5	9	ND	ND	NA	NA	159	4.5
1,1,2,2-Tetrachloroethane	6	0	0%	5	9	ND	ND	NA	NA	1900	4.5

144

Table E-2

Summary of ECOI Sediment Data in the No Name Gulch Drainage Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
1,1,2-Trichloroethane	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
1,1-Dichloroethane	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
1,1-Dichloroethene	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
1,2,4-Trichlorobenzene	6	0	0%	340	500	ND	ND	NA	NA	429	250
1,2-Dichlorobenzene	6	0	0%	340	500	ND	ND	NA	NA	NA	250
1,2-Dichloroethane	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
1,2-Dichloroethene	2	0	0%	7	9	ND	ND	NA	NA	NA	4.5
1,2-Dichloropropane	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
1,3-Dichlorobenzene	6	0	0%	340	500	ND	ND	NA	NA	NA	250
1,4-Dichlorobenzene	6	0	0%	340	500	ND	ND	NA	NA	NA	250
2,4,5-Trichlorophenol	6	0	0%	1700	2400	ND	ND	NA	NA	NA	1200
2,4,6-Trichlorophenol	6	0	0%	340	500	ND	ND	NA	NA	NA	250
2,4-Dichlorophenol	6	0	0%	340	500	ND	ND	NA	NA	NA	250
2,4-Dimethylphenol	6	0	0%	340	500	ND	ND	NA	NA	NA	250
2,4-Dinitrophenol	4	0	0%	1700	2400	ND	ND	NA	NA	NA	1200
2,4-Dinitrotoluene	6	0	0%	340	500	ND	ND	NA	NA	NA	250
2,6-Dinitrotoluene	6	0	0%	340	500	ND	ND	NA	NA	NA	250
2-Butanone	6	0	0%	10	18	ND	ND	NA	NA	NA	9
2-Chloronaphthalene	6	0	0%	340	500	ND	ND	NA	NA	NA	250
2-Chlorophenol	6	0	0%	340	500	ND	ND	NA	NA	NA	250
2-Methylnaphthalene	6	0	0%	340	500	ND	ND	NA	NA	20.2	250
2-Methylphenol	6	0	0%	340	500	ND	ND	NA	NA	6970	250
2-Nitroaniline	6	0	0%	1700	2400	ND	ND	NA	NA	NA	1200
3,3'-Dichlorobenzidine	5	0	0%	680	880	ND	ND	NA	NA	NA	440
4,4'-DDD	6	0	0%	16	24	ND	ND	NA	NA	4.88	12
4,4'-DDE	6	0	0%	16	24	ND	ND	NA	NA	3.16	12
4,4'-DDT	6	0	0%	16	24	ND	ND	NA	NA	4.16	12
4,6-Dinitro-2-methylphenol	4	0	0%	1700	2400	ND	ND	NA	NA	NA	1200
4-Chloro-3-methylphenol	6	0	0%	340	500	ND	ND	NA	NA	NA	250
4-Chloroaniline	6	0	0%	340	500	ND	ND	NA	NA	NA	250
4-Methyl-2-pentanone	6	0	0%	10	18	ND	ND	NA	NA	NA	9
4-Methylphenol	6	0	0%	340	500	ND	ND	NA	NA	12.3	250
4-Nitroaniline	6	0	0%	1700	2400	ND	ND	NA	NA	NA	1200
4-Nitrophenol	6	0	0%	1700	2400	ND	ND	NA	NA	NA	1200

145

Table E-2

Summary of ECOI Sediment Data in the No Name Gulch Drainage Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC
Acenaphthene	6	0	0%	340	500	ND	ND	NA	NA	6.71	250
Acenaphthylene	6	0	0%	340	500	ND	ND	NA	NA	5.87	250
Acetone	6	0	0%	11	83	ND	ND	NA	NA	NA	41.5
Aldrin	6	0	0%	8	12	ND	ND	NA	NA	8.25	6
alpha-BHC	6	0	0%	8	12	ND	ND	NA	NA	2.37	6
alpha-Chlordane	6	0	0%	80	120	ND	ND	NA	NA	3.24	60
Anthracene	6	1	17%	330	400	37	37	37	NA	57.2	37
Benzene	6	0	0%	5	9	ND	ND	NA	NA	260	4.5
Benzo(a)anthracene	6	1	17%	330	400	150	150	150	NA	108	150
Benzo(a)pyrene	6	1	17%	330	400	160	160	160	NA	150	160
Benzo(b)fluoranthene	6	1	17%	330	400	190	190	190	NA	NA	190
Benzo(g,h,i)perylene	2	0	0%	440	500	ND	ND	NA	NA	13	250
Benzo(k)fluoranthene	6	1	17%	330	400	110	110	110	NA	240	110
Benzoic Acid	5	0	0%	1700	2100	ND	ND	NA	NA	NA	1050
Benzyl Alcohol	6	0	0%	340	500	ND	ND	NA	NA	NA	250
beta-BHC	6	0	0%	8	12	ND	ND	NA	NA	2.37	6
bis(2-Chloroethyl) ether	4	0	0%	340	400	ND	ND	NA	NA	NA	200
bis(2-Chloroisopropyl) ether	6	0	0%	340	500	ND	ND	NA	NA	NA	250
bis(2-ethylhexyl)phthalate	6	2	33%	330	400	36	45	40.5	6.363961	24900	45
Bromodichloromethane	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
Bromoform	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
Bromomethane	6	0	0%	10	18	ND	ND	NA	NA	3.43	9
Butylbenzylphthalate	2	0	0%	440	500	ND	ND	NA	NA	11400	250
Carbon Disulfide	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
Carbon Tetrachloride	6	0	0%	5	9	ND	ND	NA	NA	7890	4.5
Chlorobenzene	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
Chloroethane	6	0	0%	10	18	ND	ND	NA	NA	NA	9
Chloroform	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
Chloromethane	5	0	0%	10	13	ND	ND	NA	NA	NA	6.5
Chrysene	6	1	17%	330	400	190	190	190	NA	166	190
cis-1,3-Dichloropropene	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
delta-BHC	6	0	0%	8	12	ND	ND	NA	NA	2.37	6
Dibenz(a,h)anthracene	6	0	0%	340	500	ND	ND	NA	NA	33	250
Dibenzofuran	6	0	0%	340	500	ND	ND	NA	NA	325	250

146

Table E-2

Summary of ECOI Sediment Data in the No Name Gulch Drainage Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
Dibromochloromethane	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
Dieldrin	6	0	0%	16	24	ND	ND	NA	NA	NA	12
Diethylphthalate	2	0	0%	440	500	ND	ND	NA	NA	108	250
Dimethylphthalate	2	0	0%	440	500	ND	ND	NA	NA	NA	250
Di-n-butylphthalate	2	0	0%	440	500	ND	ND	NA	NA	612	250
Di-n-octylphthalate	2	0	0%	440	500	ND	ND	NA	NA	NA	250
Endosulfan I	6	0	0%	8	12	ND	ND	NA	NA	0.69	6
Endosulfan II	6	0	0%	16	24	ND	ND	NA	NA	0.69	12
Endosulfan sulfate	6	0	0%	16	24	ND	ND	NA	NA	0.69	12
Endrin	6	0	0%	16	24	ND	ND	NA	NA	NA	12
Endrin ketone	6	0	0%	16	24	ND	ND	NA	NA	NA	12
Ethylbenzene	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
Fluoranthene	6	1	17%	330	400	340	340	340	NA	423	340
Fluorene	6	0	0%	340	500	ND	ND	NA	NA	77.4	250
gamma-BHC (Lindane)	6	0	0%	8	12	ND	ND	NA	NA	2.37	6
gamma-Chlordane	2	0	0%	110	120	ND	ND	NA	NA	3.24	60
Heptachlor	6	0	0%	8	12	ND	ND	NA	NA	0.132	6
Heptachlor epoxide	6	0	0%	8	12	ND	ND	NA	NA	2.47	6
Hexachlorobenzene	6	0	0%	340	500	ND	ND	NA	NA	NA	250
Hexachlorobutadiene	6	0	0%	340	500	ND	ND	NA	NA	23	250
Hexachlorocyclopentadiene	4	0	0%	340	500	ND	ND	NA	NA	NA	250
Hexachloroethane	6	0	0%	340	500	ND	ND	NA	NA	NA	250
Indeno(1,2,3-cd)pyrene	6	1	17%	330	400	86	86	86	NA	17	86
Isophorone	6	0	0%	340	500	ND	ND	NA	NA	NA	250
Methoxychlor	6	0	0%	80	120	ND	ND	NA	NA	24	60
Methylene Chloride	6	0	0%	7	57	ND	ND	NA	NA	NA	28.5
Naphthalene	6	0	0%	340	500	ND	ND	NA	NA	176	250
Nitrobenzene	6	0	0%	340	500	ND	ND	NA	NA	NA	250
N-Nitroso-di-n-propylamine	6	0	0%	340	500	ND	ND	NA	NA	NA	250
N-nitrosodiphenylamine	6	0	0%	340	500	ND	ND	NA	NA	NA	250
PCB-1016[2]	6	0	0%	80	120	ND	ND	NA	NA	40	60
PCB-1221[2]	6	0	0%	80	120	ND	ND	NA	NA	40	60
PCB-1232[2]	6	0	0%	80	120	ND	ND	NA	NA	40	60

Table E-2

Summary of ECOI Sediment Data in the No Name Gulch Drainage Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
PCB-1242[2]	6	0	0%	80	120	ND	ND	NA	NA	40	60
PCB-1248[2]	6	0	0%	80	120	ND	ND	NA	NA	40	60
PCB-1254[2]	6	0	0%	160	240	ND	ND	NA	NA	40	120
PCB-1260[2]	6	0	0%	160	240	ND	ND	NA	NA	40	120
Pentachlorophenol	6	0	0%	1700	2400	ND	ND	NA	NA	255	1200
Phenanthrene	6	1	17%	330	400	280	280	280	NA	204	280
Phenol	6	0	0%	340	500	ND	ND	NA	NA	773	250
Pyrene	6	1	17%	330	400	320	320	320	NA	195	320
Styrene	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
Tetrachloroethene	6	0	0%	5	9	ND	ND	NA	NA	3050	4.5
Toluene	6	2	33%	5	6	8	190	99	128.69343	1660	190
Toxaphene	6	0	0%	160	240	ND	ND	NA	NA	NA	120
trans-1,3-Dichloropropene	6	0	0%	5	9	ND	ND	NA	NA	NA	4.5
Trichloroethene	6	0	0%	5	9	ND	ND	NA	NA	22800	4.5
Vinyl acetate	6	0	0%	10	18	ND	ND	NA	NA	NA	9
Vinyl Chloride	6	0	0%	10	18	ND	ND	NA	NA	NA	9
Xylene	2	0	0%	7	9	ND	ND	NA	NA	91	4.5
Radionuclides (pCi/g)											
Americium-241	10	6	60%	0	0.196	0.001422	0.05817	0.020900333	0.01947	5150	0.05817
Cesium-137	9	8	89%	0.03	0.12	0.064	1.213	0.31465	0.374337	3120	1.213
Gross Alpha	9	9	100%	1.7	56	4.82	37	19.09888889	9.9678765	NA	37
Gross Beta	9	9	100%	2.08071	21	6.45	32	22.44	8.8206505	NA	32
Plutonium-239/240	13	7	54%	0	0.17	0.003668	0.4467	0.078234	0.1631794	5860	0.4467
Radium-226	5	5	100%	0.14	0.51	0.91	1.53	1.22	0.2338803	101	1.53
Radium-228	7	7	100%	0.06	0.89	1.1	1.62	1.303285714	0.1742094	87.8	1.62
Uranium-233/234	11	11	100%	0.022	0.257	0.48	1.3	0.974627273	0.2434804	NA	1.3
Uranium-235	11	7	64%	0	0.201	0.01953	0.108	0.049217143	0.02966	3730	0.108
Uranium-238	11	11	100%	0	0.257	0.5	1.2	0.972881818	0.1992961	2490	1.2

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

[2]PCBs will be evaluated as total PCB. Total PCB concentrations are calculated for each sample in Table 3.

ND = The ECOI was not detected.

Table E-3
Accelerated Action Screening Step for Sediment in the No Name Gulch Aquatic Exposure Unit

ECOI	Screening EPC[1]	Sediment ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Inorganics (mg/kg)					
Aluminum	20400	15900	Yes	Yes	No
Arsenic	7.1	9.79	No	No	No
Barium	240	189	Yes	Yes	No
Beryllium	1.1	NA	NA	No	Yes
Calcium	7620	NA	NA	No	Yes
Cesium	3.9	NA	NA	No	Yes
Chromium	14.5	43.4	No	No	No
Cobalt	9.9	NA	NA	No	Yes
Copper	18.2	31.6	No	No	No
Iron	21500	20000	Yes	Yes	No
Lead	24.1	35.8	No	No	No
Lithium	10.9	NA	NA	No	Yes
Magnesium	3810	NA	NA	No	Yes
Manganese	377	630	No	No	No
Mercury	0.09	0.18	No	No	No
Molybdenum	5.2	NA	NA	No	Yes
Nickel	13.3	22.7	No	No	No
Nitrate / Nitrite	3.2	NA	NA	No	Yes
Potassium	2810	NA	NA	No	Yes
Selenium	0.71	0.95	No	No	No
Sodium	190	NA	NA	No	Yes
Strontium	67.6	NA	NA	No	Yes
Thallium	0.31	NA	NA	No	Yes
Tin	10.7	NA	NA	No	Yes
Vanadium	58.1	NA	NA	No	Yes
Zinc	77.6	121	No	No	No
Organics (ug/kg)					
Anthracene	37	57.2	No	No	No
Benzo(a)anthracene	150	108	Yes	Yes	No
Benzo(a)pyrene	160	150	Yes	Yes	No
Benzo(b)fluoranthene	190	NA	NA	No	Yes
Benzo(k)fluoranthene	110	240	No	No	No
bis(2-ethylhexyl)phthalate	45	24900	No	No	No
Chrysene	190	166	Yes	Yes	No
Fluoranthene	340	423	No	No	No
Indeno(1,2,3-cd)pyrene	86	17	Yes	Yes	No
Phenanthrene	280	204	Yes	Yes	No
Pyrene	320	195	Yes	Yes	No
Toluene	190	1660	No	No	No
Radionuclides (pCi/g)					
Americium-241	0.05817	5150	No	No	No
Cesium-137	1.213	3120	No	No	No
Gross Alpha	37	NA	NA	No	Yes
Gross Beta	32	NA	NA	No	Yes
Plutonium-239/240	0.4467	5860	No	No	No
Radium-226	1.53	101	No	No	No
Radium-228	1.62	87.8	No	No	No

148

Table E-3
Accelerated Action Screening Step for Sediment in the No Name Gulch Aquatic Exposure Unit

ECOI	Screening EPC[1]	Sediment ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Uranium-233/234	1.3	NA	NA	No	Yes
Uranium-235	0.108	3730	No	No	No
Uranium-238	1.2	2490	No	No	No

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

149

Table E-4 Rocky Flats Background Data - Sediment (Background Stream Sediments)
No Name Gulch Aquatic Exposure Unit

Analyte	Total Samples		Statistical Distribution Testing Results								Comparison Test						$^{95}UCL_{90}$	COC (Detect, >ESL, Not BKG, +5% D)
			Background				Site											
	Back	Site	Distribution Recommended by ProUCL	UCL Recommended by ProUCL	UCL Value	% NDs	Distribution Recommended by ProUCL	UCL Recommended by ProUCL	UCL Value	% Ds	Test	p Value	Qunatile Test p Value	Slippage Test	Decision	Max Detect	Result	
Aluminum	59	3	GAMMA	95% Approximate Gamma UCL	7.13E+03		0	Too Few Observations To Calculate UCLs	N/A	100.0	WRS	0.8531	0.9760		BKG	20400.0	20400.00	
Americium-241	37	10	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	5.20E-01		NORMAL	95% Student's-t UCL	2.59E-02	60.0	WRS	0.5194	0.3243		BKG	0.1	0.06	
Antimony	52	4	LOGNORMAL	95% H-UCL	3.96E+00		NORMAL	95% Student's-t UCL	6.99E+00	0.0	WRS	0.9480	0.6661		Not BKG	0.0	7.35	
Arsenic	59	5	GAMMA	95% Approximate Gamma UCL	2.89E+00		NORMAL	95% Student's-t UCL	6.78E+00	100.0	WRS	0.9924	0.5984		Not BKG	7.1	7.10	Arsenic
Barium	57	5	LOGNORMAL	95% H-UCL	1.04E+02		NORMAL	95% Student's-t UCL	2.16E+02	100.0	WRS	0.9706	0.9277		Not BKG	240.0	240.00	Barium
Benzo(a)anthracene	N/A	6	N/A	N/A	N/A		NORMAL	95% Student's-t UCL	2.21E+02	16.7	WRS					150.0	250.00	Benzo(a)anthracene
Benzo(a)pyrene	N/A	6	N/A	N/A	N/A		NORMAL	95% Student's-t UCL	2.21E+02	16.7	WRS					160.0	250.00	Benzo(a)pyrene
Beryllium	57	3	LOGNORMAL	95% H-UCL	7.36E-01		0	Too Few Observations To Calculate UCLs	N/A	66.7	WRS	0.8902	0.7787		BKG	1.1	1.10	
Cadmium	51	5	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	7.62E-01		NORMAL	95% Student's-t UCL	4.82E-01	0.0	WRS	0.2860	0.5903		BKG	0.0	0.50	
Calcium	59	5	LOGNORMAL	95% H-UCL	5.29E+03		NORMAL	95% Student's-t UCL	7.38E+03	100.0	WRS	0.9087	0.5984		Not BKG	7620.0	7620.00	Calcium
Cesium	56	4	GAMMA	95% Approximate Gamma UCL	9.00E+01		GAMMA	95% Approximate Gamma UCL	1.10E+02	25.0	WRS	0.0155	0.6775		BKG	3.9	49.55	
Cesium-137	35	9	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	5.45E-01		GAMMA	95% Approximate Gamma UCL	5.60E-01	88.9	WRS	0.4651	0.4089		BKG	1.2	1.21	
Chromium	59	3	GAMMA	95% Approximate Gamma UCL	1.01E+01		0	Too Few Observations To Calculate UCLs	N/A	100.0	WRS	0.6666	0.7259		BKG	14.5	14.50	
Chrysene	N/A	6	N/A	N/A	N/A		NORMAL	95% Student's-t UCL	2.23E+02	16.7	WRS					190.0	250.00	Chrysene
Cobalt	59	3	NORMAL	95% Student's-t UCL	5.76E+00		0	Too Few Observations To Calculate UCLs	N/A	100.0	WRS	0.9745	0.7290		Not BKG	9.9	9.90	Cobalt
Copper	59	3	NORMAL	95% Student's-t UCL	1.19E+01		0	Too Few Observations To Calculate UCLs	N/A	100.0	WRS	0.9651	0.7290		Not BKG	18.2	18.20	Copper
Gross Alpha	45	9	GAMMA	95% Approximate Gamma UCL	2.90E+01		NORMAL	95% Student's-t UCL	2.53E+01	100.0	WRS	0.6122	0.4176		BKG	37.0	37.00	
Gross Beta	43	9	NORMAL	95% Student's-t UCL	3.79E+01		NORMAL	95% Student's-t UCL	2.79E+01	100.0	t-Test_N	0.0037	0.3994		BKG	32.0	44.08	
Indeno(1,2,3-cd)pyrene	N/A	6	N/A	N/A	N/A		NORMAL	95% Student's-t UCL	2.26E+02	16.7	WRS					86.0	250.00	Indeno(1,2,3-cd)pyrene
Iron	59	3	GAMMA	95% Approximate Gamma UCL	1.03E+04		0	Too Few Observations To Calculate UCLs	N/A	100.0	WRS	0.9193	0.7290		Not BKG	21500.0	21500.00	Iron
Lead	59	5	LOGNORMAL	95% H-UCL	2.84E+01		NORMAL	95% Student's-t UCL	2.42E+01	100.0	WRS	0.7780	0.5944		BKG	24.1	24.10	
Lithium	57	8	GAMMA	95% Approximate Gamma UCL	8.81E+00		NORMAL	95% Student's-t UCL	9.47E+00	87.5	WRS	0.5491	0.4277		BKG	10.9	10.90	
Magnesium	59	5	GAMMA	95% Approximate Gamma UCL	1.79E+03		NORMAL	95% Student's-t UCL	3.49E+03	100.0	WRS	0.9912	0.9309		Not BKG	3810.0	3810.00	Magnesium
Manganese	59	5	GAMMA	95% Approximate Gamma UCL	2.72E+02		NORMAL	95% Student's-t UCL	3.23E+02	100.0	WRS	0.8026	0.5984		BKG	377.0	377.00	
Mercury	49	5	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.10E-01		NORMAL	95% Student's-t UCL	7.32E-02	20.0	WRS	0.0561	0.6254		BKG	0.1	0.09	
Molybdenum	58	5	NON-PARAMETRIC	97.5% Chebyshev (Mean, Sd) UCL	8.76E+00		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	5.51E+00	20.0	WRS	0.0229	0.5904		BKG	5.2	5.20	
Nickel	57	3	GAMMA	95% Approximate Gamma UCL	8.15E+00		0	Too Few Observations To Calculate UCLs	N/A	100.0	WRS	0.9622	0.7483		Not BKG	13.3	13.30	Nickel
Phenanthrene	N/A	6	N/A	N/A	N/A		NORMAL	95% Student's-t UCL	2.50E+02	16.7	WRS					280.0	280.00	Phenanthrene
Plutonium-239/240	45	13	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.58E+00		NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	1.95E-01	53.8	WRS	0.3195	0.2424		BKG	0.4	0.45	
Potassium	58	5	GAMMA	95% Approximate Gamma UCL	1.01E+03		NORMAL	95% Student's-t UCL	2.25E+03	80.0	WRS	0.9295	0.9261		Not BKG	2810.0	2810.00	Potassium
Pyrene	N/A	6	N/A	N/A	N/A		NORMAL	95% Student's-t UCL	2.67E+02	16.7	WRS					320.0	320.00	Pyrene
Radium-226	21	5	GAMMA	95% Approximate Gamma UCL	9.93E-01		NORMAL	95% Student's-t UCL	1.44E+00	100.0	WRS	0.9953	0.9526		Not BKG	1.5	1.53	Radium-226
Radium-228	20	7	NORMAL	95% Student's-t UCL	1.99E+00		NORMAL	95% Student's-t UCL	1.43E+00	100.0	t-Test_N	0.1872	0.5118		BKG	1.6	1.78	
Selenium	58	2	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	7.40E-01		0	Too Few Observations To Calculate UCLs	N/A	50.0	WRS	0.7684	0.8296		BKG	0.7	0.71	
Silver	54	3	LOGNORMAL	95% H-UCL	7.43E-01		0	Too Few Observations To Calculate UCLs	N/A	0.0	WRS	0.3676	0.7324		BKG	0.0	0.85	
Sodium	59	5	LOGNORMAL	95% H-UCL	1.91E+02		NORMAL	95% Student's-t UCL	1.76E+02	80.0	WRS	0.2001	0.5984		BKG	190.0	190.00	
Strontium	58	5	LOGNORMAL	95% H-UCL	4.90E+01		NORMAL	95% Student's-t UCL	6.16E+01	100.0	WRS	0.8967	0.5944		BKG	67.6	67.60	
Thallium	50	5	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	4.42E-01		NORMAL	95% Student's-t UCL	3.46E-01	40.0	WRS	0.4208	0.6208		BKG	0.3	0.35	
Tin	55	5	LOGNORMAL	95% H-UCL	1.20E+01		NORMAL	95% Student's-t UCL	1.82E+01	40.0	WRS	0.6855	0.6208		BKG	10.7	23.75	
Uranium-233/234	47	11	GAMMA	95% Approximate Gamma UCL	2.01E+00		NORMAL	95% Student's-t UCL	1.11E+00	100.0	WRS	0.1455	0.3074		BKG	1.3	1.30	
Uranium-235	49	11	NON-PARAMETRIC	95% Chebyshev (Mean, Sd) UCL	9.15E-02		NORMAL	95% Student's-t UCL	6.45E-02	63.6	WRS	0.6146	0.3238		BKG	0.1	0.11	
Uranium-238	36	11	GAMMA	95% Approximate Gamma UCL	1.76E+00		NORMAL	95% Student's-t UCL	1.08E+00	100.0	WRS	0.5112	0.2862		BKG	1.2	1.20	
Vanadium	57	5	GAMMA	95% Approximate Gamma UCL	2.18E+01		NORMAL	95% Student's-t UCL	4.60E+01	100.0	WRS	0.9629	0.9261		Not BKG	58.1	58.10	Vanadium
Zinc	59	3	LOGNORMAL	95% H-UCL	6.39E+01		0	Too Few Observations To Calculate UCLs	N/A	100.0	WRS	0.9387	0.7320		Not BKG	77.6	77.60	Zinc
Total PAHs	N/A	5					NON-PARAMETRIC	95% Hall's Bootstrap UCL	0.00E+00		WRS					N/A	2250.00	
Total PCBs	N/A	4					NORMAL	95% Student's-t UCL	0.00E-01		WRS					N/A	360.00	

Note:Nine specific PAHs and four PCBs per McDonald, et al., 2000.

150

151

Table E-5
No Name Gulch Aquatic Exposure Unit Sediment
Nondetected Analytes vs. ESL

MediaType	AnalyteGroup	Analyte	Range of Reported Detection Limits	Units	Total Number of Results	ESL	MaxDL > ESL?
Sediment	Inorganic	Antimony	8 - 14.7	mg/kg	4	2	Yes
Sediment	Inorganic	Cadmium	0.82 - 1	mg/kg	5	0.99	Yes
Sediment	Inorganic	Silver	0.83 - 1.7	mg/kg	3	1	Yes
Sediment	Organic	1,1,1-Trichloroethane	5 - 9	ug/kg	6	159	No
Sediment	Organic	1,1,2,2-Tetrachloroethane	5 - 9	ug/kg	6	1900	No
Sediment	Organic	1,2,4-Trichlorobenzene	340 - 500	ug/kg	6	429	Yes
Sediment	Organic	2-Methylnaphthalene	340 - 500	ug/kg	6	20.2	Yes
Sediment	Organic	2-Methylphenol	340 - 500	ug/kg	6	6970	No
Sediment	Organic	4,4'-DDD	16 - 24	ug/kg	6	4.88	Yes
Sediment	Organic	4,4'-DDE	16 - 24	ug/kg	6	3.16	Yes
Sediment	Organic	4,4'-DDT	16 - 24	ug/kg	6	4.16	Yes
Sediment	Organic	4-Methylphenol	340 - 500	ug/kg	6	12.3	Yes
Sediment	Organic	Acenaphthene	340 - 500	ug/kg	6	6.71	Yes
Sediment	Organic	Acenaphthylene	340 - 500	ug/kg	6	5.87	Yes
Sediment	Organic	Aldrin	8 - 12	ug/kg	6	8.25	Yes
Sediment	Organic	alpha-BHC	8 - 12	ug/kg	6	2.37	Yes
Sediment	Organic	alpha-Chlordane	80 - 120	ug/kg	6	3.24	Yes
Sediment	Organic	Benzene	5 - 9	ug/kg	6	260	No
Sediment	Organic	Benzo(g,h,i)perylene	440 - 500	ug/kg	2	13	Yes
Sediment	Organic	beta-BHC	8 - 12	ug/kg	6	2.37	Yes
Sediment	Organic	Bromomethane	10 - 18	ug/kg	6	3.43	Yes
Sediment	Organic	Butylbenzylphthalate	440 - 500	ug/kg	2	11400	No
Sediment	Organic	Carbon Tetrachloride	5 - 9	ug/kg	6	7890	No
Sediment	Organic	delta-BHC	8 - 12	ug/kg	6	2.37	Yes
Sediment	Organic	Dibenz(a,h)anthracene	340 - 500	ug/kg	6	33	Yes
Sediment	Organic	Dibenzofuran	340 - 500	ug/kg	6	325	Yes
Sediment	Organic	Diethylphthalate	440 - 500	ug/kg	2	108	Yes
Sediment	Organic	Di-n-butylphthalate	440 - 500	ug/kg	2	612	No
Sediment	Organic	Endosulfan I	8 - 12	ug/kg	6	0.69	Yes
Sediment	Organic	Endosulfan II	16 - 24	ug/kg	6	0.69	Yes
Sediment	Organic	Endosulfan sulfate	16 - 24	ug/kg	6	0.69	Yes
Sediment	Organic	Fluorene	340 - 500	ug/kg	6	77.4	Yes
Sediment	Organic	gamma-BHC (Lindane)	8 - 12	ug/kg	6	2.37	Yes
Sediment	Organic	gamma-Chlordane	110 - 120	ug/kg	2	3.24	Yes

152

Table E-5
No Name Gulch Aquatic Exposure Unit Sediment
Nondetected Analytes vs. ESL

Sediment	Organic	Heptachlor	8 - 12	ug/kg	6	0.132	Yes
Sediment	Organic	Heptachlor epoxide	8 - 12	ug/kg	6	2.47	Yes
Sediment	Organic	Hexachlorobutadiene	340 - 500	ug/kg	6	23	Yes
Sediment	Organic	Methoxychlor	80 - 120	ug/kg	6	24	Yes
Sediment	Organic	Naphthalene	340 - 500	ug/kg	6	176	Yes
Sediment	Organic	PCB-1016	80 - 120	ug/kg	6	40	Yes
Sediment	Organic	PCB-1221	80 - 120	ug/kg	6	40	Yes
Sediment	Organic	PCB-1232	80 - 120	ug/kg	6	40	Yes
Sediment	Organic	PCB-1242	80 - 120	ug/kg	6	40	Yes
Sediment	Organic	PCB-1248	80 - 120	ug/kg	6	40	Yes
Sediment	Organic	PCB-1254	160 - 240	ug/kg	6	40	Yes
Sediment	Organic	PCB-1260	160 - 240	ug/kg	6	40	Yes
Sediment	Organic	Pentachlorophenol	1700 - 2400	ug/kg	6	255	Yes
Sediment	Organic	Phenol	340 - 500	ug/kg	6	773	No
Sediment	Organic	Tetrachloroethene	5 - 9	ug/kg	6	3050	No
Sediment	Organic	Trichloroethene	5 - 9	ug/kg	6	22800	No
Sediment	Organic	Xylene	7 - 9	ug/kg	2	91	No

Table F-1
ECOIs Detected in Surface Water in the North Walnut Creek Aquatic Exposure Unit

ECOIs Detected in Surface Water in the North Walnut Creek Aquatic Exposure Unit		
Inorganics		
Aluminum		Manganese
Ammonia		Mercury
Antimony		Molybdenum
Arsenic		Nickel
Barium		Nitrate (as nitrogen)
Beryllium		Nitrate / Nitrite
Boron		Nitrate / Nitrite (as nitrogen)
Cadmium		Nitrite (as nitrogen)
Calcium		Potassium
Cesium		Selenium
Chromium		Silver
Chromium VI		Sodium
Cobalt		Strontium
Copper		Sulfide
Cyanide		Thallium
Fluoride		Tin
Iron		Titanium
Lead		Uranium, total
Lithium		Vanadium
Magnesium		Zinc
Organics		
1,1,1-Trichloroethane		Chrysene
1,1,2,2-Tetrachloroethane		cis-1,2-Dichloroethene
1,1,2-Trichloro-1,2,2-trifluoroethane		Dalapon
1,1-Dichloroethane		Dibenz(a,h)anthracene
1,1-Dichloroethene		Dibromochloromethane
1,2-Dichloroethene		Dicamba
1,2-Dichloropropane		Dichlorodifluoromethane
1,3-Dichlorobenzene		Diethylphthalate
1,4-Dichlorobenzene		Dimethoate
2-Butanone		Dimethylphthalate
4,4'-DDE		Di-n-butylphthalate
4,4'-DDT		Di-n-octylphthalate
4-Methyl-2-pentanone		Dinoseb
Acenaphthene		Endosulfan I
Acetone		Endrin
alpha-BHC		Fluoranthene
alpha-Chlordane		Fluorene
Anthracene		Heptachlor epoxide
Atrazine		Hexachlorobutadiene
Benzene		Indeno(1,2,3-cd)pyrene
Benzo(a)anthracene		Isophorone
Benzo(a)pyrene		Isopropylbenzene
Benzo(b)fluoranthene		Methylene Chloride
Benzo(k)fluoranthene		Naphthalene
Benzoic Acid		PCB-1254

Table F-1
ECOIs Detected in Surface Water in the North Walnut Creek Aquatic Exposure Unit

ECOIs Detected in Surface Water in the North Walnut Creek Aquatic Exposure Unit		
Benzyl Alcohol		Phenanthrene
beta-BHC		Pyrene
bis(2-ethylhexyl)phthalate		Simazine
Bromodichloromethane		Tetrachloroethene
Butylbenzylphthalate		Toluene
Carbazole		Trichloroethene
Carbon Disulfide		Trichlorofluoromethane
Carbon Tetrachloride		Vinyl Chloride
Chlorobenzene		Xylene
Chloroform		
Radionuclides		
Americium-241		Radiocesium
Cesium, radio		Radium-226
Cesium-137		Radium-228
Gross Alpha		Tritium
Gross Beta		Uranium-233/234
Neptunium-237		Uranium-235
Plutonium-238		Uranium-238
Plutonium-239/240		

155

Table F-2
Summary of Surface Water ECOI Data in the North Walnut Creek Aquatic Exposure Area

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Inorganics (mg/L)										
Aluminum	481	466	96.9%	0.02	200	0.015	442	9.606769464	26.29668	442
Aluminum (D)	181	105	58.0%	0.399	200	0.0086	11.6	0.170974095	1.1297593	11.6
Aluminum, soluble	7	4	57.1%	3.1	5	0.158	13.4	5.416	6.4553269	13.4
Aluminum, soluble (D)	48	14	29.2%	3.2	200	0.0236	0.614	0.110428571	0.1548077	0.614
Ammonia	160	95	59.4%	0.05	50	0	16.48	2.348842105	3.0078622	16.48
Ammonia (as nitrogen)	43	42	97.7%	0.2	0.3	0.21	7.7	2.660238095	2.4967232	7.7
Antimony	497	185	37.2%	0.0036	60	0.00048	0.117	0.008947795	0.0194187	0.117
Antimony (D)	189	36	19.0%	0.05	60	0.0014	0.101	0.032423889	0.0311133	0.101
Antimony, soluble	7	4	57.1%	0.48	0.62	0.00095	0.0157	0.0072875	0.0073958	0.0157
Antimony, soluble (D)	48	6	12.5%	0.48	42.2	0.00055	0.0232	0.008046667	0.0105004	0.0232
Arsenic	499	331	66.3%	0.0049	200	0.00048	0.0516	0.00542994	0.0060802	0.0516
Arsenic (D)	194	77	39.7%	0.147	200	0.00064	0.0116	0.003512844	0.0021404	0.0116
Arsenic, soluble	7	4	57.1%	0.58	0.82	0.00082	0.0065	0.003455	0.0028696	0.0065
Arsenic, soluble (D)	50	11	22.0%	0.58	2.3	0.00068	0.006	0.003128182	0.0019984	0.006
Barium	488	480	98.4%	0.00037	200	0.002	4.52	0.162477	0.2569833	4.52
Barium (D)	189	185	97.9%	0.01	200	0.0025	0.844	0.109325665	0.1224529	0.844
Barium, soluble	7	6	85.7%	0.02	0.08	0.02	0.14	0.0822	0.049294	0.14
Barium, soluble (D)	47	47	100.0%	0.05	5.7	0.022	0.284	0.088357447	0.0483299	0.284
Beryllium	645	268	41.6%	0	5	0.00001	0.027	0.000913078	0.0020351	0.027
Beryllium (D)	186	5	2.7%	0.0152	5	0.0004	0.004	0.001924	0.0016495	0.004
Beryllium, soluble	10	4	40.0%	0.02	0.02	0.00005	0.0008	0.00038	0.0003419	0.0008
Beryllium, soluble (D)	52	3	5.8%	0.05	0.8	0.00006	0.0008	0.000333333	0.0004061	0.0008
Boron	1	1	100.0%	0.0083	0.0083	0.18	0.18	0.18	NA	0.18
Cadmium	502	233	46.4%	0.00027	5	0.00007	0.0383	0.001462361	0.0039152	0.0383
Cadmium (D)	256	58	22.7%	0.016	5	0.000016	0.02	0.0024115	0.004408	0.02
Cadmium, soluble	7	6	85.7%	0.08	0.1	0.00011	0.0024	0.000845	0.0009942	0.0024
Cadmium, soluble (D)	150	26	17.3%	0.05	4.6	0.00008	0.0031	0.000451154	0.0007933	0.0031
Calcium	490	489	99.8%	0.076	5000	1.1	252000	582.3061391	11393.117	252000
Calcium (D)	187	186	99.5%	2.89	5000	3	807	90.09988495	122.86459	807
Calcium, soluble	7	6	85.7%	1.7	4.1	11.7	69.6	38.68333333	24.831224	69.6
Calcium, soluble (D)	47	47	100.0%	2	1290	12.1	856	73.12340426	121.65385	856
Cesium	153	25	16.3%	0.1	1000	0.00066	0.13	0.0518912	0.0326341	0.13
Cesium (D)	137	28	20.4%	0.1	1000	0.000531	0.13	0.067161821	0.0289958	0.13

Table F-2
Summary of Surface Water ECOI Data in the North Walnut Creek Aquatic Exposure Area

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC
Cesium, soluble (D)	42	0	0.0%	0.5	0.5	ND	ND	NA	NA	0.25
Chromium	772	398	51.6%	0.0021	10	0.0000052	0.434	0.017033867	0.0320414	0.434
Chromium (D)	185	47	25.4%	0.1	10	0.00035	0.0868	0.014629149	0.0193005	0.0868
Chromium VI	36	2	5.6%	0.01	0.02	0.02	0.04	0.03	0.0141421	0.04
Chromium, soluble	10	8	80.0%	0.15	0.2	0.00044	0.0235	0.00573875	0.0086526	0.0235
Chromium, soluble (D)	52	6	11.5%	0.22	5.7	0.00027	0.0449	0.008008333	0.018076	0.0449
Cobalt	482	258	53.5%	0.00067	50	0.00018	0.253	0.006125969	0.017408	0.253
Cobalt (D)	184	34	18.5%	0.007	50	0.00011	0.023	0.003575706	0.0046685	0.023
Cobalt, soluble	7	4	57.1%	0.12	0.18	0.00017	0.0062	0.0034175	0.0025034	0.0062
Cobalt, soluble (D)	52	5	9.6%	0.2	7.3	0.00028	0.0037	0.002576	0.0013693	0.0037
Copper	472	361	76.5%	0.00097	25	0.0022	0.623	0.025647618	0.0462474	0.623
Copper (D)	176	69	39.2%	0.016	25	0.00097	0.205	0.013275391	0.031696	0.205
Copper, soluble	7	7	100.0%	0.22	0.3	0.00045	0.109	0.029807143	0.0480824	0.109
Copper, soluble (D)	50	23	46.0%	0.18	5.4	0.0017	0.0166	0.005734783	0.0038655	0.0166
Cyanide	141	24	17.0%	0.005	20	0.0022	0.146	0.0230625	0.0318565	0.146
Cyanide (free)	1	0	0.0%	0.01	0.01	ND	ND	NA	NA	0.005
Fluoride	194	160	82.5%	0.1	0.5	0.1	2.9	0.720325	0.6085502	2.9
Fluoride (D)	1	1	100.0%			0.7	0.7	0.7	NA	0.7
Iron	483	472	97.7%	0.019	100	0.0108	481	9.209606419	27.508379	481
Iron (D)	179	120	67.0%	3.39	100	0.0045	9.57	0.199939333	0.962655	9.57
Iron, dissolved (D)	5	5	100.0%	0.1	0.1	0.03	0.08	0.046	0.0207364	0.08
Iron, soluble	7	7	100.0%	4.5	4.8	0.0057	15	3.520671429	6.1406262	15
Iron, soluble (D)	49	34	69.4%	3.1	30	0.0045	1.06	0.125455882	0.2472977	1.06
Lead	502	360	71.7%	0.0021	150	0.00024	0.596	0.015762556	0.0412893	0.596
Lead (D)	190	64	33.7%	0.016	150	0.00015	0.111	0.004377656	0.0136185	0.111
Lead, soluble	7	2	28.6%	0.45	0.72	0.0205	0.0325	0.0265	0.0084853	0.0325
Lead, soluble (D)	48	12	25.0%	0.5	1.4	0.00083	0.0114	0.0026025	0.0029374	0.0114
Lithium	299	271	90.6%	0.0012	100	0.00008	2.97	0.10401321	0.3127526	2.97
Lithium (D)	162	138	85.2%	0.0808	100	0.0011	2.33	0.137480239	0.3641947	2.33
Lithium, soluble	7	6	85.7%	0.02	0.12	0.0024	0.019	0.010116667	0.0065688	0.019
Lithium, soluble (D)	50	43	86.0%	0.05	7.1	0.004	1.59	0.064244186	0.2452177	1.59
Magnesium	492	491	99.8%	0.027	5000	0.236	264	17.08382297	26.869411	264
Magnesium (D)	188	185	98.4%	0.1	5000	1.83793	266	24.78801276	38.314659	266
Magnesium, soluble	7	6	85.7%	0.7	3.5	1.51	9.98	5.148333333	3.7997969	9.98

157

Table F-2
Summary of Surface Water ECOI Data in the North Walnut Creek Aquatic Exposure Area

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Magnesium, soluble (D)	47	47	100.0%	2.2	57	1.39	299	20.77042553	42.563696	299
Manganese	491	486	99.0%	0.00054	15	0.001	7.31	0.268393745	0.6246309	7.31
Manganese (D)	188	159	84.6%	0.021	15	0.001	2.13	0.103890063	0.2361186	2.13
Manganese, dissolved (D)	5	5	100.0%	0.015	0.015	0.026	0.16	0.0942	0.0568612	0.16
Manganese, soluble	7	7	100.0%	0.05	0.05	0.00007	0.304	0.08051	0.1221099	0.304
Manganese, soluble (D)	48	40	83.3%	0.02	2.5	0.00066	0.56	0.105635	0.1649039	0.56
Mercury	451	62	13.7%	0.000025	3.7	0.0001	0.0131	0.000433065	0.0016439	0.0131
Mercury (D)	185	21	11.4%	0.014	0.2	0.000014	0.00066	0.000278048	0.0002088	0.00066
Mercury, soluble	2	0	0.0%	0.0001	0.0001	ND	ND	NA	NA	0.00005
Mercury, soluble (D)	50	4	8.0%	0.1	0.2	0.0002	0.00034	0.0002775	5.909E-05	0.00034
Molybdenum	477	275	57.7%	0.0023	200	0.00032	0.0254	0.003771927	0.0037033	0.0254
Molybdenum (D)	184	82	44.6%	0.025	200	0.00063	0.0202	0.005996146	0.0038969	0.0202
Molybdenum, soluble	7	6	85.7%	0.3	0.32	0.00045	0.0022	0.00148	0.000714	0.0022
Molybdenum, soluble (D)	48	14	29.2%	0.25	10	0.00064	0.019	0.005642143	0.004811	0.019
Nickel	479	300	62.6%	0.0042	40	0.00076	0.479	0.0167431	0.0347284	0.479
Nickel (D)	182	49	26.9%	0.02	40	0.00055	0.17	0.012605469	0.0259925	0.17
Nickel, soluble	7	6	85.7%	0.28	0.3	0.00037	0.0151	0.004841667	0.0062317	0.0151
Nickel, soluble (D)	52	10	19.2%	0.3	11.2	0.00083	0.0232	0.007392	0.0078191	0.0232
Nitrate (as nitrogen)	20	12	60.0%	0.05	0.5	0.62	3.9	1.399166667	1.0854447	3.9
Nitrate / Nitrite	728	676	92.9%	0.02	250	0.05	8820	58.93367485	435.25659	8820
Nitrate / Nitrite (as nitrogen)	643	613	95.3%	0.01	10	0.024	420	55.66149592	90.28562	420
Nitrite (as nitrogen)	24	4	16.7%	0.05	0.05	0.05	0.18	0.115	0.0602771	0.18
Potassium	490	478	97.6%	0.25	21500	0.383	1530	20.38939734	84.947959	1530
Potassium (D)	187	179	95.7%	10	5000	1.57	1270	32.69886419	115.56091	1270
Potassium, soluble	7	7	100.0%	3	7	0.0072	12.8	6.516742857	4.6897226	12.8
Potassium, soluble (D)	47	46	97.9%	8.8	1070	1.29	287	13.75478261	43.067592	287
Selenium	486	203	41.8%	0.0046	150	0.00042	0.0226	0.002874877	0.0031353	0.0226
Selenium (D)	183	61	33.3%	0.33	150	0.0007	0.0172	0.003851148	0.0029478	0.0172
Selenium, soluble	7	2	28.6%	0.9	1.2	0.0019	0.0032	0.00255	0.0009192	0.0032
Selenium, soluble (D)	54	18	33.3%	0.65	1.7	0.0008	0.0058	0.0023	0.0012686	0.0058
Silver	489	58	11.9%	0.0007	25	0.00004	0.913	0.029084897	0.1278477	0.913
Silver (D)	247	23	9.3%	0.005	25	0.00002	0.0095	0.002885217	0.0029551	0.0095
Silver, soluble	7	1	14.3%	0.22	0.35	0.0003	0.0003	0.0003	NA	0.0003
Silver, soluble (D)	153	11	7.2%	0.02	6.8	0.00016	0.0324	0.004919091	0.0092505	0.0324

Table F-2
Summary of Surface Water ECOI Data in the North Walnut Creek Aquatic Exposure Area

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[a]
Sodium	491	490	99.8%	0.58	6000	0.492	6460	201.7903853	521.98254	6460
Sodium (D)	188	187	99.5%	4.48	5000	2	2350	153.6488791	330.7087	2350
Sodium, soluble	7	6	85.7%	1	4.4	14.5	54.1	25.86666667	16.793531	54.1
Sodium, soluble (D)	47	47	100.0%	24.2	2940	14.5	1610	100.9021277	237.61308	1610
Strontium	470	468	99.6%	0.00045	200	0.002	7.97	0.480773098	0.7968071	7.97
Strontium (D)	182	177	97.3%	0.005	200	0.0906	8.04	0.699295254	1.1774976	8.04
Strontium, soluble	7	7	100.0%	0.02	0.02	0.00023	0.324	0.133818571	0.1288192	0.324
Strontium, soluble (D)	48	48	100.0%	0.02	7.5	0.0679	8.5	0.521377083	1.1982326	8.5
Sulfide	123	27	22.0%	0.05	4	0.036	36	3.885966667	9.3962687	36
Thallium	488	22	4.5%	0.0081	350	0.0005	0.0125	0.002867273	0.003344	0.0125
Thallium (D)	186	7	3.8%	0.005	350	0.000012	0.0142	0.004598857	0.0048338	0.0142
Thallium, soluble	7	0	0.0%	0.00088	0.0013	ND	ND	NA	NA	0.00065
Thallium, soluble (D)	48	0	0.0%	0.00098	0.006	ND	ND	NA	NA	0.003
Tin	398	47	11.8%	0.005	5000	0.00074	0.315	0.020194681	0.0478665	0.315
Tin (D)	145	14	9.7%	0.01	5000	0.0022	0.206	0.043364286	0.0537819	0.206
Tin, soluble	7	2	28.6%	0.52	0.68	0.0006	0.001	0.0008	0.0002828	0.001
Tin, soluble (D)	47	1	2.1%	0.88	38.9	0.042	0.042	0.042	NA	0.042
Titanium	7	5	71.4%	0.00094	0.00094	0.0031	0.0072	0.00452	0.0016162	0.0072
Uranium, soluble	5	0	0.0%	0.005	0.011	ND	ND	NA	NA	0.0055
Uranium, total	231	24	10.4%	2.4	37.8	0.0033	0.013	0.006045833	0.0027522	0.013
Uranium, total (D)	1	1	100.0%	0.005	0.005	0.015	0.015	0.015	NA	0.015
Vanadium	489	333	68.1%	0.0026	50	0.00013	0.892	0.029654835	0.0611846	0.892
Vanadium (D)	189	65	34.4%	0.0951	50	0.00052	0.0719	0.008546923	0.0122684	0.0719
Vanadium, soluble	7	6	85.7%	0.15	0.2	0.0014	0.035	0.010733333	0.0145642	0.035
Vanadium, soluble (D)	47	7	14.9%	0.18	6.5	0.00042	0.0036	0.002488571	0.0011751	0.0036
Zinc	486	430	88.5%	0.0071	1000	0.00416	16.4	0.433860581	1.351972	16.4
Zinc (D)	188	114	60.6%	0.035	20	0.002	0.831	0.025602807	0.0794447	0.831
Zinc, soluble	7	6	85.7%	0.12	0.2	0.0853	0.602	0.27855	0.2189345	0.602
Zinc, soluble (D)	51	28	54.9%	0.08	7.2	0.0067	0.528	0.040167857	0.0989565	0.528
Organics (ug/L)										
1,1,1,2-Tetrachloroethane	143	0	0.0%	0.1	10	ND	ND	NA	NA	5
1,1,1-Trichloroethane	295	8	2.7%	0.1	10	0.23	3	0.9	0.9358419	3
1,1,2,2-Tetrachloroethane	331	1	0.3%	0.01	10	0.1	0.1	0.1	NA	0.1
1,1,2-Trichloro-1,2,2-trifluoroethane	29	2	6.9%	0.2	5	4	16	10	8.4852814	16

551

Table F-2
Summary of Surface Water ECOI Data in the North Walnut Creek Aquatic Exposure Area

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
1,1,2-Trichloroethane	313	0	0.0%	0.2	10	ND	ND	NA	NA	5
1,1-Dichloroethane	293	2	0.7%	0.1	10	2	2	2	0	2
1,1-Dichloroethene	315	1	0.3%	0.04	10	2.53	2.53	2.53	NA	2.53
1,2,3-Trichloropropane	158	0	0.0%	0.1	10	ND	ND	NA	NA	5
1,2,4,5-Tetrachlorobenzene	2	0	0.0%	10	10	ND	ND	NA	NA	5
1,2,4-Trichlorobenzene	251	0	0.0%	0.2	18	ND	ND	NA	NA	9
1,2,4-Trimethylbenzene	81	0	0.0%	0.2	5	ND	ND	NA	NA	2.5
1,2-Dibromo-3-chloropropane	60	0	0.0%	0.5	100	ND	ND	NA	NA	50
1,2-Dibromoethane	145	0	0.0%	0.2	20	ND	ND	NA	NA	10
1,2-Dichlorobenzene	266	0	0.0%	0.1	18	ND	ND	NA	NA	9
1,2-Dichloroethane	288	0	0.0%	0.2	10	ND	ND	NA	NA	5
1,2-Dichloroethene	73	1	1.4%	5	10	6	6	6	NA	6
1,2-Dichloropropane	335	1	0.3%	0.03	10	1	1	1	NA	1
1,3,5-Trimethylbenzene	81	0	0.0%	0.2	5	ND	ND	NA	NA	2.5
1,3-Dichlorobenzene	249	1	0.4%	0.073	18	0.82	0.82	0.82	NA	0.82
1,4-Dichlorobenzene	250	4	1.6%	0.073	18	0.2	0.5	0.3	0.1414214	0.5
2,3,4,6-Tetrachlorophenol	2	0	0.0%	10	10	ND	ND	NA	NA	5
2,4,5-T	29	0	0.0%	0.1	10	ND	ND	NA	NA	5
2,4,5-TP (Silvex)	62	0	0.0%	0.1	10	ND	ND	NA	NA	5
2,4,5-Trichlorophenol	203	0	0.0%	10	90	ND	ND	NA	NA	45
2,4,6-Trichlorophenol	203	0	0.0%	1	18	ND	ND	NA	NA	9
2,4-D	62	0	0.0%	0.45	13	ND	ND	NA	NA	6.5
2,4-DB	17	0	0.0%	0.91	10	ND	ND	NA	NA	5
2,4-Dichlorophenol	203	0	0.0%	5	18	ND	ND	NA	NA	9
2,4-Dimethylphenol	203	0	0.0%	5	18	ND	ND	NA	NA	9
2,4-Dinitrophenol	195	0	0.0%	23	90	ND	ND	NA	NA	45
2,4-Dinitrotoluene	201	0	0.0%	5	18	ND	ND	NA	NA	9
2,6-Dinitrotoluene	206	0	0.0%	5	18	ND	ND	NA	NA	9
2378-TCDD	25	0	0.0%	0.0001	0.014	ND	ND	NA	NA	0.007
2-Butanone	181	1	0.6%	0.93	100	2	2	2	NA	2
2-Chloronaphthalene	207	0	0.0%	5	18	ND	ND	NA	NA	9
2-Chlorophenol	203	0	0.0%	5	18	ND	ND	NA	NA	9
2-Methylnaphthalene	207	0	0.0%	5	18	ND	ND	NA	NA	9
2-Methylphenol	197	0	0.0%	5	18	ND	ND	NA	NA	9

160

Table F-2
Summary of Surface Water ECOI Data in the North Walnut Creek Aquatic Exposure Area

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC
2-Nitroaniline	201	0	0.0%	23	90	ND	ND	NA	NA	45
3,3'-Dichlorobenzidine	199	0	0.0%	9	36	ND	ND	NA	NA	18
4,4'-DDD	123	0	0.0%	0.02	1	ND	ND	NA	NA	0.5
4,4'-DDE	123	1	0.8%	0.02	1	0.021	0.021	0.021	NA	0.021
4,4'-DDT	123	1	0.8%	0.02	1	0.28	0.28	0.28	NA	0.28
4,6-Dinitro-2-methylphenol	196	0	0.0%	23	90	ND	ND	NA	NA	45
4-Chloro-3-methylphenol	197	0	0.0%	5	22.5	ND	ND	NA	NA	11.25
4-Chloroaniline	198	0	0.0%	5	22.5	ND	ND	NA	NA	11.25
4-Isopropyltoluene	87	0	0.0%	0.2	1.115	ND	ND	NA	NA	0.5575
4-Methyl-2-pentanone	196	1	0.5%	0.79	50	3	3	3	NA	3
4-Methylphenol	193	0	0.0%	5	18	ND	ND	NA	NA	9
4-Nitroaniline	191	0	0.0%	5	59	ND	ND	NA	NA	29.5
4-Nitrophenol	197	0	0.0%	23	90	ND	ND	NA	NA	45
Acenaphthene	207	2	1.0%	1	18	0.5	1	0.75	0.3535534	1
Acenaphthylene	207	0	0.0%	1	18	ND	ND	NA	NA	9
Acetone	202	32	15.8%	1.9	100	2	490	28.440625	86.826909	490
Acrolein	1	0	0.0%	500	500	ND	ND	NA	NA	250
Acrylonitrile	17	0	0.0%	10	100	ND	ND	NA	NA	50
Aldrin	118	0	0.0%	0.04	0.52	ND	ND	NA	NA	0.26
alpha-BHC	118	1	0.8%	0.03	0.52	0.01	0.01	0.01	NA	0.01
alpha-Chlordane	116	1	0.9%	0.01	5.2	0	0	0	NA	0
Anthracene	207	1	0.5%	0.0288	18	2	2	2	NA	2
Atrazine	91	27	29.7%	0.05	1	0.08	1.6	0.518148148	0.3617377	1.6
Azinphos-methyl	1	0	0.0%	4	4	ND	ND	NA	NA	2
Benzene	335	1	0.3%	0.01	10	2	2	2	NA	2
Benzidine	6	0	0.0%	10	10	ND	ND	NA	NA	5
Benzo(a)anthracene	201	1	0.5%	0.13	18	8	8	8	NA	8
Benzo(a)pyrene	201	1	0.5%	0.134	18	9	9	9	NA	9
Benzo(b)fluoranthene	202	2	1.0%	0.144	18	2	10	6	5.6568542	10
Benzo(g,h,i)perylene	113	0	0.0%	0.76	11.2	ND	ND	NA	NA	5.6
Benzo(k)fluoranthene	202	3	1.5%	0.0768	18	0.7	8	3.2	4.1581246	8
Benzoic Acid	168	4	2.4%	46	90	3	17.5	10.875	6.0878978	17.5
Benzyl Alcohol	179	5	2.8%	9	22.5	23	860	383.8	374.96426	860
beta-BHC	118	5	4.2%	0.049	0.52	0.02	0.04	0.0244	0.008735	0.04

Table F-2
Summary of Surface Water ECOI Data in the North Walnut Creek Aquatic Exposure Area

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC
bis(2-Chloroethyl) ether	166	0	0.0%	5	18	ND	ND	NA	NA	9
bis(2-Chloroisopropyl) ether	182	0	0.0%	5	18	ND	ND	NA	NA	9
bis(2-ethylhexyl)phthalate	201	64	31.8%	9	18	0.3	200	14.840625	36.413519	200
Bromodichloromethane	323	10	3.1%	0.1	10	0.29	2	1.219	0.7050997	2
Bromoform	335	0	0.0%	0.2	10	ND	ND	NA	NA	5
Bromomethane	330	0	0.0%	0.2	10	ND	ND	NA	NA	5
Butylbenzylphthalate	136	12	8.8%	9	12	0.3	6	1.233333333	1.5593316	6
Carbazole	20	1	5.0%	9	12	3	3	3	NA	3
Carbon Disulfide	215	2	0.9%	0.19	10	1	5	3	2.8284271	5
Carbon Tetrachloride	330	28	8.5%	0.02	10	0.11	310	40.15928571	83.032692	310
Chlordane (NOS)	6	0	0.0%	0.14	0.5	ND	ND	NA	NA	0.25
Chlorobenzene	315	1	0.3%	0.02	10	0.1	0.1	0.1	NA	0.1
Chloroethane	315	0	0.0%	0.2	10	ND	ND	NA	NA	5
Chloroform	336	60	17.9%	0.01	10	0.08	120	12.6205	24.518382	120
Chloromethane	311	0	0.0%	0.2	10			5.336540193	4.601712	0
Chlorpyriphos	1	0	0.0%	1	1	ND	ND	NA	NA	0.5
Chrysene	208	2	1.0%	0.499	18	4	11	7.5	4.9497475	11
cis-1,2-Dichloroethene	79	7	8.9%	0.2	5	0.2	2	0.998571429	0.5297933	2
cis-1,3-Dichloropropene	282	0	0.0%	0.2	10	ND	ND	NA	NA	5
Dalapon	22	1	4.5%	5.8	10.53	0.99	0.99	0.99	NA	0.99
delta-BHC	118	0	0.0%	0.049	0.52	ND	ND	NA	NA	0.26
Demeton	1	0	0.0%	2	2	ND	ND	NA	NA	1
Dibenz(a,h)anthracene	190	1	0.5%	0.3	18	2	2	2	NA	2
Dibenzofuran	201	0	0.0%	5	18	ND	ND	NA	NA	9
Dibromochloromethane	335	1	0.3%	0.05	10	1	1	1	NA	1
Dicamba	25	5	20.0%	0.1	10	0.08	0.21	0.17	0.0533854	0.21
Dichlorodifluoromethane	174	2	1.1%	0.2	20	0.72	1.43	1.075	0.5020458	1.43
Dieldrin	123	0	0.0%	0.02	1	ND	ND	NA	NA	0.5
Diethylphthalate	136	16	11.8%	9	12	0.3	7	1.5625	2.059733	7
Dimethoate	2	1	50.0%	0.52	20	0.62	0.62	0.62	NA	0.62
Dimethylphthalate	136	1	0.7%	9	12	0.8	0.8	0.8	NA	0.8
Di-n-butylphthalate	83	22	26.5%	10	10	0.2	11	1.586363636	2.4702603	11
Di-n-octylphthalate	130	1	0.8%	9	12	7	7	7	NA	7
Dinoseb	26	1	3.8%	0.07	10	0.34	0.34	0.34	NA	0.34

162

Table F-2
Summary of Surface Water ECOI Data in the North Walnut Creek Aquatic Exposure Area

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Endosulfan I	124	2	1.6%	0.01	0.52	0.01	5.6	2.805	3.9527269	5.6
Endosulfan II	123	0	0.0%	0.02	1	ND	ND	NA	NA	0.5
Endosulfan sulfate	123	0	0.0%	0.02	1	ND	ND	NA	NA	0.5
Endrin	123	1	0.8%	0.02	1	0.021	0.021	0.021	NA	0.021
Endrin aldehyde	41	0	0.0%	0.05	1	ND	ND	NA	NA	0.5
Endrin ketone	112	0	0.0%	0.05	1	ND	ND	NA	NA	0.5
Ethylbenzene	302	0	0.0%	0.2	10	ND	ND	NA	NA	5
Fluoranthene	207	2	1.0%	0.595	18	0.9	16	8.45	10.677312	16
Fluorene	207	1	0.5%	0.294	18	0.9	0.9	0.9	NA	0.9
gamma-BHC (Lindane)	118	0	0.0%	0.04	0.52	ND	ND	NA	NA	0.26
gamma-Chlordane	72	0	0.0%	0.01	5.2	ND	ND	NA	NA	2.6
Heptachlor	118	0	0.0%	0.03	0.52	ND	ND	NA	NA	0.26
Heptachlor epoxide	119	1	0.8%	0.049	0.83	0.05	0.05	0.05	NA	0.05
Hexachlorobenzene	207	0	0.0%	1	18	ND	ND	NA	NA	9
Hexachlorobutadiene	256	1	0.4%	0.05	18	0.29	0.29	0.29	NA	0.29
Hexachlorocyclopentadiene	198	0	0.0%	5	18	ND	ND	NA	NA	9
Hexachlorodibenzo-p-dioxin	1	0	0.0%	0.0074	0.0074	ND	ND	NA	NA	0.0037
Hexachloroethane	201	0	0.0%	1	18	ND	ND	NA	NA	9
Indeno(1,2,3-cd)pyrene	201	1	0.5%	0.294	18	7	7	7	NA	7
Isophorone	201	1	0.5%	9	18	0.3	0.3	0.3	NA	0.3
Isopropylbenzene	157	1	0.6%	0.02	5	0.5	0.5	0.5	NA	0.5
m,p-Xylene	51	0	0.0%	0.2	1.33	ND	ND	NA	NA	0.665
MCPA	25	0	0.0%	10	10000	ND	ND	NA	NA	5000
MCPP	25	0	0.0%	10	10000	ND	ND	NA	NA	5000
Methoxychlor	113	0	0.0%	0.05	5.2	ND	ND	NA	NA	2.6
methyl methacrylate	1	0	0.0%	5	5	ND	ND	NA	NA	2.5
Methylene Chloride	333	56	16.8%	0.01	10	0.1	90	7.322857143	16.712165	90
Naphthalene	240	4	1.7%	0.02	18	0.11	1	0.55	0.3797368	1
Nitrobenzene	207	0	0.0%	5	18	ND	ND	NA	NA	9
N-Nitrosodiethylamine	8	0	0.0%	5	20	ND	ND	NA	NA	10
N-Nitrosodimethylamine	8	0	0.0%	5	10	ND	ND	NA	NA	5
N-Nitrosodi-n-butylamine	6	0	0.0%	5	5	ND	ND	NA	NA	2.5
N-Nitroso-di-n-propylamine	201	0	0.0%	5	18	ND	ND	NA	NA	9
N-nitrosodiphenylamine	201	0	0.0%	5	18	ND	ND	NA	NA	9

163

Table F-2
Summary of Surface Water ECOI Data in the North Walnut Creek Aquatic Exposure Area

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC
N-Nitrosopyrrolidine	8	0	0.0%	10	40	ND	ND	NA	NA	20
o-Xylene	69	0	0.0%	0.2	1	ND	ND	NA	NA	0.5
Parathion	2	0	0.0%	0.52	10	ND	ND	NA	NA	5
PCB-1016	114	0	0.0%	0.5	2.6	ND	ND	NA	NA	1.3
PCB-1221	114	0	0.0%	0.5	5	ND	ND	NA	NA	2.5
PCB-1232	119	0	0.0%	0.2	2.6	ND	ND	NA	NA	1.3
PCB-1242	114	0	0.0%	0.5	2.6	ND	ND	NA	NA	1.3
PCB-1248	114	0	0.0%	0.5	2.6	ND	ND	NA	NA	1.3
PCB-1254	120	6	5.0%	0.074	10	0.26	3.3	1.25	1.1076281	3.3
PCB-1260	114	0	0.0%	0.5	5.2	ND	ND	NA	NA	2.6
Pentachlorobenzene	2	0	0.0%	10	10	ND	ND	NA	NA	5
Pentachloronitrobenzene	1	0	0.0%	20	20	ND	ND	NA	NA	10
Pentachlorophenol	203	0	0.0%	23	90	ND	ND	NA	NA	45
Phenanthrene	207	2	1.0%	0.672	18	10	11	10.5	0.7071068	11
Phenol	203	0	0.0%	5	2700	ND	ND	NA	NA	1350
Pyrene	204	5	2.5%	0.588	18	0.2	12	2.72	5.1915316	12
Simazine	91	1	1.1%	0.06	1	0.08	0.08	0.08	NA	0.08
Styrene	319	0	0.0%	0.1	10	ND	ND	NA	NA	5
Tetrachloroethene	292	5	1.7%	0.1	10	0.23	6	3.146	2.4400984	6
Toluene	336	10	3.0%	0.02	10	0.3	10	2.187	3.0800615	10
Toxaphene	118	0	0.0%	0.99	10	ND	ND	NA	NA	5
trans-1,2-Dichloroethene	130	0	0.0%	0.1	5	ND	ND	NA	NA	2.5
trans-1,3-Dichloropropene	267	0	0.0%	0.2	10	ND	ND	NA	NA	5
Trichloroethene	290	25	8.6%	0.03	10	0.04	29	3.0776	5.7366775	29
Trichlorofluoromethane	159	6	3.8%	0.2	20	0.5	7	1.966666667	2.5224327	7
Vinyl acetate	154	0	0.0%	10	10	ND	ND	NA	NA	5
Vinyl Chloride	316	1	0.3%	0.01	10	0.5	0.5	0.5	NA	0.5
Xylene	159	1	0.6%	0.5	10	3	3	3	NA	3
Radionuclides (pCi/L)										
Americium-241	803	384	47.8%	0	0.3	0	19.3	0.473480034	1.6008735	19.3
Americium-241 (D)	67	25	37.3%	0	0.0276	0	0.018	0.005230544	0.0044651	0.018
Cesium, radio	33	3	9.1%	0.2	1.06	0.22	0.59	0.42	0.1868154	0.59
Cesium-137	96	26	27.1%	0.15	1.8	-0.463	9	0.932533077	1.8866978	9
Cesium-137 (D)	49	13	26.5%	0.15	1.11	-0.133	1.7	0.639861538	0.5731032	1.7

Table F-2
Summary of Surface Water ECOI Data in the North Walnut Creek Aquatic Exposure Area

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Gross Alpha	1164	1096	94.2%	0.34	35	-0.1	1200	8.701929197	52.923867	1200
Gross Alpha (D)	50	39	78.0%	0.5	59	1.023	369.5	33.00133333	83.408504	369.5
Gross Beta	1166	1155	99.1%	1	65	0.7	1600	13.55670996	61.564911	1600
Gross Beta (D)	51	50	98.0%	1	51	2.76	1111	49.21154	166.10065	1111
Neptunium-237	30	5	16.7%	0.012	1.02	0.033	0.238	0.0946	0.0820871	0.238
Neptunium-237 (D)	4	1	25.0%	0.016	0.058	0.038	0.038	0.038	NA	0.038
Plutonium-238	205	177	86.3%	0.002989	5.374	-0.007538	5.932	0.049457273	0.469019	5.932
Plutonium-239/240	1170	686	58.6%	0	5.396	-0.026	259	0.992238636	10.708015	259
Plutonium-239/240 (D)	66	32	48.5%	0	0.04	0.0002534	0.0345	0.007993072	0.0075031	0.0345
Radiocesium	27	4	14.8%	0.3	7.1	0.54	7.8	2.555	3.5020899	7.8
Radiocesium (D)	18	4	22.2%	0.3	0.87	0.32	0.98	0.5875	0.2839454	0.98
Radium-226	12	11	91.7%	0.08	1	0.14	21	2.844545455	6.0879543	21
Radium-226 (D)	13	13	100.0%	0.05	0.5	0.06768	1.338	0.507775385	0.4028334	1.338
Radium-228	3	3	100.0%	3.1	16	10	28	17.33333333	9.4516313	28
Tritium	1245	1005	80.7%	48.83	710	-329.8	7800	126.5463291	495.43532	7800
Uranium-233/234	1316	1284	97.6%	0	24.5	0.02	1161	6.796300421	42.034065	1161
Uranium-233/234 (D)	132	131	99.2%	0	0.6	0.1629	583	15.25280076	59.536603	583
Uranium-235	1299	942	72.5%	0	24.05	-0.012	31.02	0.316358206	1.4315284	31.02
Uranium-235 (D)	132	73	55.3%	0	0.6	-0.00851	17.78	0.87442137	2.2859255	17.78
Uranium-238	1315	1279	97.3%	0	24.55	0.03	1214	4.987404199	36.395447	1214
Uranium-238 (D)	132	131	99.2%	0	0.6	0.083	252.5	9.386842748	29.036906	252.5

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

[2]PCBs will be evaluated as total PCB.

ND = The ECOI was not detected.

Table F-3
Accelerated Action Screening Step for Surface Water in the North Walnut Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Inorganics (mg/L)					
Aluminum	442	0.087	Yes	Yes	No
Aluminum (D)	11.6	0.087	Yes	Yes	No
Aluminum, soluble	13.4	0.087	Yes	Yes	No
Aluminum, soluble (D)	0.614	0.087	Yes	Yes	No
Ammonia	16.48	0.02	Yes	Yes	No
Ammonia (as nitrogen)	7.7	0.02	Yes	Yes	No
Antimony	0.117	0.24	No	No	No
Antimony (D)	0.101	0.24	No	No	No
Antimony, soluble	0.0157	0.24	No	No	No
Antimony, soluble (D)	0.0232	0.24	No	No	No
Arsenic	0.0516	0.15	No	No	No
Arsenic (D)	0.0116	0.15	No	No	No
Arsenic, soluble	0.0065	0.15	No	No	No
Arsenic, soluble (D)	0.006	0.15	No	No	No
Barium	4.52	0.438	Yes	Yes	No
Barium (D)	0.844	0.438	Yes	Yes	No
Barium, soluble	0.14	0.438	No	No	No
Barium, soluble (D)	0.284	0.438	No	No	No
Beryllium	0.027	0.0024	Yes	Yes	No
Beryllium (D)	0.004	0.0024	Yes	Yes	No
Beryllium, soluble	0.0008	0.0024	No	No	No
Beryllium, soluble (D)	0.0008	0.0024	No	No	No
Boron	0.18	NA	NA	No	Yes
Cadmium	0.0383	0.00025	Yes	Yes	No
Cadmium (D)	0.02	0.00025	Yes	Yes	No
Cadmium, soluble	0.0024	0.00025	Yes	Yes	No
Cadmium, soluble (D)	0.0031	0.00025	Yes	Yes	No
Calcium	252000	NA	NA	No	Yes
Calcium (D)	807	NA	NA	No	Yes
Calcium, soluble	69.6	NA	NA	No	Yes
Calcium, soluble (D)	856	NA	NA	No	Yes
Cesium	0.13	NA	NA	No	Yes
Cesium (D)	0.13	NA	NA	No	Yes
Chromium	0.434	0.074	Yes	Yes	No
Chromium (D)	0.0868	0.074	Yes	Yes	No
Chromium VI	0.04	NA	NA	No	Yes
Chromium, soluble	0.0235	0.074	No	No	No
Chromium, soluble (D)	0.0449	0.074	No	No	No
Cobalt	0.253	0.1	Yes	Yes	No
Cobalt (D)	0.023	0.1	No	No	No
Cobalt, soluble	0.0062	0.1	No	No	No
Cobalt, soluble (D)	0.0037	0.1	No	No	No
Copper	0.623	0.009	Yes	Yes	No
Copper (D)	0.205	0.009	Yes	Yes	No
Copper, soluble	0.109	0.009	Yes	Yes	No

165

Table F-3
Accelerated Action Screening Step for Surface Water in the North Walnut Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Copper, soluble (D)	0.0166	0.009	Yes	Yes	No
Cyanide	0.146	500	No	No	No
Fluoride	2.9	2.12	Yes	Yes	No
Fluoride (D)	0.7	2.12	No	No	No
Iron	481	1	Yes	Yes	No
Iron (D)	9.57	1	Yes	Yes	No
Iron, dissolved (D)	0.08	1	No	No	No
Iron, soluble	15	1	Yes	Yes	No
Iron, soluble (D)	1.06	1	Yes	Yes	No
Lead	0.596	0.0025	Yes	Yes	No
Lead (D)	0.111	0.0025	Yes	Yes	No
Lead, soluble	0.0325	0.0025	Yes	Yes	No
Lead, soluble (D)	0.0114	0.0025	Yes	Yes	No
Lithium	2.97	0.096	Yes	Yes	No
Lithium (D)	2.33	0.096	Yes	Yes	No
Lithium, soluble	0.019	0.096	No	No	No
Lithium, soluble (D)	1.59	0.096	Yes	Yes	No
Magnesium	264	NA	NA	No	Yes
Magnesium (D)	266	NA	NA	No	Yes
Magnesium, soluble	9.98	NA	NA	No	Yes
Magnesium, soluble (D)	299	NA	NA	No	Yes
Manganese	7.31	1.65	Yes	Yes	No
Manganese (D)	2.13	1.65	Yes	Yes	No
Manganese, dissolved (D)	0.16	1.65	No	No	No
Manganese, soluble	0.304	1.65	No	No	No
Manganese, soluble (D)	0.56	1.65	No	No	No
Mercury	0.0131	0.00077	Yes	Yes	No
Mercury (D)	0.00066	0.00077	No	No	No
Mercury, soluble (D)	0.00034	0.00077	No	No	No
Molybdenum	0.0254	0.8	No	No	No
Molybdenum (D)	0.0202	0.8	No	No	No
Molybdenum, soluble	0.0022	0.8	No	No	No
Molybdenum, soluble (D)	0.019	0.8	No	No	No
Nickel	0.479	0.052	Yes	Yes	No
Nickel (D)	0.17	0.052	Yes	Yes	No
Nickel, soluble	0.0151	0.052	No	No	No
Nickel, soluble (D)	0.0232	0.052	No	No	No
Nitrate (as nitrogen)	3.9	NA	NA	No	Yes
Nitrate / Nitrite	8820	NA	NA	No	Yes
Nitrate / Nitrite (as nitrogen)	420	NA	NA	No	Yes
Nitrite (as nitrogen)	0.18	0.00443	Yes	Yes	No
Potassium	1530	NA	NA	No	Yes
Potassium (D)	1270	NA	NA	No	Yes
Potassium, soluble	12.8	NA	NA	No	Yes
Potassium, soluble (D)	287	NA	NA	No	Yes
Selenium	0.0226	0.0046	Yes	Yes	No

Table F-3
Accelerated Action Screening Step for Surface Water in the North Walnut Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW-ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Selenium (D)	0.0172	0.0046	Yes	**Yes**	No
Selenium, soluble	0.0032	0.0046	No	No	No
Selenium, soluble (D)	0.0058	0.0046	Yes	**Yes**	No
Silver	0.913	0.00032	Yes	**Yes**	No
Silver (D)	0.0095	0.00032	Yes	**Yes**	No
Silver, soluble	0.0003	0.00032	No	No	No
Silver, soluble (D)	0.0324	0.00032	Yes	**Yes**	No
Sodium	6460	NA	NA	No	**Yes**
Sodium (D)	2350	NA	NA	No	**Yes**
Sodium, soluble	54.1	NA	NA	No	**Yes**
Sodium, soluble (D)	1610	NA	NA	No	**Yes**
Strontium	7.97	8.3	No	No	No
Strontium (D)	8.04	8.3	No	No	No
Strontium, soluble	0.324	8.3	No	No	No
Strontium, soluble (D)	8.5	8.3	Yes	**Yes**	No
Sulfide	36	NA	NA	No	**Yes**
Thallium	0.0125	0.015	No	No	No
Thallium (D)	0.0142	0.015	No	No	No
Tin	0.315	0.073	Yes	**Yes**	No
Tin (D)	0.206	0.073	Yes	**Yes**	No
Tin, soluble	0.001	0.073	No	No	No
Tin, soluble (D)	0.042	0.073	No	No	No
Titanium	0.0072	NA	NA	No	**Yes**
Uranium, total	0.013	0.0026	Yes	**Yes**	No
Uranium, total (D)	0.015	0.0026	Yes	**Yes**	No
Vanadium	0.892	0.012	Yes	**Yes**	No
Vanadium (D)	0.0719	0.012	Yes	**Yes**	No
Vanadium, soluble	0.035	0.012	Yes	**Yes**	No
Vanadium, soluble (D)	0.0036	0.012	No	No	No
Zinc	16.4	0.118	Yes	**Yes**	No
Zinc (D)	0.831	0.118	Yes	**Yes**	No
Zinc, soluble	0.602	0.118	Yes	**Yes**	No
Zinc, soluble (D)	0.528	0.118	Yes	**Yes**	No
Organics (ug/L)					
1,1,1-Trichloroethane	3	89	No	No	No
1,1,2,2-Tetrachloroethane	0.1	2400	No	No	No
1,1,2-Trichloro-1,2,2-trifluoroethane	16	NA	NA	No	**Yes**
1,1-Dichloroethane	2	740	No	No	No
1,1-Dichloroethene	2.53	65	No	No	No
1,2-Dichloroethene	6	1100	No	No	No
1,2-Dichloropropane	1	5700	No	No	No
1,3-Dichlorobenzene	0.82	NA	NA	No	**Yes**
1,4-Dichlorobenzene	0.5	16	No	No	No
2-Butanone	2	2200	No	No	No
4,4'-DDE	0.021	105	No	No	No
4,4'-DDT	0.28	NA	NA	No	**Yes**

167

Table F-3
Accelerated Action Screening Step for Surface Water in the North Walnut Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
4-Methyl-2-pentanone	3	170	No	No	No
Acenaphthene	1	NA	NA	No	Yes
Acetone	490	1500	No	No	No
alpha-BHC	0.01	0.08	No	No	No
alpha-Chlordane	0	NA	NA	No	Yes
Anthracene	2	0.73	Yes	Yes	No
Atrazine	1.6	NA	NA	No	Yes
Benzene	2	530	No	No	No
Benzo(a)anthracene	8	0.027	Yes	Yes	No
Benzo(a)pyrene	9	0.014	Yes	Yes	No
Benzo(b)fluoranthene	10	NA	NA	No	Yes
Benzo(k)fluoranthene	8	NA	NA	No	Yes
Benzoic Acid	17.5	42	No	No	No
Benzyl Alcohol	860	NA	NA	No	Yes
beta-BHC	0.04	0.08	No	No	No
bis(2-ethylhexyl)phthalate	200	28.5	Yes	Yes	No
Bromodichloromethane	2	1100	No	No	No
Butylbenzylphthalate	6	67	No	No	No
Carbazole	3	NA	NA	No	Yes
Carbon Disulfide	5	0.92	Yes	Yes	No
Carbon Tetrachloride	310	3520	No	No	No
Chlorobenzene	0.1	47	No	No	No
Chloroform	120	1240	No	No	No
Chrysene	11	NA	NA	No	Yes
cis-1,2-Dichloroethene	2	620	No	No	No
Dalapon	0.99	NA	NA	No	Yes
Dibenz(a,h)anthracene	2	NA	NA	No	Yes
Dibromochloromethane	1	NA	NA	No	Yes
Dicamba	0.21	NA	NA	No	Yes
Dichlorodifluoromethane	1.43	NA	NA	No	Yes
Diethylphthalate	7	110	No	No	No
Dimethoate	0.62	NA	NA	No	Yes
Dimethylphthalate	0.8	NA	NA	No	Yes
Di-n-butylphthalate	11	9.7	Yes	Yes	No
Di-n-octylphthalate	7	NA	NA	No	Yes
Dinoseb	0.34	NA	NA	No	Yes
Endosulfan I	5.6	NA	NA	No	Yes
Endrin	0.021	NA	NA	No	Yes
Fluoranthene	16	398	No	No	No
Fluorene	0.9	12	No	No	No
Heptachlor epoxide	0.05	NA	NA	No	Yes
Hexachlorobutadiene	0.29	9.3	No	No	No
Indeno(1,2,3-cd)pyrene	7	NA	NA	No	Yes
Isophorone	0.3	1300	No	No	No
Isopropylbenzene	0.5	NA	NA	No	Yes
Methylene Chloride	90	940	No	No	No

168

Table F-3
Accelerated Action Screening Step for Surface Water in the North Walnut Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Naphthalene	1	620	No	No	No
PCB-1254	3.3	0.014	Yes	Yes	No
Phenanthrene	11	2.4	Yes	Yes	No
Pyrene	12	0.025	Yes	Yes	No
Simazine	0.08	NA	NA	No	Yes
Tetrachloroethene	6	840	No	No	No
Toluene	10	1750	No	No	No
Trichloroethene	29	21900	No	No	No
Trichlorofluoromethane	7	NA	NA	No	Yes
Vinyl Chloride	0.5	930	No	No	No
Xylene	3	35	No	No	No
Radionuclides (pCi/L)					
Americium-241	19.3	43.8	No	No	No
Americium-241 (D)	0.018	43.8	No	No	No
Cesium, radio	0.59	NA	NA	No	Yes
Cesium-137	9	42.6	No	No	No
Cesium-137 (D)	1.7	42.6	No	No	No
Gross Alpha	1200	NA	NA	No	Yes
Gross Alpha (D)	369.5	NA	NA	No	Yes
Gross Beta	1600	NA	NA	No	Yes
Gross Beta (D)	1111	NA	NA	No	Yes
Neptunium-237	0.238	NA	NA	No	Yes
Neptunium-237 (D)	0.038	NA	NA	No	Yes
Plutonium-238	5.932	NA	NA	No	Yes
Plutonium-239/240	259	18.7	Yes	Yes	No
Plutonium-239/240 (D)	0.0345	18.7	No	No	No
Radiocesium	7.8	42.6	No	No	No
Radiocesium (D)	0.98	42.6	No	No	No
Radium-226	21	1.02	Yes	Yes	No
Radium-226 (D)	1.338	1.02	Yes	Yes	No
Radium-228	28	0.849	Yes	Yes	No
Tritium	7800	265000000	No	No	No
Uranium-233/234	1161	NA	NA	No	Yes
Uranium-233/234 (D)	583	NA	NA	No	Yes
Uranium-235	31.02	21.7	Yes	Yes	No
Uranium-235 (D)	17.78	21.7	No	No	No
Uranium-238	1214	22.3	Yes	Yes	No
Uranium-238 (D)	252.5	22.3	Yes	Yes	No

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

Table G-1
ECOIs Detected in Surface Water in the South Walnut Creek Aquatic Exposure Unit

ECOIs Detected in Surface Water in the South Walnut Creek Aquatic Exposure Unit		
Inorganics		
Aluminum		Manganese
Ammonia		Mercury
Antimony		Molybdenum
Arsenic		Nickel
Barium		Nitrate (as nitrogen)
Beryllium		Nitrate / Nitrite
Boron		Nitrate / Nitrite (as nitrogen)
Cadmium		Nitrite (as nitrogen)
Calcium		Potassium
Cesium		Selenium
Chromium		Silver
Chromium VI		Sodium
Cobalt		Strontium
Copper		Sulfide
Cyanide		Thallium
Fluoride		Tin
Iron		Titanium
Lead		Uranium, total
Lithium		Vanadium
Magnesium		Zinc
Organics		
1,1,1-Trichloroethane		Carbon Tetrachloride
1,1,2,2-Tetrachloroethane		Chlorobenzene
1,2-Trichloro-1,2,2-trifluoroethane		Chloroform
1,1-Dichloroethane		Chloromethane
1,1-Dichloroethene		Chrysene
1,2,3-Trichloropropane		cis-1,2-Dichloroethene
1,2,4-Trichlorobenzene		delta-BHC
1,2,4-Trimethylbenzene		Dibromochloromethane
1,2-Dichloroethane		Dichlorodifluoromethane
1,2-Dichloroethene		Diethylphthalate
1,3,5-Trimethylbenzene		Dimethoate
1,3-Dichlorobenzene		Di-n-butylphthalate
1,4-Dichlorobenzene		Di-n-octylphthalate
2-Butanone		Fluorene
4,4'-DDD		gamma-BHC (Lindane)
4,4'-DDE		Heptachlor
4,4'-DDT		Hexachlorobutadiene
4-Methyl-2-pentanone		m,p-Xylene
4-Methylphenol		Methylene Chloride
Acetone		Naphthalene
alpha-BHC		PCB-1254
alpha-Chlordane		Phenanthrene
Atrazine		Simazine
Benzene		Styrene
beta-BHC		Tetrachloroethene
bis(2-ethylhexyl)phthalate		Toluene

Table G-1
ECOIs Detected in Surface Water in the South Walnut Creek Aquatic Exposure Unit

ECOIs Detected in Surface Water in the South Walnut Creek Aquatic Exposure Unit		
Bromodichloromethane		trans-1,2-Dichloroethene
Bromoform		Trichloroethene
Bromomethane		Trichlorofluoromethane
Butylbenzylphthalate		Vinyl Chloride
Carbon Disulfide		Xylene
Radionuclides		
Americium-241		Radiocesium
Cesium, radio		Radium-226
Cesium-137		Strontium-89/90
Gross Alpha		Tritium
Gross Beta		Uranium-233/234
Neptunium-237		Uranium-235
Plutonium-238		Uranium-238
Plutonium-239/240		

171

Table G-2
Summary of Surface Water ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Inorganics (mg/L)										
Aluminum	1203	1001	83.2%	0.02	200	0.0093	81.3	2.941298971	7.09057036	81.3
Aluminum (D)	691	208	30.1%	0.25	200	0.0066	1.89	0.066944087	0.156206425	1.89
Aluminum, dissolved (D)	6	2	33.3%	26	200	0.674	0.706	0.69	0.022627417	0.706
Aluminum, soluble	4	4	100.0%	2.5	5	0.0442	1.85	0.58905	0.848350955	1.85
Aluminum, soluble (D)	111	35	31.5%	2.5	36.8	0.0161	1.33	0.081851429	0.21781609	1.33
Ammonia	1185	1149	97.0%	0.05	5	0	47.16	13.76009312	10.2858221	47.16
Ammonia (as nitrogen)	1390	1206	86.8%	0.015	2	0.026	50	3.793532338	5.487252088	50
Antimony	1243	297	23.9%	0.0037	60	0.00028	0.559	0.029879091	0.071535933	0.559
Antimony (D)	712	94	13.2%	0.1	60	0.0018	0.219	0.02428883	0.026059778	0.219
Antimony, dissolved (D)	6	2	33.3%	2	60	0.0037	0.006	0.00485	0.001626346	0.006
Antimony, soluble	6	3	50.0%	0.48	0.62	0.00083	0.0482	0.01681	0.027186031	0.0482
Antimony, soluble (D)	105	23	21.9%	0.42	42.2	0.00083	0.0375	0.014731739	0.013288946	0.0375
Arsenic	1240	463	37.3%	0.0036	200	0.00045	0.139	0.004990194	0.009108457	0.139
Arsenic (D)	705	137	19.4%	0.111	10	0.00032	0.0192	0.002483518	0.002223551	0.0192
Arsenic, dissolved (D)	6	0	0.0%	0.002	0.003	ND	ND	NA	NA	0.0015
Arsenic, soluble	4	4	100.0%	0.58	0.82	0.0015	0.0039	0.00245	0.001072381	0.0039
Arsenic, soluble (D)	95	10	10.5%	0.58	2.3	0.0007	0.0035	0.0015	0.000755719	0.0035
Barium	1247	1217	97.6%	0.0018	200	0.00022	1.031	0.115796154	0.11784642	1.031
Barium (D)	711	702	98.7%	0.02	200	0.0014	0.592	0.102092615	0.065487157	0.592
Barium, dissolved (D)	6	5	83.3%	10	200	0.0111	0.0392	0.02362	0.011003954	0.0392
Barium, soluble	4	4	100.0%	0.05	0.08	0.0288	0.051	0.040675	0.011575081	0.051
Barium, soluble (D)	105	104	99.0%	0.05	6.5	0.012	0.333	0.123613462	0.062416259	0.333
Beryllium	1396	253	18.1%	0	5	0.00002	0.0038	0.000566126	0.000565672	0.0038
Beryllium (D)	702	12	1.7%	0	5	0.0003	0.0014	0.000500833	0.000294293	0.0014
Beryllium, dissolved (D)	6	0	0.0%	0.001	0.001	ND	ND	NA	NA	0.0005
Beryllium, soluble	6	2	33.3%	0.02	0.02	0.00006	0.00018	0.00012	8.48528E-05	0.00018
Beryllium, soluble (D)	116	14	12.1%	0.02	0.9	0.00004	0.0016	0.000885714	0.00046346	0.0016
Boron	1	1	100.0%	0.0052	0.0052	0.065	0.065	0.065	NA	0.065
Cadmium	1251	308	24.6%	0.0003	5	0.00005	0.181	0.002538182	0.011006877	0.181
Cadmium (D)	768	66	8.6%	0.03	10	0.00005	0.0305	0.002342227	0.004952689	0.0305
Cadmium, dissolved (D)	6	0	0.0%	0.002	0.003	ND	ND	NA	NA	0.0015

173

Table G-2
Summary of Surface Water ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Cadmium, soluble	4	3	75.0%	0.08	0.1	0.00014	0.00023	0.000186667	4.50925E-05	0.00023
Cadmium, soluble (D)	205	51	24.9%	0.07	4.6	0.00008	0.0037	0.000484196	0.000813325	0.0037
Calcium	1231	1216	98.8%	0.031	5000	0.0805	425	70.01218202	48.8057136	425
Calcium (D)	712	710	99.7%	2.8	5000	9.7	421	84.53105652	42.27530316	421
Calcium, dissolved (D)	6	6	100.0%	20	5000	18.9	121	71.68333333	42.37576745	121
Calcium, soluble	4	4	100.0%	2.2	5	15.2	47.9	28.875	14.55183265	47.9
Calcium, soluble (D)	105	105	100.0%	2.2	33.1	8.11	249	79.362	36.44091932	249
Cesium	461	41	8.9%	0.1	1000	0.00023	0.1	0.043790732	0.026328876	0.1
Cesium (D)	404	54	13.4%	0.1	1000	0.000108	0.12	0.050495926	0.031598128	0.12
Cesium, dissolved (D)	6	4	66.7%	22	1000	0.027	0.056	0.04175	0.011842719	0.056
Cesium, soluble (D)	98	0	0.0%	0.5	0.5	ND	ND	NA	NA	0.25
Chromium	1662	642	38.6%	0.00074	10	0.0000052	0.073	0.007847089	0.009256304	0.073
Chromium (D)	705	161	22.8%	0.05	10	0.000244	0.044	0.004919534	0.004568387	0.044
Chromium VI	34	2	5.9%	0.01	0.02	0.01	0.03	0.02	0.014142136	0.03
Chromium, dissolved (D)	6	0	0.0%	0.003	0.005	ND	ND	NA	NA	0.0025
Chromium, soluble	7	6	85.7%	0.15	0.2	0.00065	0.0032	0.001691667	0.000982047	0.0032
Chromium, soluble (D)	115	7	6.1%	0.15	5.7	0.00026	0.0078	0.002492857	0.002551449	0.0078
Cobalt	1220	301	24.7%	0.00092	50	0.00013	0.0719	0.003615515	0.005476158	0.0719
Cobalt (D)	702	40	5.7%	0.035	50	0.00011	0.0103	0.0021251	0.002362613	0.0103
Cobalt, dissolved (D)	6	0	0.0%	0.004	0.007	ND	ND	NA	NA	0.0035
Cobalt, soluble	5	2	40.0%	0.12	0.18	0.00014	0.00023	0.000185	6.36396E-05	0.00023
Cobalt, soluble (D)	115	12	10.4%	0.12	7.3	0.00022	0.004	0.001395833	0.00146961	0.004
Copper	1205	717	59.5%	0.00076	25	0.00048	0.549	0.013134393	0.025593901	0.549
Copper (D)	688	241	35.0%	0.12	25	0.001	0.044	0.004340697	0.005605478	0.044
Copper, dissolved (D)	6	1	16.7%	2	25	0.0097	0.0097	0.0097	NA	0.0097
Copper, soluble	5	4	80.0%	0.12	0.3	0.0036	0.0261	0.0107	0.010447647	0.0261
Copper, soluble (D)	116	47	40.5%	0.12	12.9	0.0011	0.0166	0.004140426	0.00277674	0.0166
Cyanide	176	17	9.7%	0.05	20	0.003	0.061	0.016829412	0.016049173	0.061
Fluoride	569	540	94.9%	0.05	0.5	0.05	1.7	0.782822222	0.334295313	1.7
Fluoride (as fluorine)	7	5	71.4%	0.035	0.1	0.33	9.6	2.264	4.101795948	9.6
Fluoride (D)	1	1	100.0%	0.2	0.2	0.5	0.5	0.5	NA	0.5
Iron	1216	1019	83.8%	0.013	100	0.0062	85.7	3.181632188	7.818755392	85.7
Iron (D)	683	269	39.4%	1.11	100	0.0025	1.55	0.066569851	0.156911149	1.55

Table G-2
Summary of Surface Water ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Iron, dissolved	1	1	100.0%	0.1	0.1	0.11	0.11	0.11	NA	0.11
Iron, dissolved (D)	14	9	64.3%	0.1	100	0.03	0.11	0.051177778	0.0294446	0.11
Iron, soluble	4	4	100.0%	3.4	4.8	0.0869	1.71	0.604225	0.74765148	1.71
Iron, soluble (D)	114	66	57.9%	3.1	23.2	0.0058	0.99	0.0598	0.124791351	0.99
Lead	1245	507	40.7%	0.002	150	0.00015	0.356	0.011018955	0.023538573	0.356
Lead (D)	714	106	14.8%	0.05	5	0.00011	0.0409	0.002920736	0.004258576	0.0409
Lead, dissolved (D)	6	0	0.0%	0.001	0.002	ND	ND	NA	NA	0.001
Lead, soluble	4	3	75.0%	0.52	0.72	0.0012	0.0026	0.0017	0.000781025	0.0026
Lead, soluble (D)	102	34	33.3%	0.52	1.6	0.00062	0.009	0.00207	0.001637102	0.009
Lithium	821	714	87.0%	0.0021	100	0.00039	2.83	0.017393156	0.10679833	2.83
Lithium (D)	472	414	87.7%	0.111	200	0.0012	0.13	0.012529058	0.009926832	0.13
Lithium, dissolved (D)	6	4	66.7%	12	100	0.0156	0.0389	0.0237	0.010416333	0.0389
Lithium, soluble	4	4	100.0%	0.02	0.05	0.0021	0.0133	0.006925	0.00517196	0.0133
Lithium, soluble (D)	113	97	85.8%	0.02	7.1	0.0042	0.0272	0.012041237	0.005085165	0.0272
Magnesium	1250	1240	99.2%	0.024	5000	0.0117	78.7	14.68898973	11.08419121	78.7
Magnesium (D)	712	708	99.4%	1	5000	0.271	52	17.45582061	9.153324491	52
Magnesium, dissolved (D)	6	6	100.0%	35	5000	0.715	34.7	9.735	13.22077078	34.7
Magnesium, soluble	4	4	100.0%	0.7	3.5	2.52	9.17	5.665	3.043315078	9.17
Magnesium, soluble (D)	105	105	100.0%	0.7	57	0.864	32	17.03822857	7.915006406	32
Manganese	1235	1073	86.9%	0.00049	15	0.00072	4.3	0.143255033	0.323814448	4.3
Manganese (D)	712	553	77.7%	0.02	15	0.00063	1.21	0.058965819	0.107016379	1.21
Manganese, dissolved	1	1	100.0%	0.015	0.015	0.011	0.011	0.011	NA	0.011
Manganese, dissolved (D)	14	9	64.3%	0.015	15	0.006	0.98	0.132688889	0.319060266	0.98
Manganese, soluble	4	4	100.0%	0.05	0.25	0.0079	0.0371	0.022925	0.013282664	0.0371
Manganese, soluble (D)	106	89	84.0%	0.02	2.5	0.0015	0.889	0.061829213	0.120137314	0.889
Mercury	1184	81	6.8%	0	3.7	0	0.0014	0.000280864	0.000250336	0.0014
Mercury (D)	708	29	4.1%	0.023	0.2	0.000063	0.00085	0.000280448	0.000194861	0.00085
Mercury, dissolved (D)	6	1	16.7%	0.2	0.2	0.00026	0.00026	0.00026	NA	0.00026
Mercury, soluble	4	0	0.0%	0.0001	0.0001	ND	ND	NA	NA	0.00005
Mercury, soluble (D)	106	3	2.8%	0.1	0.2	0.00016	0.00021	0.00019	2.64575E-05	0.00021
Molybdenum	1002	365	36.4%	0.0021	200	0.00047	0.606	0.007036137	0.032105229	0.606
Molybdenum (D)	485	101	20.8%	0.1	200	0.0004	0.0188	0.005734089	0.004362413	0.0188
Molybdenum, dissolved (D)	6	0	0.0%	0.015	0.2	ND	ND	NA	NA	0.1

Table G-2
Summary of Surface Water ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Molybdenum, soluble	4	4	100.0%	0.28	0.32	0.00045	0.0705	0.0185975	0.034616095	0.0705
Molybdenum, soluble (D)	104	23	22.1%	0.22	10.2	0.00037	0.0155	0.005707391	0.004263772	0.0155
Nickel	1219	375	30.8%	0.0017	40	0.00062	0.0652	0.008363893	0.008220487	0.0652
Nickel (D)	697	91	13.1%	0.205	40	0.00066	0.0303	0.005300242	0.004103341	0.0303
Nickel, dissolved (D)	6	0	0.0%	0.012	0.04	ND	ND	NA	NA	0.02
Nickel, soluble	4	4	100.0%	0.25	0.3	0.001	0.0027	0.001925	0.000704154	0.0027
Nickel, soluble (D)	115	14	12.2%	0.25	15.1	0.00098	0.0154	0.005777143	0.00499365	0.0154
Nitrate (as nitrogen)	32	15	46.9%	0.1	0.5	1.8	7.8	3.653333333	1.974070004	7.8
Nitrate / Nitrite	1598	1552	97.1%	0.02	50	0.02	30.4	3.009723582	2.326230544	30.4
Nitrate / Nitrite (as nitrogen)	1511	1478	97.8%	0.01	6	0.011	1200	5.002655616	36.42308371	1200
Nitrite (as nitrogen)	677	660	97.5%	0.001	0.5	0.02	6.6	0.705701515	0.9710567	6.6
Potassium	1231	1139	92.5%	0.49	5000	0.525	94.831	5.866602335	7.9843565	94.831
Potassium (D)	712	676	94.9%	10.4	5000	0.469	49.8	4.078081938	4.304485965	49.8
Potassium, dissolved (D)	6	5	83.3%	680	5000	1.61	2.89	2.256	0.598314299	2.89
Potassium, soluble	4	4	100.0%	4.4	7	3.27	12.2	7.5725	4.391593295	12.2
Potassium, soluble (D)	104	95	91.3%	1.44	1070	0.796	35.8	3.759294737	4.551156229	35.8
Selenium	1233	419	34.0%	0.0049	150	0.00032	0.0124	0.002510859	0.001467725	0.0124
Selenium (D)	700	288	41.1%	0.111	7.8	0.00023	0.015	0.002947385	0.001525512	0.015
Selenium, dissolved (D)	6	2	33.3%	3	5	0.0047	0.0053	0.005	0.000424264	0.0053
Selenium, soluble	4	0	0.0%	0.00092	0.0012	ND	ND	NA	NA	0.0006
Selenium, soluble (D)	115	46	40.0%	0.65	1.8	0.001	0.0039	0.002132609	0.000945176	0.0039
Silver	1260	156	12.4%	0.00054	25	0.000016	0.0736	0.002014346	0.008104916	0.0736
Silver (D)	883	40	4.5%	0.011	10	0.000014	0.0332	0.00188225	0.005388389	0.0332
Silver, dissolved (D)	6	0	0.0%	0.003	0.01	ND	ND	NA	NA	0.005
Silver, soluble	4	0	0.0%	0.0002	0.0011	ND	ND	NA	NA	0.00055
Silver, soluble (D)	221	16	7.2%	0.05	6.8	0.00009	0.0211	0.0037375	0.005112833	0.0211
Sodium	1250	1215	97.2%	0.58	5000	0.115	3240	89.4577076	199.3964511	3240
Sodium (D)	712	710	99.7%	2.7	5000	5.9	2020	71.61009156	108.4614256	2020
Sodium, dissolved (D)	6	6	100.0%	23	5000	40.2	445	213.2333333	160.368297	445
Sodium, soluble	4	4	100.0%	1	35.2	10.2	101	38.775	42.49881371	101
Sodium, soluble (D)	105	105	100.0%	4.4	172	4.63	312	51.09838095	47.05412702	312
Strontium	979	968	98.9%	0.00035	200	0.0011	2.7	0.377542934	0.314082911	2.7
Strontium (D)	485	481	99.2%	0.02	300	0.0528	1.54	0.425516549	0.207052521	1.54

Table G-2
Summary of Surface Water ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Strontium, dissolved (D)	6	6	100.0%	1	200	0.167	0.901	0.399666667	0.256796937	0.901
Strontium, soluble	4	4	100.0%	0.02	0.02	0.0836	0.278	0.1704	0.086657025	0.278
Strontium, soluble (D)	105	105	100.0%	0.02	7.5	0.0401	0.942	0.486502857	0.202171197	0.942
Sulfide	86	2	2.3%	0.05	2	0.85	0.9203	0.88515	0.049709607	0.9203
Thallium	1228	42	3.4%	0.0068	20	0.00026	0.176	0.016426429	0.043623126	0.176
Thallium (D)	706	16	2.3%	0.04	10	0.00053	0.0179	0.006330625	0.005584559	0.0179
Thallium, dissolved (D)	6	2	33.3%	3	10	0.0041	0.006	0.00505	0.001343503	0.006
Thallium, soluble	4	1	25.0%	0.88	1.3	0.0024	0.0024	0.0024	NA	0.0024
Thallium, soluble (D)	103	2	1.9%	0.75	6.5	0.00077	0.0012	0.000985	0.000304056	0.0012
Tin	804	55	6.8%	0.0034	5000	0.00064	0.0311	0.006886727	0.007734609	0.0311
Tin (D)	465	18	3.9%	0.111	5000	0.0015	0.03	0.01015	0.008082534	0.03
Tin, dissolved (D)	6	1	16.7%	24	200	0.0299	0.0299	0.0299	NA	0.0299
Tin, soluble	4	1	25.0%	0.52	0.68	0.00087	0.00087	0.00087	NA	0.00087
Tin, soluble (D)	105	4	3.8%	0.52	38.9	0.0149	0.064	0.030525	0.02254039	0.064
Titanium	6	4	66.7%	0.00097	0.00097	0.0062	0.0276	0.01335	0.00965177	0.0276
Uranium, total	235	31	13.2%	0.05	37.8	0.0029	0.0342	0.00743871	0.006854618	0.0342
Uranium, total (D)	1	0	0.0%	0.0185	0.0185	ND	ND	NA	NA	0.00925
Vanadium	1228	666	54.2%	0.0022	50	0.00016	0.194	0.013512628	0.019532923	0.194
Vanadium (D)	711	289	40.6%	0.12	50	0.00066	0.079	0.006406965	0.008122491	0.079
Vanadium, dissolved (D)	6	2	33.3%	3	50	0.0057	0.0084	0.00705	0.001909188	0.0084
Vanadium, soluble	4	4	100.0%	0.15	0.2	0.0013	0.006	0.002725	0.002220173	0.006
Vanadium, soluble (D)	105	21	20.0%	0.15	6.5	0.00019	0.0068	0.002941429	0.002147597	0.0068
Zinc	1241	1003	80.8%	0.0068	20	0.0024	8.071	0.179647517	0.39576987	8.071
Zinc (D)	692	326	47.1%	0.08	20	0.0018	0.703	0.065885215	0.078301101	0.703
Zinc, dissolved (D)	6	3	50.0%	2	20	0.0039	0.244	0.086366667	0.136563258	0.244
Zinc, soluble	4	4	100.0%	0.12	0.2	0.0271	0.0863	0.052625	0.026308348	0.0863
Zinc, soluble (D)	114	72	63.2%	0.08	7.2	0.0021	0.354	0.059029167	0.076644869	0.354
Organics (ug/L)										
1,1,1,2-Tetrachloroethane	724	0	0.0%	0.1	10	ND	ND	NA	NA	5
1,1,1-Trichloroethane	1320	271	20.5%	0.1	10	0.1	20	4.106494465	4.04689857	20
1,1,2,2-Tetrachloroethane	1353	2	0.1%	0.01	10	1	4	2.5	2.121320344	4
1,1,2-Trichloro-1,2,2-trifluoroethane	57	2	3.5%	0.2	5	3.7	39	21.35	24.96086938	39

Table G-2
Summary of Surface Water ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
1,1,2-Trichloroethane	1366	0	0.0%	0.2	10	ND	ND	NA	NA	5
1,1-Dichloroethane	1325	309	23.3%	0.1	10	0.1	7	1.138673139	1.091469217	7
1,1-Dichloroethene	1327	130	9.8%	0.04	10	0.1	11	2.699846154	2.452119155	11
1,2,3-Trichloropropane	676	1	0.1%	0.02	5	0.6	0.6	0.6	NA	0.6
1,2,4,5-Tetrachlorobenzene	2	0	0.0%	10	33	ND	ND	NA	NA	16.5
1,2,4-Trichlorobenzene	829	1	0.1%	0.2	11	0.1	0.1	0.1	NA	0.1
1,2,4-Trimethylbenzene	641	1	0.2%	0.2	5	0.1	0.1	0.1	NA	0.1
1,2-Dibromo-3-chloropropane	60	0	0.0%	0.5	20	ND	ND	NA	NA	10
1,2-Dibromoethane	741	0	0.0%	0.2	10	ND	ND	NA	NA	5
1,2-Dichlorobenzene	901	0	0.0%	0.1	11	ND	ND	NA	NA	5.5
1,2-Dichloroethane	1305	8	0.6%	0.2	10	0.5	5	1.8125	1.68898744	5
1,2-Dichloroethene	331	34	10.3%	5	10	4	330	38.94117647	59.02282105	330
1,2-Dichloropropane	1373	0	0.0%	0.1	10	ND	ND	NA	NA	5
1,3,5-Trimethylbenzene	641	1	0.2%	0.2	5	0.2	0.2	0.2	NA	0.2
1,3-Dichlorobenzene	876	2	0.2%	0.073	11	0.44	0.57	0.505	0.091923882	0.57
1,4-Dichlorobenzene	877	38	4.3%	0.073	11	0.33	4.1	1.147894737	0.741977482	4.1
2,3,4,6-Tetrachlorophenol	2	0	0.0%	10	33	ND	ND	NA	NA	16.5
2,4,5-T	9	0	0.0%	0.2	10	ND	ND	NA	NA	5
2,4,5-TP (Silvex)	37	0	0.0%	0.17	10	ND	ND	NA	NA	5
2,4,5-Trichlorophenol	150	0	0.0%	9.8	84	ND	ND	NA	NA	42
2,4,6-Trichlorophenol	150	0	0.0%	1	33	ND	ND	NA	NA	16.5
2,4-D	37	0	0.0%	0.45	10	ND	ND	NA	NA	5
2,4-DB	9	0	0.0%	0.91	10	ND	ND	NA	NA	5
2,4-Dichlorophenol	150	0	0.0%	5	33	ND	ND	NA	NA	16.5
2,4-Dimethylphenol	150	0	0.0%	5	33	ND	ND	NA	NA	16.5
2,4-Dinitrophenol	145	0	0.0%	25	84	ND	ND	NA	NA	42
2,4-Dinitrotoluene	151	0	0.0%	5	11	ND	ND	NA	NA	5.5
2,6-Dinitrotoluene	153	0	0.0%	5	11	ND	ND	NA	NA	5.5
2378-TCDD	34	0	0.0%	0.00014	0.005	ND	ND	NA	NA	0.0025
2-Butanone	602	42	7.0%	0.93	100	1	32	5.64047619	5.326466798	32
2-Chloronaphthalene	155	0	0.0%	5	33	ND	ND	NA	NA	16.5
2-Chlorophenol	150	0	0.0%	5	33	ND	ND	NA	NA	16.5
2-Methylnaphthalene	150	0	0.0%	5	33	ND	ND	NA	NA	16.5

Table G-2
Summary of Surface Water ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
2-Methylphenol	148	0	0.0%	5	11	ND	ND	NA	NA	5.5
2-Nitroaniline	153	0	0.0%	25	56	ND	ND	NA	NA	28
3,3'-Dichlorobenzidine	153	0	0.0%	10	22	ND	ND	NA	NA	11
4,4'-DDD	72	1	1.4%	0.099	0.52	0.099	0.099	0.099	NA	0.099
4,4'-DDE	72	1	1.4%	0.099	0.52	0.013	0.013	0.013	NA	0.013
4,4'-DDT	73	5	6.8%	0.099	1	0.011	0.58	0.2042	0.231264351	0.58
4,6-Dinitro-2-methylphenol	145	0	0.0%	25	56	ND	ND	NA	NA	28
4-Chloro-3-methylphenol	148	0	0.0%	5	22	ND	ND	NA	NA	11
4-Chloroaniline	152	0	0.0%	5	22	ND	ND	NA	NA	11
4-Isopropyltoluene	689	0	0.0%	0.2	10	ND	ND	NA	NA	5
4-Methyl-2-pentanone	628	4	0.6%	0.79	50	2	11	5.25	4.031128874	11
4-Methylphenol	137	1	0.7%	1.3	11	28	28	28	NA	28
4-Nitroaniline	139	0	0.0%	25	56	ND	ND	NA	NA	28
4-Nitrophenol	148	0	0.0%	25	56	ND	ND	NA	NA	28
Acenaphthene	155	0	0.0%	1	33	ND	ND	NA	NA	16.5
Acenaphthylene	155	0	0.0%	1	33	ND	ND	NA	NA	16.5
Acetone	623	187	30.0%	1	100	1	530	63.97529412	100.2179565	530
Acrylonitrile	15	0	0.0%	10	10	ND	ND	NA	NA	5
Aldrin	72	0	0.0%	0.05	0.26	ND	ND	NA	NA	0.13
alpha-BHC	74	4	5.4%	0.05	0.5	0	0.01	0.005	0.005773503	0.01
alpha-Chlordane	69	2	2.9%	0.05	5	0	0	0	0	0
Anthracene	154	0	0.0%	0.03	33	ND	ND	NA	NA	16.5
Atrazine	52	15	28.8%	0.05	1	0.07	1.9	0.687333333	0.523388229	1.9
Benzene	1374	5	0.4%	0.01	10	0.1	4	1.44	1.631870093	4
Benzidine	5	0	0.0%	10	10	ND	ND	NA	NA	5
Benzo(a)anthracene	143	0	0.0%	0.178	33	ND	ND	NA	NA	16.5
Benzo(a)pyrene	143	0	0.0%	0.14	33	ND	ND	NA	NA	16.5
Benzo(b)fluoranthene	153	0	0.0%	0.15	11	ND	ND	NA	NA	5.5
Benzo(g,h,i)perylene	81	0	0.0%	1	11	ND	ND	NA	NA	5.5
Benzo(k)fluoranthene	153	0	0.0%	0.08	11	ND	ND	NA	NA	5.5
Benzoic Acid	132	0	0.0%	25	56	ND	ND	NA	NA	28
Benzyl Alcohol	135	0	0.0%	5	22	ND	ND	NA	NA	11
beta-BHC	73	3	4.1%	0.05	0.5	0	0.051	0.023666667	0.025696952	0.051

179

Table G-2
Summary of Surface Water ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
bis(2-Chloroethyl) ether	127	0	0.0%	5	11	ND	ND	NA	NA	5.5
bis(2-Chloroisopropyl) ether	137	0	0.0%	5	11	ND	ND	NA	NA	5.5
bis(2-ethylhexyl)phthalate	153	40	26.1%	1.4	11	0.5	98	6.685	16.03265178	98
Bromodichloromethane	1372	36	2.6%	0.1	10	0.1	6	0.923611111	1.24266569	6
Bromoform	1351	4	0.3%	0.09	10	0.1	0.8	0.425	0.330403793	0.8
Bromomethane	1364	3	0.2%	0.19	10	2	3	2.333333333	0.577350269	3
Butylbenzylphthalate	84	7	8.3%	10	33	0.4	1	0.728571429	0.262769136	1
Carbazole	12	0	0.0%	10	11	ND	ND	NA	NA	5.5
Carbon Disulfide	634	2	0.3%	0.19	10	3	4	3.5	0.707106781	4
Carbon Tetrachloride	1368	401	29.3%	0.02	12	0.1	220	30.86426434	47.69316375	220
Chlordane (NOS)	5	0	0.0%	0.5	0.5	ND	ND	NA	NA	0.25
Chlorobenzene	1324	2	0.2%	0.02	10	0.2	1	0.6	0.565685425	1
Chloroethane	1318	0	0.0%	0.2	20	ND	ND	NA	NA	10
Chloroform	1395	729	52.3%	0.01	10	0.1	100	5.21914952	7.914374812	100
Chloromethane	1322	3	0.2%	0.1	10	0.74	17	8.58	8.145501826	17
Chrysene	155	1	0.6%	0.52	33	0.4	0.4	0.4	NA	0.4
cis-1,2-Dichloroethene	677	386	57.0%	0.1	25	0.1	210	12.05	20.05678772	210
cis-1,3-Dichloropropene	1146	0	0.0%	0.1	10	ND	ND	NA	NA	5
Dalapon	4	0	0.0%	10	10	ND	ND	NA	NA	5
delta-BHC	73	2	2.7%	0.05	0.5	0.01	0.01	0.01	0	0.01
Dibenz(a,h)anthracene	137	0	0.0%	1.01	11	ND	ND	NA	NA	5.5
Dibenzofuran	153	0	0.0%	5	11	ND	ND	NA	NA	5.5
Dibromochloromethane	1372	13	0.9%	0.05	10	0.24	3	0.972307692	0.847920533	3
Dicamba	9	0	0.0%	0.27	10	ND	ND	NA	NA	5
Dichlorodifluoromethane	822	4	0.5%	0.2	10	0.27	2.18	0.7725	0.939197352	2.18
Dieldrin	72	0	0.0%	0.099	0.52	ND	ND	NA	NA	0.26
Diethylphthalate	85	3	3.5%	0.74	33	2	2	2	0	2
Dimethoate	2	1	50.0%	0.51	0.52	67	67	67	NA	67
Dimethylphthalate	85	0	0.0%	5	33	ND	ND	NA	NA	16.5
Di-n-butylphthalate	59	9	15.3%	10	10	0.3	1	0.5	0.264575131	1
Di-n-octylphthalate	82	3	3.7%	10	11	3	10	6	3.605551275	10
Dinoseb	9	0	0.0%	0.07	10	ND	ND	NA	NA	5
Endosulfan I	72	0	0.0%	0.05	0.26	ND	ND	NA	NA	0.13

180

Table G-2
Summary of Surface Water ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Endosulfan II	72	0	0.0%	0.099	0.52	ND	ND	NA	NA	0.26
Endosulfan sulfate	72	0	0.0%	0.099	0.52	ND	ND	NA	NA	0.26
Endrin	72	0	0.0%	0.099	0.52	ND	ND	NA	NA	0.26
Endrin aldehyde	19	0	0.0%	0.1	0.11	ND	ND	NA	NA	0.055
Endrin ketone	67	0	0.0%	0.099	0.52	ND	ND	NA	NA	0.26
Ethylbenzene	1320	0	0.0%	0.1	10	ND	ND	NA	NA	5
Fluoranthene	155	0	0.0%	0.62	33	ND	ND	NA	NA	16.5
Fluorene	156	1	0.6%	0.297	33	1.15	1.15	1.15	NA	1.15
gamma-BHC (Lindane)	74	2	2.7%	0.05	0.5	0	0	0	0	0
gamma-Chlordane	30	0	0.0%	0.05	0.54	ND	ND	NA	NA	0.27
Heptachlor	73	1	1.4%	0.05	0.5	0	0	0	NA	0
Heptachlor epoxide	72	0	0.0%	0.05	0.26	ND	ND	NA	NA	0.13
Hexachlorobenzene	155	0	0.0%	1	33	ND	ND	NA	NA	16.5
Hexachlorobutadiene	833	5	0.6%	0.05	11	0.1	0.2	0.12	0.04472136	0.2
Hexachlorocyclopentadiene	149	0	0.0%	5	11	ND	ND	NA	NA	5.5
Hexachloroethane	153	0	0.0%	1	11	ND	ND	NA	NA	5.5
Indeno(1,2,3-cd)pyrene	141	0	0.0%	0.297	11	ND	ND	NA	NA	5.5
Isophorone	153	0	0.0%	5	11	ND	ND	NA	NA	5.5
Isopropylbenzene	745	0	0.0%	0.2	10	ND	ND	NA	NA	5
m,p-Xylene	538	7	1.3%	0.02	0.5	0.1	0.3	0.185714286	0.089973541	0.3
MCPA	9	0	0.0%	250	10000	ND	ND	NA	NA	5000
MCPP	9	0	0.0%	190	10000	ND	ND	NA	NA	5000
Methoxychlor	67	0	0.0%	0.5	2.6	ND	ND	NA	NA	1.3
Methylene Chloride	1384	337	24.3%	0.01	10	0.1	37	3.240652819	4.688232881	37
m-Xylene	3	0	0.0%	0.5	0.5	ND	ND	NA	NA	0.25
Naphthalene	816	5	0.6%	0.02	11	0.34	4	2.288	1.512521074	4
Nitrobenzene	155	0	0.0%	5	33	ND	ND	NA	NA	16.5
N-Nitrosodiethylamine	7	0	0.0%	5	33	ND	ND	NA	NA	16.5
N-Nitrosodimethylamine	7	0	0.0%	5	33	ND	ND	NA	NA	16.5
N-Nitrosodi-n-butylamine	5	0	0.0%	5	5	ND	ND	NA	NA	2.5
N-Nitroso-di-n-propylamine	153	0	0.0%	5	11	ND	ND	NA	NA	5.5
N-nitrosodiphenylamine	144	0	0.0%	5	33	ND	ND	NA	NA	16.5
N-Nitrosopyrrolidine	7	0	0.0%	10	33	ND	ND	NA	NA	16.5

181

Table G-2
Summary of Surface Water ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
o-Xylene	550	0	0.0%	0.2	1	ND	ND	NA	NA	0.5
Parathion	2	0	0.0%	0.51	0.52	ND	ND	NA	NA	0.26
PCB-1016	70	0	0.0%	0.5	2.6	ND	ND	NA	NA	1.3
PCB-1221	70	0	0.0%	0.5	2.6	ND	ND	NA	NA	1.3
PCB-1232	70	0	0.0%	0.5	2.6	ND	ND	NA	NA	1.3
PCB-1242	70	0	0.0%	0.5	2.6	ND	ND	NA	NA	1.3
PCB-1248	70	0	0.0%	0.5	2.6	ND	ND	NA	NA	1.3
PCB-1254	70	1	1.4%	0.99	5.2	24	24	24	NA	24
PCB-1260	70	0	0.0%	0.99	5.2	ND	ND	NA	NA	2.6
Pentachlorobenzene	2	0	0.0%	10	33	ND	ND	NA	NA	16.5
Pentachloronitrobenzene	1	0	0.0%	51	51	ND	ND	NA	NA	25.5
Pentachlorophenol	150	0	0.0%	25	84	ND	ND	NA	NA	42
Phenanthrene	155	1	0.6%	0.7	33	1	1	1	NA	1
Phenol	150	0	0.0%	5	33	ND	ND	NA	NA	16.5
p-Xylene	1	0	0.0%	0.5	0.5	ND	ND	NA	NA	0.25
Pyrene	155	0	0.0%	0.594	33	ND	ND	NA	NA	16.5
Simazine	52	1	1.9%	0.06	1	0.18	0.18	0.18	NA	0.18
Styrene	1297	5	0.4%	0.093	10	0.1	0.4	0.22	0.130384048	0.4
Tetrachloroethene	1315	418	31.8%	0.1	50	0.1	280	17.40497608	29.46797831	280
Toluene	1378	120	8.7%	0.02	10	0.1	11	1.782083333	2.192746981	11
Toxaphene	72	0	0.0%	0.99	5.7	ND	ND	NA	NA	2.85
trans-1,2-Dichloroethene	747	10	1.3%	0.03	5	0.1	1.1	0.555	0.422827782	1.1
trans-1,3-Dichloropropene	1109	0	0.0%	0.1	10	ND	ND	NA	NA	5
Trichloroethene	1297	435	33.5%	0.03	50	0.04	970	23.15967816	63.16565466	970
Trichlorofluoromethane	787	2	0.3%	0.1	5	0.4	2	1.2	1.13137085	2
Vinyl acetate	415	0	0.0%	10	10	ND	ND	NA	NA	5
Vinyl Chloride	1337	70	5.2%	0.01	10	0.1	37	5.251285714	6.75691807	37
Xylene	505	1	0.2%	0.2	10	1	1	1	NA	1
Radionuclides (pCi/L)										
Americium-241	1773	838	47.3%	0	0.1716	-0.01658	15	0.255519747	1.138211553	15
Americium-241 (D)	66	39	59.1%	0	0.025	-0.000512	0.045	0.007467438	0.007789143	0.045
Cesium, radio	58	6	10.3%	0.1	1.08	0.14	2.4	0.941666667	0.795799388	2.4

Table G-2
Summary of Surface Water ECOI Data in the South Walnut Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Cesium, radio (D)	16	2	12.5%	0.942	1.1	1.3	1.6	1.45	0.212132034	1.6
Cesium-137	99	49	49.5%	0.2	2.62	-0.734	5.4	0.50678449	0.97268906	5.4
Cesium-137 (D)	52	14	26.9%	0.2	1.04	-0.52	1.2	0.351138571	0.434148343	1.2
Gross Alpha	3929	3483	88.6%	0.29	41	-3.3285163	330	2.499120215	8.621538972	330
Gross Alpha (D)	299	134	44.8%	0.2	10.535514	-1.8869548	8.06	2.038660834	1.95559439	8.06
Gross Beta	3959	3868	97.7%	0.15	31.1	0	860	9.869918317	15.3905569	860
Gross Beta (D)	321	263	81.9%	0.7	34	0.7134304	30	5.569312164	4.15052065	30
Neptunium-237	18	3	16.7%	0.014	0.26	0.025	0.1	0.056	0.039153544	0.1
Neptunium-237 (D)	6	3	50.0%	0.013	0.074	0.041	0.054	0.045666667	0.007234178	0.054
Plutonium-238	394	343	87.1%	0.002401	12.95	-0.008971	14.24	0.11162263	1.060703692	14.24
Plutonium-239/240	2629	1568	59.6%	0	5.396	-0.0492	90	0.584192576	4.705998685	90
Plutonium-239/240 (D)	86	49	57.0%	0	0.02	0.0002392	0.1	0.020991473	0.024023941	0.1
Radiocesium	89	6	6.7%	0.2	0.69	0.33	3.9	1.353333333	1.298640315	3.9
Radiocesium (D)	8	3	37.5%	0.3	0.85	0.59	1.2	0.883333333	0.305668666	1.2
Radium-226	34	29	85.3%	0.001	1	0.0168866	3	0.420101492	0.542367024	3
Radium-226 (D)	16	16	100.0%	0.054	0.5	0.03407	0.2864	0.114192345	0.065666517	0.2864
Strontium-89/90	32	9	28.1%	0.1	0.82	0.2	1.1	0.499344444	0.324251041	1.1
Strontium-89/90 (D)	1	1	100.0%	1	1	0.3831	0.3831	0.3831	NA	0.3831
Tritium	2807	2193	78.1%	60	3168	-668	31690	66.7131544	699.1147201	31690
Uranium-233/234	2004	1829	91.3%	0	3.141	-0.1571	211	1.379076818	5.536314455	211
Uranium-233/234 (D)	367	209	56.9%	0	1.179	-0.0412	5.103	1.381956258	1.308080473	5.103
Uranium-235	1996	1131	56.7%	0	1.628	-0.0348	7.11	0.074528114	0.233908616	7.11
Uranium-235 (D)	367	139	37.9%	0	1.56	-0.0591	0.768	0.079934672	0.112936363	0.768
Uranium-238	2005	1823	90.9%	0	3.192	-0.1281	170	1.248632669	4.700537132	170
Uranium-238 (D)	367	198	54.0%	0	303442	-0.0738	5.664	1.31375043	1.237446877	5.664

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

[2]PCBs will be evaluated as total PCB.

ND = The ECOI was not detected.

Table G-3
Accelerated Action Screening Step for Surface Water in the South Walnut Creek Aquatic Exposure Unit
DRAFT

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Inorganics (mg/L)					
Aluminum	81.3	0.087	Yes	**Yes**	No
Aluminum (D)	1.89	0.087	Yes	**Yes**	No
Aluminum, dissolved (D)	0.706	0.087	Yes	**Yes**	No
Aluminum, soluble	1.85	0.087	Yes	**Yes**	No
Aluminum, soluble (D)	1.33	0.087	Yes	**Yes**	No
Ammonia	47.16	0.02	Yes	**Yes**	No
Ammonia (as nitrogen)	50	0.02	Yes	**Yes**	No
Antimony	0.559	0.24	Yes	**Yes**	No
Antimony (D)	0.219	0.24	No	No	No
Antimony, dissolved (D)	0.006	0.24	No	No	No
Antimony, soluble	0.0482	0.24	No	No	No
Antimony, soluble (D)	0.0375	0.24	No	No	No
Arsenic	0.139	0.15	No	No	No
Arsenic (D)	0.0192	0.15	No	No	No
Arsenic, soluble	0.0039	0.15	No	No	No
Arsenic, soluble (D)	0.0035	0.15	No	No	No
Barium	1.031	0.438	Yes	**Yes**	No
Barium (D)	0.592	0.438	Yes	**Yes**	No
Barium, dissolved (D)	0.0392	0.438	No	No	No
Barium, soluble	0.051	0.438	No	No	No
Barium, soluble (D)	0.333	0.438	No	No	No
Beryllium	0.0038	0.0024	Yes	**Yes**	No
Beryllium (D)	0.0014	0.0024	No	No	No
Beryllium, soluble	0.00018	0.0024	No	No	No
Beryllium, soluble (D)	0.0016	0.0024	No	No	No
Boron	0.065	NA	NA	No	**Yes**
Cadmium	0.181	0.00025	Yes	**Yes**	No
Cadmium (D)	0.0305	0.00025	Yes	**Yes**	No
Cadmium, soluble	0.00023	0.00025	No	No	No
Cadmium, soluble (D)	0.0037	0.00025	Yes	**Yes**	No
Calcium	425	NA	NA	No	**Yes**
Calcium (D)	421	NA	NA	No	**Yes**
Calcium, dissolved (D)	121	NA	NA	No	**Yes**
Calcium, soluble	47.9	NA	NA	No	**Yes**
Calcium, soluble (D)	249	NA	NA	No	**Yes**
Cesium	0.1	NA	NA	No	**Yes**
Cesium (D)	0.12	NA	NA	No	**Yes**
Cesium, dissolved (D)	0.056	NA	NA	No	**Yes**
Chromium	0.073	0.074	No	No	No
Chromium (D)	0.044	0.074	No	No	No
Chromium VI	0.03	NA	NA	No	**Yes**
Chromium, soluble	0.0032	0.074	No	No	No
Chromium, soluble (D)	0.0078	0.074	No	No	No
Cobalt	0.0719	0.1	No	No	No
Cobalt (D)	0.0103	0.1	No	No	No

Table G-3
Accelerated Action Screening Step for Surface Water in the South Walnut Creek Aquatic Exposure Unit
DRAFT

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Cobalt, soluble	0.00023	0.1	No	No	No
Cobalt, soluble (D)	0.004	0.1	No	No	No
Copper	0.549	0.009	Yes	Yes	No
Copper (D)	0.044	0.009	Yes	Yes	No
Copper, dissolved (D)	0.0097	0.009	Yes	Yes	No
Copper, soluble	0.0261	0.009	Yes	Yes	No
Copper, soluble (D)	0.0166	0.009	Yes	Yes	No
Cyanide	0.061	500	No	No	No
Fluoride	1.7	2.12	No	No	No
Fluoride (as fluorine)	9.6	2.12	Yes	Yes	No
Fluoride (D)	0.5	2.12	No	No	No
Iron	85.7	1	Yes	Yes	No
Iron (D)	1.55	1	Yes	Yes	No
Iron, dissolved	0.11	1	No	No	No
Iron, dissolved (D)	0.11	1	No	No	No
Iron, soluble	1.71	1	Yes	Yes	No
Iron, soluble (D)	0.99	1	No	No	No
Lead	0.356	0.0025	Yes	Yes	No
Lead (D)	0.0409	0.0025	Yes	Yes	No
Lead, soluble	0.0026	0.0025	Yes	Yes	No
Lead, soluble (D)	0.009	0.0025	Yes	Yes	No
Lithium	2.83	0.096	Yes	Yes	No
Lithium (D)	0.13	0.096	Yes	Yes	No
Lithium, dissolved (D)	0.0389	0.096	No	No	No
Lithium, soluble	0.0133	0.096	No	No	No
Lithium, soluble (D)	0.0272	0.096	No	No	No
Magnesium	78.7	NA	NA	No	Yes
Magnesium (D)	52	NA	NA	No	Yes
Magnesium, dissolved (D)	34.7	NA	NA	No	Yes
Magnesium, soluble	9.17	NA	NA	No	Yes
Magnesium, soluble (D)	32	NA	NA	No	Yes
Manganese	4.3	1.65	Yes	Yes	No
Manganese (D)	1.21	1.65	No	No	No
Manganese, dissolved	0.011	1.65	No	No	No
Manganese, dissolved (D)	0.98	1.65	No	No	No
Manganese, soluble	0.0371	1.65	No	No	No
Manganese, soluble (D)	0.889	1.65	No	No	No
Mercury	0.0014	0.00077	Yes	Yes	No
Mercury (D)	0.00085	0.00077	Yes	Yes	No
Mercury, dissolved (D)	0.00026	0.00077	No	No	No
Mercury, soluble (D)	0.00021	0.00077	No	No	No
Molybdenum	0.606	0.8	No	No	No
Molybdenum (D)	0.0188	0.8	No	No	No
Molybdenum, soluble	0.0705	0.8	No	No	No
Molybdenum, soluble (D)	0.0155	0.8	No	No	No
Nickel	0.0652	0.052	Yes	Yes	No

184

Table G-3
Accelerated Action Screening Step for Surface Water in the South Walnut Creek Aquatic Exposure Unit
DRAFT

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Nickel (D)	0.0303	0.052	No	No	No
Nickel, soluble	0.0027	0.052	No	No	No
Nickel, soluble (D)	0.0154	0.052	No	No	No
Nitrate (as nitrogen)	7.8	NA	NA	No	Yes
Nitrate / Nitrite	30.4	NA	NA	No	Yes
Nitrate / Nitrite (as nitrogen)	1200	NA	NA	No	Yes
Nitrite (as nitrogen)	6.6	0.00443	Yes	Yes	No
Potassium	94.831	NA	NA	No	Yes
Potassium (D)	49.8	NA	NA	No	Yes
Potassium, dissolved (D)	2.89	NA	NA	No	Yes
Potassium, soluble	12.2	NA	NA	No	Yes
Potassium, soluble (D)	35.8	NA	NA	No	Yes
Selenium	0.0124	0.0046	Yes	Yes	No
Selenium (D)	0.015	0.0046	Yes	Yes	No
Selenium, dissolved (D)	0.0053	0.0046	Yes	Yes	No
Selenium, soluble (D)	0.0039	0.0046	No	No	No
Silver	0.0736	0.00032	Yes	Yes	No
Silver (D)	0.0332	0.00032	Yes	Yes	No
Silver, soluble (D)	0.0211	0.00032	Yes	Yes	No
Sodium	3240	NA	NA	No	Yes
Sodium (D)	2020	NA	NA	No	Yes
Sodium, dissolved (D)	445	NA	NA	No	Yes
Sodium, soluble	101	NA	NA	No	Yes
Sodium, soluble (D)	312	NA	NA	No	Yes
Strontium	2.7	8.3	No	No	No
Strontium (D)	1.54	8.3	No	No	No
Strontium, dissolved (D)	0.901	8.3	No	No	No
Strontium, soluble	0.278	8.3	No	No	No
Strontium, soluble (D)	0.942	8.3	No	No	No
Sulfide	0.9203	NA	NA	No	Yes
Thallium	0.176	0.015	Yes	Yes	No
Thallium (D)	0.0179	0.015	Yes	Yes	No
Thallium, dissolved (D)	0.006	0.015	No	No	No
Thallium, soluble	0.0024	0.015	No	No	No
Thallium, soluble (D)	0.0012	0.015	No	No	No
Tin	0.0311	0.073	No	No	No
Tin (D)	0.03	0.073	No	No	No
Tin, dissolved (D)	0.0299	0.073	No	No	No
Tin, soluble	0.00087	0.073	No	No	No
Tin, soluble (D)	0.064	0.073	No	No	No
Titanium	0.0276	NA	NA	No	Yes
Uranium, total	0.0342	0.0026	Yes	Yes	No
Vanadium	0.194	0.012	Yes	Yes	No
Vanadium (D)	0.079	0.012	Yes	Yes	No
Vanadium, dissolved (D)	0.0084	0.012	No	No	No
Vanadium, soluble	0.006	0.012	No	No	No

185

Table G-3
Accelerated Action Screening Step for Surface Water in the South Walnut Creek Aquatic Exposure Unit
DRAFT

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Vanadium, soluble (D)	0.0068	0.012	No	No	No
Zinc	8.071	0.118	Yes	**Yes**	No
Zinc (D)	0.703	0.118	Yes	**Yes**	No
Zinc, dissolved (D)	0.244	0.118	Yes	**Yes**	No
Zinc, soluble	0.0863	0.118	No	No	No
Zinc, soluble (D)	0.354	0.118	Yes	**Yes**	No
Organics (ug/L)					
1,1,1-Trichloroethane	20	89	No	No	No
1,1,2,2-Tetrachloroethane	4	2400	No	No	No
1,1,2-Trichloro-1,2,2-trifluoroethane	39	NA	NA	No	**Yes**
1,1-Dichloroethane	7	740	No	No	No
1,1-Dichloroethene	11	65	No	No	No
1,2,3-Trichloropropane	0.6	NA	NA	No	**Yes**
1,2,4-Trichlorobenzene	0.1	50	No	No	No
1,2,4-Trimethylbenzene	0.1	NA	NA	No	**Yes**
1,2-Dichloroethane	5	20000	No	No	No
1,2-Dichloroethene	330	1100	No	No	No
1,3,5-Trimethylbenzene	0.2	NA	NA	No	**Yes**
1,3-Dichlorobenzene	0.57	NA	NA	No	**Yes**
1,4-Dichlorobenzene	4.1	16	No	No	No
2-Butanone	32	2200	No	No	No
4,4'-DDD	0.099	0.06	Yes	**Yes**	No
4,4'-DDE	0.013	105	No	No	No
4,4'-DDT	0.58	NA	NA	No	**Yes**
4-Methyl-2-pentanone	11	170	No	No	No
4-Methylphenol	28	25	Yes	**Yes**	No
Acetone	530	1500	No	No	No
alpha-BHC	0.01	0.08	No	No	No
alpha-Chlordane	0	NA	NA	No	**Yes**
Atrazine	1.9	NA	NA	No	**Yes**
Benzene	4	530	No	No	No
beta-BHC	0.051	0.08	No	No	No
bis(2-ethylhexyl)phthalate	98	28.5	Yes	**Yes**	No
Bromodichloromethane	6	1100	No	No	No
Bromoform	0.8	320	No	No	No
Bromomethane	3	35	No	No	No
Butylbenzylphthalate	1	67	No	No	No
Carbon Disulfide	4	0.92	Yes	**Yes**	No
Carbon Tetrachloride	220	3520	No	No	No
Chlorobenzene	1	47	No	No	No
Chloroform	100	1240	No	No	No
Chloromethane	17	NA	NA	No	**Yes**
Chrysene	0.4	NA	NA	No	**Yes**
cis-1,2-Dichloroethene	210	620	No	No	No
delta-BHC	0.01	0.08	No	No	No
Dibromochloromethane	3	NA	NA	No	**Yes**

Table G-3
Accelerated Action Screening Step for Surface Water in the South Walnut Creek Aquatic Exposure Unit
DRAFT

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Dichlorodifluoromethane	2.18	NA	NA	No	**Yes**
Diethylphthalate	2	110	No	No	No
Dimethoate	67	NA	NA	No	**Yes**
Di-n-butylphthalate	1	9.7	No	No	No
Di-n-octylphthalate	10	NA	NA	No	**Yes**
Fluorene	1.15	12	No	No	No
gamma-BHC (Lindane)	0	0.08	No	No	No
Heptachlor	0	0.0038	No	No	No
Hexachlorobutadiene	0.2	9.3	No	No	No
m,p-Xylene	0.3	35	No	No	No
Methylene Chloride	37	940	No	No	No
Naphthalene	4	620	No	No	No
PCB-1254	24	0.014	Yes	**Yes**	No
Phenanthrene	1	2.4	No	No	No
Simazine	0.18	NA	NA	No	**Yes**
Styrene	0.4	160	No	No	No
Tetrachloroethene	280	840	No	No	No
Toluene	11	1750	No	No	No
trans-1,2-Dichloroethene	1.1	NA	NA	No	**Yes**
Trichloroethene	970	21900	No	No	No
Trichlorofluoromethane	2	NA	NA	No	**Yes**
Vinyl Chloride	37	930	No	No	No
Xylene	1	35	No	No	No
Radionuclides (pCi/L)					
Americium-241	15	43.8	No	No	No
Americium-241 (D)	0.045	43.8	No	No	No
Cesium, radio	2.4	NA	NA	No	**Yes**
Cesium, radio (D)	1.6	NA	NA	No	**Yes**
Cesium-137	5.4	42.6	No	No	No
Cesium-137 (D)	1.2	42.6	No	No	No
Gross Alpha	330	NA	NA	No	**Yes**
Gross Alpha (D)	8.06	NA	NA	No	**Yes**
Gross Beta	860	NA	NA	No	**Yes**
Gross Beta (D)	30	NA	NA	No	**Yes**
Neptunium-237	0.1	NA	NA	No	**Yes**
Neptunium-237 (D)	0.054	NA	NA	No	**Yes**
Plutonium-238	14.24	NA	NA	No	**Yes**
Plutonium-239/240	90	18.7	Yes	**Yes**	No
Plutonium-239/240 (D)	0.1	18.7	No	No	No
Radiocesium	3.9	42.6	No	No	No
Radiocesium (D)	1.2	42.6	No	No	No
Radium-226	3	1.02	Yes	**Yes**	No
Radium-226 (D)	0.2864	1.02	No	No	No
Strontium-89/90	1.1	278	No	No	No
Strontium-89/90 (D)	0.3831	278	No	No	No
Tritium	31690	265000000	No	No	No

Table G-3
Accelerated Action Screening Step for Surface Water in the South Walnut Creek Aquatic Exposure Unit
DRAFT

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Uranium-233/234	211	NA	NA	No	Yes
Uranium-233/234 (D)	5.103	NA	NA	No	Yes
Uranium-235	7.11	21.7	No	No	No
Uranium-235 (D)	0.768	21.7	No	No	No
Uranium-238	170	22.3	Yes	Yes	No
Uranium-238 (D)	5.664	22.3	No	No	No

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

Table H-1
ECOIs Detected in Surface Water in the Woman Creek Aquatic Exposure Unit

ECOIs Detected in Surface Water in the Woman Creek Aquatic Exposure Unit		
	Inorganics	
Aluminum		Magnesium
Ammonia		Manganese
Antimony		Mercury
Arsenic		Molybdenum
Barium		Nickel
Beryllium		Nitrate / Nitrite (as nitrogen)
Boron		Nitrite (as nitrogen)
Cadmium		Potassium
Calcium		Selenium
Cesium		Silver
Chromium		Sodium
Chromium VI		Strontium
Cobalt		Sulfide
Copper		Thallium
Cyanide		Tin
Fluoride		Titanium
Fluoride (as fluorine)		Uranium, total
Iron		Vanadium
Lead		Zinc
Lithium		
	Organics	
1,1,1-Trichloroethane		Carbon Tetrachloride
1,1,2-Trichloro-1,2,2-trifluoroethane		Chlorobenzene
1,1-Dichloroethene		Chloroform
1,2-Dichloroethane		Chloromethane
1,2-Dichloroethene		cis-1,2-Dichloroethene
1,4-Dichlorobenzene		delta-BHC
2-Butanone		Dichlorodifluoromethane
4,4'-DDD		Diethylphthalate
4,4'-DDE		Di-n-butylphthalate
4,4'-DDT		Isophorone
Acetone		Methylene Chloride
Atrazine		m-Xylene
Benzene		Naphthalene
Benzoic Acid		Pentachlorophenol
Benzyl Alcohol		p-Xylene
beta-BHC		Pyrene
bis(2-ethylhexyl)phthalate		Tetrachloroethene
Bromodichloromethane		Toluene
Bromoform		Trichloroethene
Butylbenzylphthalate		Trichlorofluoromethane
Carbon Disulfide		Xylene

Table H-1
ECOIs Detected in Surface Water in the Woman Creek Aquatic Exposure Unit

ECOIs Detected in Surface Water in the Woman Creek Aquatic Exposure Unit		
Radionuclides		
Americium-241		Radiocesium
Cesium, radio		Radium-226
Cesium-137		Strontium-89/90
Gross Alpha		Strontium-90
Gross Beta		Tritium
Neptunium-237		Uranium-233/234
Plutonium-238		Uranium-235
Plutonium-239/240		Uranium-238

Table H-2
Summary of Surface Water ECOI Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
Inorganics (mg/kg)											
Aluminum	403	371	92%	0.02	200	0.0093	219	4.1676	17.2296	0.087	219
Aluminum (D)	185	98	53%	0.25	200	0.00035	0.77	0.0405	0.0757	0.087	0.77
Aluminum, soluble	1	1	100%	3.1	3.1	0.583	0.583	0.583	NA	0.087	0.583
Aluminum, soluble (D)	99	25	25%	2.6	58.4	0.0097	0.195	0.0507	0.0453	0.087	0.195
Ammonia	51	8	16%	0.05	0.5	0.07	15	2.15	5.1991	0.02	15
Ammonia (as nitrogen)	28	23	82%	0.1	1	0.24	4	1.19	1.1341	0.02	4
Antimony	426	68	16%	0.0036	60	0.00062	0.08	0.0049	0.0109	0.24	0.08
Antimony (D)	199	28	14%	0.05	60	0.00021	0.029	0.0138	0.0066	0.24	0.029
Antimony, soluble	1	0	0%	0.00062	0.00062	ND	ND	NA	NA	0.24	0.00031
Antimony, soluble (D)	91	14	15%	0.48	42.2	0.00055	0.0561	0.0271	0.0165	0.24	0.0561
Arsenic	431	154	36%	0.0049	200	0.00056	0.0818	0.0043	0.0093	0.15	0.0818
Arsenic (D)	197	42	21%	0.111	200	0.00017	0.0058	0.0029	0.0015	0.15	0.0058
Arsenic, soluble	1	1	100%	0.82	0.82	0.00099	0.00099	0.0010	NA	0.15	0.00099
Arsenic, soluble (D)	81	9	11%	0.58	2.3	0.0007	0.0036	0.0016	0.0011	0.15	0.0036
Barium	431	412	96%	0.00037	200	0.0178	1.21	0.13	0.1163	0.438	1.21
Barium (D)	201	193	96%	0.02	200	0.0111	0.246	0.0976	0.0442	0.438	0.246
Barium, soluble	1	1	100%	0.08	0.08	0.0471	0.0471	0.0471	NA	0.438	0.0471
Barium, soluble (D)	93	93	100%	0.02	7.6	0.0384	0.297	0.097	0.0493	0.438	0.297
Beryllium	456	92	20%	0	5	0.00003	0.0156	0.0008	0.0022	0.0024	0.0156
Beryllium (D)	187	4	2%	0	5	0.00002	0.00064	0.0003	0.0003	0.0024	0.00064
Beryllium, soluble	1	1	100%	0.02	0.02	0.00004	0.00004	0.00004	NA	0.0024	0.00004
Beryllium, soluble (D)	105	12	11%	0.02	1.2	0.00031	0.0015	0.0007	0.0003	0.0024	0.0015
Boron	2	2	100%	0.0083	0.0083	0.013	0.047	0.03	0.0240	NA	0.047
Cadmium	421	106	25%	0.00027	5	0.000056	0.00321	0.0006	0.0007	0.00025	0.00321
Cadmium (D)	209	28	13%	0.03	5	0.00005	0.0268	0.0022	0.0049	0.00025	0.0268
Cadmium, soluble	1	1	100%	0.08	0.08	0.00015	0.00015	0.00015	NA	0.00025	0.00015
Cadmium, soluble (D)	117	8	7%	0.075	4.6	0.00008	0.0052	0.0011	0.0019	0.00025	0.0052
Calcium	419	419	100%	0.076	5000	1.26	185	57.9	32.6557	NA	185
Calcium (D)	199	199	100%	6	5000	1.22	132	56.7	26.6341	NA	132
Calcium, soluble	1	1	100%	3.8	3.8	25.1	25.1	25.1	NA	NA	25.1
Calcium, soluble (D)	93	93	100%	2.9	48.2	1.28	155	55.8	28.8610	NA	155
Cesium	180	43	24%	0.1	1000	0.00022	0.11	0.046	0.0246	NA	0.11
Cesium (D)	144	45	31%	0.1	1000	0.000374	0.08	0.057	0.0157	NA	0.08
Cesium, soluble (D)	98	0	0%	0.5	1	ND	ND	NA	NA	NA	0.5
Chromium	497	197	40%	0.0021	10	0.0000051	0.185	0.009	0.0209	0.074	0.185
Chromium (D)	187	18	10%	0.05	10	0.00027	0.063	0.009	0.0151	0.074	0.063

152

Table H-2
Summary of Surface Water ECOI Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
Chromium VI	20	3	15%	0.01	0.02	0.02	0.06	0.037	0.0208	NA	0.06
Chromium, soluble	1	1	100%	0.2	0.2	0.00066	0.00066	0.00066	NA	0.074	0.00066
Chromium, soluble (D)	105	7	7%	0.15	5.7	0.00031	0.0014	0.00064	0.0004	0.074	0.0014
Cobalt	403	145	36%	0.00067	50	0.00017	0.051	0.00371	0.0077	0.1	0.051
Cobalt (D)	187	15	8%	0.01	50	0.00011	0.0021	0.00069	0.0006	0.1	0.0021
Cobalt, soluble	1	1	100%	0.12	0.12	0.00036	0.00036	0.00036	NA	0.1	0.00036
Cobalt, soluble (D)	105	1	1%	0.12	7.3	0.0037	0.0037	0.0037	NA	0.1	0.0037
Copper	398	278	70%	0.00097	25	0.0009	0.154	0.014	0.0216	0.009	0.154
Copper (D)	182	52	29%	0.04	25	0.0006	0.023	0.007	0.0055	0.009	0.023
Copper, soluble	1	1	100%	0.3	0.3	0.0011	0.0011	0.0011	NA	0.009	0.0011
Copper, soluble (D)	103	57	55%	0.12	5.4	0.00049	0.0096	0.0040	0.0020	0.009	0.0096
Cyanide	172	4	2%	0.005	100	0.004	0.0489	0.0187	0.0209	500	0.0489
Fluoride	364	350	96%	0.05	5	0.09	1.8	0.51	0.2488	2.12	1.8
Fluoride (as fluorine)	14	13	93%	0.03	0.1	0.13	0.55	0.38	0.1257	2.12	0.55
Iron	403	384	95%	0.019	100	0.0082	214	4.14	17.3011	1	214
Iron (D)	178	113	63%	1.11	100	0.0033	9.02	0.15	0.8469	1	9.02
Iron, dissolved (D)	13	13	100%	0.1	0.1	0.01	0.34	0.08	0.1092	1	0.34
Iron, soluble	1	1	100%	4.8	4.8	0.771	0.771	0.771	NA	1	0.771
Iron, soluble (D)	105	69	66%	2.7	36.8	0.0088	3.18	0.15	0.4033	1	3.18
Lead	421	249	59%	0.0021	150	0.000081	5.9	0.03	0.3738	0.0025	5.9
Lead (D)	195	62	32%	0.03	150	0.0001	0.0078	0.0020	0.0013	0.0025	0.0078
Lead, soluble	1	0	0%	0.002	0.002	ND	ND	0.002	NA	0.0025	0.001
Lead, soluble (D)	90	37	41%	0.52	1.6	0.0007	0.0267	0.0032	0.0051	0.0025	0.0267
Lithium	371	271	73%	0.0012	100	0.002	0.277	0.0140	0.0241	0.096	0.277
Lithium (D)	169	149	88%	0.09	200	0.0011	0.0534	0.0097	0.0063	0.096	0.0534
Lithium, soluble	1	1	100%	0.02	0.02	0.0012	0.0012	0.0012	NA	0.096	0.0012
Lithium, soluble (D)	105	63	60%	0.02	7.1	0.002	0.129	0.0124	0.0191	0.096	0.129
Magnesium	430	428	100%	0.027	5000	0.31	43.7	12.8	7.5911	NA	43.7
Magnesium (D)	201	199	99%	0.1	5000	0.337	32	13.7	6.5836	NA	32
Magnesium, soluble	1	1	100%	3.5	3.5	4.36	4.36	4.36	NA	NA	4.36
Magnesium, soluble (D)	93	92	99%	1.6	66.6	0.41	50.9	11.8	7.8660	NA	50.9
Manganese	420	400	95%	0.00054	15	0.00086	5	0.2	0.3616	1.65	5
Manganese (D)	199	180	90%	0.01	15	0.00093	1.77	0.0593	0.1678	1.65	1.77
Manganese, dissolved (D)	13	13	100%	0.015	0.015	0.005	0.043	0.0249	0.0117	1.65	0.043
Manganese, soluble	1	1	100%	0.05	0.05	0.0511	0.0511	0.0511	NA	1.65	0.0511
Manganese, soluble (D)	93	82	88%	0.02	3	0.00088	0.512	0.0473	0.0843	1.65	0.512
Mercury	409	33	8%	0	0.2	0	0.0019	0.0003	0.0003	0.00077	0.0019

183

Table H-2
Summary of Surface Water ECOI Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC
Mercury (D)	187	13	7%	0.014	0.2	0.00015	0.001	0.0004	0.0003	0.00077	0.001
Mercury, soluble	1	0	0%	0.0001	0.0001	ND	ND	NA	NA	0.00077	0.00005
Mercury, soluble (D)	93	2	2%	0.1	0.2	0.00021	0.00024	0.0002	2.121E-05	0.00077	0.00024
Molybdenum	398	144	36%	0.0023	200	0.000407	0.0167	0.0022	0.0023	0.8	0.0167
Molybdenum (D)	187	28	15%	0.03	200	0.00047	0.0138	0.0031	0.0030	0.8	0.0138
Molybdenum, soluble	1	1	100%	0.32	0.32	0.00086	0.00086	0.0009	NA	0.8	0.00086
Molybdenum, soluble (D)	98	15	15%	0.22	10.3	0.002	0.0073	0.0039	0.0017	0.8	0.0073
Nickel	389	174	45%	0.0042	40	0.00055	0.152	0.0081	0.0182	0.052	0.152
Nickel (D)	185	20	11%	0.02	40	0.00063	0.037	0.0069	0.0090	0.052	0.037
Nickel, soluble	1	1	100%	0.3	0.3	0.0015	0.0015	0.0015	NA	0.052	0.0015
Nickel, soluble (D)	105	10	10%	0.22	22.4	0.00041	0.0112	0.0036	0.0048	0.052	0.0112
Nitrate (as nitrogen)	5	0	0%	0.05	0.05	ND	ND	NA	NA	NA	0.025
Nitrate / Nitrite	276	163	59%	0.02	200	0.02	2190	15.7	171.3960	NA	2190
Nitrate / Nitrite (as nitrogen)	6	6	100%	0.01	0.2	2.2	5.4	4.15	1.2486	NA	5.4
Nitrite (as nitrogen)	35	4	11%	0.05	5	0.027	0.074	0.047	0.0197	0.00443	0.074
Potassium	420	398	95%	0.46	5000	0.27	19.7	3.37	2.5926	NA	19.7
Potassium (D)	198	187	94%	7.1	5000	0.27	12.2	3.12	1.8551	NA	12.2
Potassium, soluble	1	1	100%	5.6	5.6	2.23	2.23	2.23	NA	NA	2.23
Potassium, soluble (D)	93	82	88%	4.5	1350	0.698	5.54	2.36	1.2537	NA	5.54
Selenium	397	97	24%	0.0046	150	0.00064	0.0226	0.0028	0.0033	0.0046	0.0226
Selenium (D)	185	37	20%	0.111	150	0.0011	0.0217	0.0039	0.0038	0.0046	0.0217
Selenium, soluble	1	0	0%	0.00092	0.00092	ND	ND	NA	NA	0.0046	0.00046
Selenium, soluble (D)	105	25	24%	0.65	7.5	0.0009	0.0485	0.0049	0.0105	0.0046	0.0485
Silver	399	31	8%	0.0007	25	0.00005	0.0052	0.0011	0.0013	0.00032	0.0052
Silver (D)	199	10	5%	0.03	25	0.00051	0.0063	0.0031	0.0016	0.00032	0.0063
Silver, soluble	1	0	0%	0.00025	0.00025	ND	ND	NA	NA	0.00032	0.000125
Silver, soluble (D)	128	12	9%	0.12	6.8	0.00068	0.0063	0.0033	0.0018	0.00032	0.0063
Sodium	430	430	100%	0.58	5000	0.962	1430	45.4923	101.5183	NA	1430
Sodium (D)	201	201	100%	4.11	5000	0.577	88.5	33.3710	19.2352	NA	88.5
Sodium, soluble	1	1	100%	1.2	1.2	11.9	11.9	11.9	NA	NA	11.9
Sodium, soluble (D)	93	93	100%	1	172	0.785	122	26.2489	18.7907	NA	122
Strontium	386	381	99%	0.00045	200	0.007	1.0398	0.3643	0.2071	8.3	1.0398
Strontium (D)	185	183	99%	0.045	300	0.007	1.01	0.3663	0.1947	8.3	1.01
Strontium, soluble	1	1	100%	0.02	0.02	0.104	0.104	0.104	NA	8.3	0.104
Strontium, soluble (D)	99	99	100%	0.02	7.5	0.0077	1.18	0.329	0.2193	8.3	1.18
Sulfide	190	15	8%	1	25	0.016	17	2.259	4.4171	NA	17
Thallium	421	22	5%	0.0081	350	0.00023	0.02	0.004	0.0048	0.015	0.02

199

Table H-2
Summary of Surface Water ECOI Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
Thallium (D)	192	6	3%	0.05	350	0.005	0.0171	0.0124	0.0050	0.015	0.0171
Thallium, soluble	1	0	0%	0.0013	0.0013	ND	ND	NA	NA	0.015	0.00065
Thallium, soluble (D)	93	0	0%	0.00088	0.0021	ND	ND	NA	NA	0.015	0.00105
Tin	340	24	7%	0.005	5000	0.00083	0.0703	0.0118	0.0181	0.073	0.0703
Tin (D)	142	2	1%	0.111	5000	0.00085	0.03	0.0154	0.0206	0.073	0.03
Tin, soluble	1	0	0%	0.00052	0.00052	ND	ND	NA	NA	0.073	0.00026
Tin, soluble (D)	99	1	1%	0.52	38.9	0.0104	0.0104	0.0104	NA	0.073	0.0104
Titanium	2	2	100%	0.00094	0.00094	0.0034	0.0077	0.006	0.0030	NA	0.0077
Uranium, total	127	26	20%	2.4	37.8	0.0028	0.077	0.037	0.0285	0.0026	0.077
Uranium, total (D)	2	2	100%	0.005	0.723	0.008	0.00908	0.009	0.0008	0.0026	0.00908
Vanadium	422	237	56%	0.0026	50	0.00022	0.459	0.018	0.0487	0.012	0.459
Vanadium (D)	197	45	23%	0.2	50	0.00071	0.0162	0.004	0.0038	0.012	0.0162
Vanadium, soluble	1	1	100%	0.15	0.15	0.0011	0.0011	0.001	NA	0.012	0.0011
Vanadium, soluble (D)	93	12	13%	0.15	7	0.00096	0.0038	0.002	0.0009	0.012	0.0038
Zinc	412	314	76%	0.0071	20	0.00141	2.19	0.128	0.2146	0.118	2.19
Zinc (D)	188	107	57%	0.21	20	0.0021	0.373	0.034	0.0589	0.118	0.373
Zinc, soluble	1	1	100%	0.2	0.2	0.0073	0.0073	0.007	NA	0.118	0.0073
Zinc, soluble (D)	104	52	50%	0.08	7.2	0.0023	0.516	0.023	0.0720	0.118	0.516
Organics (ug/kg)											
1,1,1,2-Tetrachloroethane	79	0	0%	0.1	5	ND	ND	NA	NA	NA	2.5
1,1,1-Trichloroethane	324	2	1%	0.1	10	0.4	0.5	0.45	0.0707	89	0.5
1,1,2,2-Tetrachloroethane	345	0	0%	0.1	10	ND	ND	NA	NA	2400	5
1,1,2-Trichloro-1,2,2-trifluoroethane	22	3	14%	0.2	5	0.2	0.3	0.26	0.0513	NA	0.3
1,1,2-Trichloroethane	339	0	0%	0.2	10	ND	ND	NA	NA	940	5
1,1-Dichloroethane	323	0	0%	0.1	10	ND	ND	NA	NA	740	5
1,1-Dichloroethene	331	1	0%	0.04	10	1	1	1	NA	65	1
1,2,3-Trichloropropane	94	0	0%	0.1	5	ND	ND	NA	NA	NA	2.5
1,2,4-Trichlorobenzene	207	0	0%	0.2	16	ND	ND	NA	NA	50	8
1,2,4-Trimethylbenzene	54	0	0%	0.2	5	ND	ND	NA	NA	NA	2.5
1,2-Dibromo-3-chloropropane	40	0	0%	0.5	2	ND	ND	NA	NA	NA	1
1,2-Dibromoethane	93	0	0%	0.2	5	ND	ND	NA	NA	NA	2.5
1,2-Dichlorobenzene	212	0	0%	0.1	16	ND	ND	NA	NA	NA	8
1,2-Dichloroethane	321	2	1%	0.2	10	3	14	8.5	7.7782	20000	14
1,2-Dichloroethene	54	2	4%	5	10	2	6	4	2.8284	1100	6
1,2-Dichloropropane	347	0	0%	0.1	10	ND	ND	NA	NA	5700	5
1,3,5-Trimethylbenzene	54	0	0%	0.1	5	ND	ND	NA	NA	NA	2.5
1,3-Dichlorobenzene	198	0	0%	0.1	16	ND	ND	NA	NA	NA	8

195

Table H-2
Summary of Surface Water ECOI Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
1,4-Dichlorobenzene	201	3	1%	0.12	16	0.2	0.5	0.333333333	0.1528	16	0.5
2,4,5-T	12	0	0%	0.1	10	ND	ND	NA	NA	NA	5
2,4,5-TP (Silvex)	28	0	0%	0.1	10	ND	ND	NA	NA	NA	5
2,4,5-Trichlorophenol	155	0	0%	10	78	ND	ND	NA	NA	NA	39
2,4,6-Trichlorophenol	155	0	0%	1	16	ND	ND	NA	NA	NA	8
2,4-D	28	0	0%	0.46	12	ND	ND	NA	NA	NA	6
2,4-DB	10	0	0%	0.91	10	ND	ND	NA	NA	NA	5
2,4-Dichlorophenol	155	0	0%	5	16	ND	ND	NA	NA	365	8
2,4-Dimethylphenol	155	0	0%	5	16	ND	ND	NA	NA	212	8
2,4-Dinitrophenol	146	0	0%	25	78	ND	ND	NA	NA	NA	39
2,4-Dinitrotoluene	155	0	0%	5	16	ND	ND	NA	NA	NA	8
2,6-Dinitrotoluene	157	0	0%	5	16	ND	ND	NA	NA	NA	8
2378-TCDD	14	0	0%	0.00027	0.004	ND	ND	NA	NA	NA	0.002
2-Butanone	236	7	3%	0.93	100	2	17	8	5.7735	2200	17
2-Chloronaphthalene	157	0	0%	5	16	ND	ND	NA	NA	630	8
2-Chlorophenol	155	0	0%	5	16	ND	ND	NA	NA	NA	8
2-Methylnaphthalene	157	0	0%	5	16	ND	ND	NA	NA	NA	8
2-Methylphenol	155	0	0%	5	16	ND	ND	NA	NA	82	8
2-Nitroaniline	157	0	0%	25	78	ND	ND	NA	NA	NA	39
3,3'-Dichlorobenzidine	145	0	0%	10	31	ND	ND	NA	NA	NA	15.5
4,4'-DDD	129	1	1%	0.098	0.5	0.046	0.046	0.046	NA	0.06	0.046
4,4'-DDE	129	2	2%	0.098	0.5	0.019	0.049	0.034	0.0212	105	0.049
4,4'-DDT	129	5	4%	0.098	0.5	0.01	0.073	0.0292	0.0262	NA	0.073
4,6-Dinitro-2-methylphenol	152	0	0%	25	78	ND	ND	NA	NA	NA	39
4-Chloro-3-methylphenol	155	0	0%	5	22	ND	ND	NA	NA	NA	11
4-Chloroaniline	154	0	0%	5	22	ND	ND	NA	NA	NA	11
4-Isopropyltoluene	65	0	0%	0.2	5	ND	ND	NA	NA	NA	2.5
4-Methyl-2-pentanone	270	0	0%	1	50	ND	ND	NA	NA	170	25
4-Methylphenol	145	0	0%	5	16	ND	ND	NA	NA	25	8
4-Nitroaniline	136	0	0%	5	78	ND	ND	NA	NA	NA	39
4-Nitrophenol	150	0	0%	25	78	ND	ND	NA	NA	NA	39
Acenaphthene	157	0	0%	1	16	ND	ND	NA	NA	NA	8
Acenaphthylene	157	0	0%	1	16	ND	ND	NA	NA	NA	8
Acetone	245	38	16%	1.9	100	2.8	210	25.30263158	45.1179	1500	210
Acrylonitrile	14	0	0%	10	10	ND	ND	NA	NA	NA	5
Aldrin	129	0	0%	0.049	0.25	ND	ND	NA	NA	0.15	0.125
alpha-BHC	129	0	0%	0.049	0.25	ND	ND	NA	NA	0.08	0.125

Table H-2
Summary of Surface Water ECOI Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
alpha-Chlordane	125	0	0%	0.05	2.5	ND	ND	NA	NA	NA	1.25
Anthracene	157	0	0%	0.0297	16	ND	ND	NA	NA	0.73	8
Atrazine	39	10	26%	0.05	1.1	0.04	0.77	0.297	0.2468	NA	0.77
Benzene	347	2	1%	0.01	10	0.1	0.2	0.15	0.0707	530	0.2
Benzidine	4	0	0%	10	10	ND	ND	NA	NA	NA	5
Benzo(a)anthracene	146	0	0%	0.178	16	ND	ND	NA	NA	0.027	8
Benzo(a)pyrene	146	0	0%	0.139	16	ND	ND	NA	NA	0.014	8
Benzo(b)fluoranthene	157	0	0%	0.148	16	ND	ND	NA	NA	NA	8
Benzo(g,h,i)perylene	113	0	0%	1	16	ND	ND	NA	NA	NA	8
Benzo(k)fluoranthene	157	0	0%	0.0792	16	ND	ND	NA	NA	NA	8
Benzoic Acid	137	2	1%	49	78	6	42	24	25.4558	42	42
Benzyl Alcohol	142	1	1%	10	22	3	3	3	NA	NA	3
beta-BHC	129	4	3%	0.049	0.25	0.01	0.17	0.0655	0.0730	0.08	0.17
bis(2-Chloroethyl) ether	70	0	0%	5	16	ND	ND	NA	NA	NA	8
bis(2-Chloroisopropyl) ether	149	0	0%	5	16	ND	ND	NA	NA	NA	8
bis(2-ethylhexyl)phthalate	157	29	18%	10	16	0.6	26	3.868965517	6.0638	28.5	26
Bromodichloromethane	347	1	0%	0.1	10	0.96	0.96	0.96	NA	1100	0.96
Bromoform	347	1	0%	0.09	10	1.9	1.9	1.9	NA	320	1.9
Bromomethane	338	0	0%	0.1	10	ND	ND	NA	NA	35	5
Butylbenzylphthalate	118	2	2%	10	16	0.7	0.8	0.75	0.0707	67	0.8
Carbazole	14	0	0%	10	11	ND	ND	NA	NA	NA	5.5
Carbon Disulfide	282	1	0%	0.19	10	8	8	8	NA	0.92	8
Carbon Tetrachloride	339	10	3%	0.02	10	0.7	76	19.27	24.8264	3520	76
Chlordane (NOS)	3	0	0%	0.5	0.5	ND	ND	NA	NA	NA	0.25
Chlorobenzene	332	1	0%	0.02	10	1	1	1	NA	47	1
Chloroethane	323	0	0%	0.1	10	ND	ND	NA	NA	NA	5
Chloroform	347	21	6%	0.01	10	0.2	22	4.496190476	6.7238	1240	22
Chloromethane	329	1	0%	0.1	10	0.2	0.2	0.2	NA	NA	0.2
Chrysene	157	0	0%	0.515	16	ND	ND	NA	NA	NA	8
cis-1,2-Dichloroethene	50	18	36%	0.14	5	0.39	8	1.77	1.6595	620	8
cis-1,3-Dichloropropene	323	0	0%	0.1	10	ND	ND	NA	NA	244	5
Dalapon	8	0	0%	1.1	10	ND	ND	NA	NA	NA	5
delta-BHC	129	1	1%	0.049	0.25	0.02	0.02	0.02	NA	0.08	0.02
Dibenz(a,h)anthracene	91	0	0%	1.01	16	ND	ND	NA	NA	NA	8
Dibenzofuran	157	0	0%	5	16	ND	ND	NA	NA	4	8
Dibromochloromethane	347	0	0%	0.2	10	ND	ND	NA	NA	NA	5
Dicamba	11	0	0%	0.1	10	ND	ND	NA	NA	NA	5

Table H-2
Summary of Surface Water ECOI Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC
Dichlorodifluoromethane	100	1	1%	0.2	5	0.26	0.26	0.26	NA	NA	0.26
Dieldrin	129	0	0%	0.098	0.5	ND	ND	NA	NA	0.056	0.25
Diethylphthalate	118	4	3%	10	16	3	16	8.5	6.1373	110	16
Dimethylphthalate	118	0	0%	5	16	ND	ND	NA	NA	NA	8
Di-n-butylphthalate	35	6	17%	10	16	0.3	0.6	0.466666667	0.1211	9.7	0.6
Di-n-octylphthalate	118	0	0%	5	16	ND	ND	NA	NA	NA	8
Dinoseb	11	0	0%	0.07	10	ND	ND	NA	NA	NA	5
Endosulfan I	129	0	0%	0.049	0.25	ND	ND	NA	NA	NA	0.125
Endosulfan II	129	0	0%	0.098	0.5	ND	ND	NA	NA	NA	0.25
Endosulfan sulfate	129	0	0%	0.098	0.5	ND	ND	NA	NA	NA	0.25
Endrin	129	0	0%	0.098	0.5	ND	ND	NA	NA	NA	0.25
Endrin aldehyde	19	0	0%	0.1	0.11	ND	ND	NA	NA	NA	0.055
Endrin ketone	126	0	0%	0.098	0.5	ND	ND	NA	NA	NA	0.25
Ethylbenzene	329	0	0%	0.1	10	ND	ND	NA	NA	3200	5
Fluoranthene	157	0	0%	0.614	16	ND	ND	NA	NA	398	8
Fluorene	157	0	0%	0.297	16	ND	ND	NA	NA	12	8
gamma-BHC (Lindane)	129	0	0%	0.049	0.25	ND	ND	NA	NA	0.08	0.125
gamma-Chlordane	92	0	0%	0.05	1	ND	ND	NA	NA	NA	0.5
Heptachlor	129	0	0%	0.049	0.25	ND	ND	NA	NA	0.0038	0.125
Heptachlor epoxide	129	0	0%	0.049	0.25	ND	ND	NA	NA	NA	0.125
Hexachlorobenzene	157	0	0%	1	16	ND	ND	NA	NA	NA	8
Hexachlorobutadiene	208	0	0%	0.1	16	ND	ND	NA	NA	9.3	8
Hexachlorocyclopentadiene	153	0	0%	5	16	ND	ND	NA	NA	NA	8
Hexachloroethane	157	0	0%	1	16	ND	ND	NA	NA	540	8
Indeno(1,2,3-cd)pyrene	157	0	0%	0.297	16	ND	ND	NA	NA	NA	8
Isophorone	157	1	1%	10	16	8	8	8	NA	1300	8
Isopropylbenzene	95	0	0%	0.2	5	ND	ND	NA	NA	NA	2.5
m,p-Xylene	23	0	0%	0.2	0.5	ND	ND	NA	NA	35	0.25
MCPA	11	0	0%	100	10000	ND	ND	NA	NA	NA	5000
MCPP	11	0	0%	100	10000	ND	ND	NA	NA	NA	5000
Methoxychlor	126	0	0%	0.49	2.5	ND	ND	NA	NA	NA	1.25
Methylene Chloride	347	51	15%	0.01	10	0.1	80	6.454117647	12.6311	940	80
m-Xylene	1	1	100%	0.2	0.2	0.2	0.2	0.2	NA	35	0.2
Naphthalene	193	1	1%	0.02	16	1	1	1	NA	620	1
Nitrobenzene	157	0	0%	5	16	ND	ND	NA	NA	NA	8
N-Nitrosodiethylamine	4	0	0%	5	5	ND	ND	NA	NA	NA	2.5
N-Nitrosodimethylamine	4	0	0%	5	5	ND	ND	NA	NA	NA	2.5

Table H-2
Summary of Surface Water ECOI Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
N-Nitrosodi-n-butylamine	4	0	0%	5	5	ND	ND	NA	NA	NA	2.5
N-Nitroso-di-n-propylamine	157	0	0%	5	16	ND	ND	NA	NA	NA	8
N-nitrosodiphenylamine	146	0	0%	5	16	ND	ND	NA	NA	NA	8
N-Nitrosopyrrolidine	4	0	0%	10	10	ND	ND	NA	NA	NA	5
o-Xylene	23	0	0%	0.2	1	ND	ND	NA	NA	35	0.5
PCB-1016	127	0	0%	0.49	2.5	ND	ND	NA	NA	0.014	1.25
PCB-1221	127	0	0%	0.49	2.5	ND	ND	NA	NA	0.014	1.25
PCB-1232	127	0	0%	0.49	2.5	ND	ND	NA	NA	0.014	1.25
PCB-1242	127	0	0%	0.49	2.5	ND	ND	NA	NA	0.014	1.25
PCB-1248	127	0	0%	0.49	2.5	ND	ND	NA	NA	0.014	1.25
PCB-1254	127	0	0%	0.5	5	ND	ND	NA	NA	0.014	2.5
PCB-1260	127	0	0%	0.5	5	ND	ND	NA	NA	0.014	2.5
Pentachlorophenol	155	1	1%	25	78	5	5	5	NA	6.73	5
Phenanthrene	157	0	0%	0.693	16	ND	ND	NA	NA	2.4	8
Phenol	155	0	0%	5	16	ND	ND	NA	NA	2560	8
p-Xylene	1	1	100%	0.2	0.2	0.2	0.2	0.2	NA	35	0.2
Pyrene	156	1	1%	0.594	16	2	2	2	NA	0.025	2
Simazine	39	0	0%	0.18	1.1	ND	ND	NA	NA	NA	0.55
Styrene	342	0	0%	0.1	10	ND	ND	NA	NA	160	5
Tetrachloroethene	323	52	16%	0.1	10	0.38	47	12.87692308	13.6500	840	47
Toluene	349	13	4%	0.02	10	0.1	9	2.085384615	2.9372	1750	9
Toxaphene	129	0	0%	0.98	5.7	ND	ND	NA	NA	NA	2.85
trans-1,2-Dichloroethene	69	0	0%	0.1	5	ND	ND	NA	NA	NA	2.5
trans-1,3-Dichloropropene	310	0	0%	0.2	10	ND	ND	NA	NA	244	5
Trichloroethene	316	28	9%	0.03	10	0.19	30	5.2	7.2386	21900	30
Trichlorofluoromethane	84	1	1%	0.1	5	0.2	0.2	0.2	NA	NA	0.2
Vinyl acetate	239	0	0%	10	10	ND	ND	NA	NA	NA	5
Vinyl Chloride	333	0	0%	0.2	10	ND	ND	NA	NA	930	5
Xylene	159	2	1%	0.5	10	1.3	3	2.15	1.2021	35	3
Radionuclides (pCi/g)											
Americium-241	620	249	40%	0	0.5	0	48	0.7	3.7090	43.8	48
Americium-241 (D)	55	22	40%	0	0.02	0.0005168	0.024	0.006	0.0061	43.8	0.024
Cesium, radio	27	12	44%	0.2	1.44	-0.18	1.3	0.647	0.4288	NA	1.3
Cesium, radio (D)	12	5	42%	0.2	1.1	0.28	2	0.8	0.6763	NA	2
Cesium-137	126	61	48%	0.2	1.18	-0.52	1.4	0.2	0.4056	42.6	1.4
Cesium-137 (D)	33	8	24%	0.2	1.15	-0.788	1.033	0.169	0.6381	42.6	1.033
Gross Alpha	1301	1246	96%	0.32	13	0.1	41	2.9	2.7671	NA	41

Table H-2
Summary of Surface Water ECOI Data in the Woman Creek Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Sediment ESL	Screening EPC[1]
Gross Alpha (D)	107	84	79%	0.27	4.1	0.01992	9.92	2.354	2.2478	NA	9.92
Gross Beta	1320	1288	98%	0.568	9	0	58	4.307443245	3.8203	NA	58
Gross Beta (D)	118	112	95%	0.8	6.18	1.127	16.12	4.638	2.7359	NA	16.12
Neptunium-237	13	4	31%	0.017	0.14	0.055	0.095	0.073	0.0172	NA	0.095
Neptunium-237 (D)	3	0	0%	-0.019	0	ND	ND	NA	NA	NA	0
Plutonium-238	287	264	92%	0.002201	0.08783	-0.0108	0.275	0.005	0.0219	NA	0.275
Plutonium-238 (D)	1	1	100%	0.00846	0.00846	0.001478	0.001478	0.001478	NA	NA	0.001478
Plutonium-239/240	1067	670	63%	0	0.1616	-0.023	250	1.877	13.5699	18.7	250
Plutonium-239/240 (D)	70	37	53%	0	0.0300924	-0.063	0.019	0.001	0.0122	18.7	0.019
Radiocesium	46	11	24%	0.2	0.8	0.68	16	2.586	4.4757	42.6	16
Radiocesium (D)	7	1	14%	0.3	0.4	0.4	0.4	0.4	NA	42.6	0.4
Radium-226	10	9	90%	0.0391	0.27	0.15	0.5172	0.281	0.1420	1.02	0.5172
Radium-226 (D)	9	9	100%	0.0341	0.5	0.046	0.5172	0.286	0.1599	1.02	0.5172
Strontium-89/90	9	6	67%	0.2	0.912	0.01842	0.92	0.454	0.3370	278	0.92
Strontium-89/90 (D)	7	6	86%	0.49	0.621245	0.2733	0.5659	0.429	0.1126	278	0.5659
Strontium-90	1	1	100%	0.64	0.64	0.3908	0.3908	0.3908	NA	278	0.3908
Strontium-90 (D)	1	1	100%	0.6	0.6	0.3053	0.3053	0.3053	NA	278	0.3053
Tritium	677	440	65%	97	764.1	-247.5	2097	82.295	200.886	265000000	2097
Uranium-233/234	876	859	98%	0	2.656	-0.1425	193.8	1.775	8.0731	NA	193.8
Uranium-233/234 (D)	134	130	97%	0	0.6	0.08542	6.3	1.702	1.4784	NA	6.3
Uranium-235	852	556	65%	0	2.211	-0.0214	8.117	0.106	0.4678	21.7	8.117
Uranium-235 (D)	134	91	68%	0	0.6	-0.0202	0.666	0.091	0.1270	21.7	0.666
Uranium-238	877	861	98%	0	2.706	-0.1336	138.1	1.853	6.8877	22.3	138.1
Uranium-238 (D)	134	128	96%	0	0.6	-0.0609	13.95	1.439	1.598	22.3	13.95

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

[2]PCBs will be evaluated as total PCB.

ND = The ECOI was not detected.

Table H-3
Accelerated Action Screening Step for Surface Water in the Woman Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Inorganics (mg/kg)					
Aluminum	219	0.087	Yes	**Yes**	No
Aluminum (D)	0.77	0.087	Yes	**Yes**	No
Aluminum, soluble	0.583	0.087	Yes	**Yes**	No
Aluminum, soluble (D)	0.195	0.087	Yes	**Yes**	No
Ammonia	15	0.02	Yes	**Yes**	No
Ammonia (as nitrogen)	4	0.02	Yes	**Yes**	No
Antimony	0.08	0.24	No	No	No
Antimony (D)	0.029	0.24	No	No	No
Antimony, soluble (D)	0.0561	0.24	No	No	No
Arsenic	0.0818	0.15	No	No	No
Arsenic (D)	0.0058	0.15	No	No	No
Arsenic, soluble	0.00099	0.15	No	No	No
Arsenic, soluble (D)	0.0036	0.15	No	No	No
Barium	1.21	0.438	Yes	**Yes**	No
Barium (D)	0.246	0.438	No	No	No
Barium, soluble	0.0471	0.438	No	No	No
Barium, soluble (D)	0.297	0.438	No	No	No
Beryllium	0.0156	0.0024	Yes	**Yes**	No
Beryllium (D)	0.00064	0.0024	No	No	No
Beryllium, soluble	0.00004	0.0024	No	No	No
Beryllium, soluble (D)	0.0015	0.0024	No	No	No
Boron	0.047	NA	NA	No	**Yes**
Cadmium	0.00321	0.00025	Yes	**Yes**	No
Cadmium (D)	0.0268	0.00025	Yes	**Yes**	No
Cadmium, soluble	0.00015	0.00025	No	No	No
Cadmium, soluble (D)	0.0052	0.00025	Yes	**Yes**	No
Calcium	185	NA	NA	No	**Yes**
Calcium (D)	132	NA	NA	No	**Yes**
Calcium, soluble	25.1	NA	NA	No	**Yes**
Calcium, soluble (D)	155	NA	NA	No	**Yes**
Cesium	0.11	NA	NA	No	**Yes**
Cesium (D)	0.08	NA	NA	No	**Yes**
Chromium	0.185	0.074	Yes	**Yes**	No
Chromium (D)	0.063	0.074	No	No	No
Chromium VI	0.06	NA	NA	No	**Yes**
Chromium, soluble	0.00066	0.074	No	No	No
Chromium, soluble (D)	0.0014	0.074	No	No	No
Cobalt	0.051	0.1	No	No	No
Cobalt (D)	0.0021	0.1	No	No	No
Cobalt, soluble	0.00036	0.1	No	No	No
Cobalt, soluble (D)	0.0037	0.1	No	No	No
Copper	0.154	0.009	Yes	**Yes**	No
Copper (D)	0.023	0.009	Yes	**Yes**	No
Copper, soluble	0.0011	0.009	No	No	No
Copper, soluble (D)	0.0096	0.009	Yes	**Yes**	No

Table H-3
Accelerated Action Screening Step for Surface Water in the Woman Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Cyanide	0.0489	500	No	No	No
Fluoride	1.8	2.12	No	No	No
Fluoride (as fluorine)	0.55	2.12	No	No	No
Iron	214	1	Yes	**Yes**	No
Iron (D)	9.02	1	Yes	**Yes**	No
Iron, dissolved (D)	0.34	1	No	No	No
Iron, soluble	0.771	1	No	No	No
Iron, soluble (D)	3.18	1	Yes	**Yes**	No
Lead	5.9	0.0025	Yes	**Yes**	No
Lead (D)	0.0078	0.0025	Yes	**Yes**	No
Lead, soluble (D)	0.0267	0.0025	Yes	**Yes**	No
Lithium	0.277	0.096	Yes	**Yes**	No
Lithium (D)	0.0534	0.096	No	No	No
Lithium, soluble	0.0012	0.096	No	No	No
Lithium, soluble (D)	0.129	0.096	Yes	**Yes**	No
Magnesium	43.7	NA	NA	No	**Yes**
Magnesium (D)	32	NA	NA	No	**Yes**
Magnesium, soluble	4.36	NA	NA	No	**Yes**
Magnesium, soluble (D)	50.9	NA	NA	No	**Yes**
Manganese	5	1.65	Yes	**Yes**	No
Manganese (D)	1.77	1.65	Yes	**Yes**	No
Manganese, dissolved (D)	0.043	1.65	No	No	No
Manganese, soluble	0.0511	1.65	No	No	No
Manganese, soluble (D)	0.512	1.65	No	No	No
Mercury	0.0019	0.00077	Yes	**Yes**	No
Mercury (D)	0.001	0.00077	Yes	**Yes**	No
Mercury, soluble (D)	0.00024	0.00077	No	No	No
Molybdenum	0.0167	0.8	No	No	No
Molybdenum (D)	0.0138	0.8	No	No	No
Molybdenum, soluble	0.00086	0.8	No	No	No
Molybdenum, soluble (D)	0.0073	0.8	No	No	No
Nickel	0.152	0.052	Yes	**Yes**	No
Nickel (D)	0.037	0.052	No	No	No
Nickel, soluble	0.0015	0.052	No	No	No
Nickel, soluble (D)	0.0112	0.052	No	No	No
Nitrate / Nitrite	2190	NA	NA	No	**Yes**
Nitrate / Nitrite (as nitrogen)	5.4	NA	NA	No	**Yes**
Nitrite (as nitrogen)	0.074	0.00443	Yes	**Yes**	No
Potassium	19.7	NA	NA	No	**Yes**
Potassium (D)	12.2	NA	NA	No	**Yes**
Potassium, soluble	2.23	NA	NA	No	**Yes**
Potassium, soluble (D)	5.54	NA	NA	No	**Yes**
Selenium	0.0226	0.0046	Yes	**Yes**	No
Selenium (D)	0.0217	0.0046	Yes	**Yes**	No
Selenium, soluble (D)	0.0485	0.0046	Yes	**Yes**	No
Silver	0.0052	0.00032	Yes	**Yes**	No

201

Table H-3
Accelerated Action Screening Step for Surface Water in the Woman Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Silver (D)	0.0063	0.00032	Yes	**Yes**	No
Silver, soluble (D)	0.0063	0.00032	Yes	**Yes**	No
Sodium	1430	NA	NA	No	**Yes**
Sodium (D)	88.5	NA	NA	No	**Yes**
Sodium, soluble	11.9	NA	NA	No	**Yes**
Sodium, soluble (D)	122	NA	NA	No	**Yes**
Strontium	1.0398	8.3	No	No	No
Strontium (D)	1.01	8.3	No	No	No
Strontium, soluble	0.104	8.3	No	No	No
Strontium, soluble (D)	1.18	8.3	No	No	No
Sulfide	17	NA	NA	No	**Yes**
Thallium	0.02	0.015	Yes	**Yes**	No
Thallium (D)	0.0171	0.015	Yes	Yes	No
Tin	0.0703	0.073	No	No	No
Tin (D)	0.03	0.073	No	No	No
Tin, soluble (D)	0.0104	0.073	No	No	No
Titanium	0.0077	NA	NA	No	**Yes**
Uranium, total	0.077	0.0026	Yes	**Yes**	No
Uranium, total (D)	0.00908	0.0026	Yes	**Yes**	No
Vanadium	0.459	0.012	Yes	**Yes**	No
Vanadium (D)	0.0162	0.012	Yes	**Yes**	No
Vanadium, soluble	0.0011	0.012	No	No	No
Vanadium, soluble (D)	0.0038	0.012	No	No	No
Zinc	2.19	0.118	Yes	**Yes**	No
Zinc (D)	0.373	0.118	Yes	**Yes**	No
Zinc, soluble	0.0073	0.118	No	No	No
Zinc, soluble (D)	0.516	0.118	Yes	Yes	No
Organics (ug/kg)					
1,1,1-Trichloroethane	0.5	89	No	No	No
1,1,2-Trichloro-1,2,2-trifluoroethane	0.3	NA	NA	No	**Yes**
1,1-Dichloroethene	1	65	No	No	No
1,2-Dichloroethane	14	20000	No	No	No
1,2-Dichloroethene	6	1100	No	No	No
1,4-Dichlorobenzene	0.5	16	No	No	No
2-Butanone	17	2200	No	No	No
4,4'-DDD	0.046	0.06	No	No	No
4,4'-DDE	0.049	105	No	No	No
4,4'-DDT	0.073	NA	NA	No	**Yes**
Acetone	210	1500	No	No	No
Atrazine	0.77	NA	NA	No	**Yes**
Benzene	0.2	530	No	No	No
Benzoic Acid	42	42	No	No	No
Benzyl Alcohol	3	NA	NA	No	**Yes**
beta-BHC	0.17	0.08	Yes	**Yes**	No
bis(2-ethylhexyl)phthalate	26	28.5	No	No	No
Bromodichloromethane	0.96	1100	No	No	No

202

Table H-3
Accelerated Action Screening Step for Surface Water in the Woman Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Bromoform	1.9	320	No	No	No
Butylbenzylphthalate	0.8	67	No	No	No
Carbon Disulfide	8	0.92	Yes	**Yes**	No
Carbon Tetrachloride	76	3520	No	No	No
Chlorobenzene	1	47	No	No	No
Chloroform	22	1240	No	No	No
Chloromethane	0.2	NA	NA	No	**Yes**
cis-1,2-Dichloroethene	8	620	No	No	No
delta-BHC	0.02	0.08	No	No	No
Dichlorodifluoromethane	0.26	NA	NA	No	**Yes**
Diethylphthalate	16	110	No	No	No
Di-n-butylphthalate	0.6	9.7	No	No	No
Isophorone	8	1300	No	No	No
Methylene Chloride	80	940	No	No	No
m-Xylene	0.2	35	No	No	No
Naphthalene	1	620	No	No	No
Pentachlorophenol	5	6.73	No	No	No
p-Xylene	0.2	35	No	No	No
Pyrene	2	0.025	Yes	**Yes**	No
Tetrachloroethene	47	840	No	No	No
Toluene	9	1750	No	No	No
Trichloroethene	30	21900	No	No	No
Trichlorofluoromethane	0.2	NA	NA	No	**Yes**
Xylene	3	35	No	No	No
Radionuclides (pCi/g)					
Americium-241	48	43.8	Yes	**Yes**	No
Americium-241 (D)	0.024	43.8	No	No	No
Cesium, radio	1.3	NA	NA	No	**Yes**
Cesium, radio (D)	2	NA	NA	No	**Yes**
Cesium-137	1.4	42.6	No	No	No
Cesium-137 (D)	1.033	42.6	No	No	No
Gross Alpha	41	NA	NA	No	**Yes**
Gross Alpha (D)	9.92	NA	NA	No	**Yes**
Gross Beta	58	NA	NA	No	**Yes**
Gross Beta (D)	16.12	NA	NA	No	**Yes**
Neptunium-237	0.095	NA	NA	No	**Yes**
Plutonium-238	0.275	NA	NA	No	**Yes**
Plutonium-238 (D)	0.001478	NA	NA	No	**Yes**
Plutonium-239/240	250	18.7	Yes	**Yes**	No
Plutonium-239/240 (D)	0.019	18.7	No	No	No
Radiocesium	16	42.6	No	No	No
Radiocesium (D)	0.4	42.6	No	No	No
Radium-226	0.5172	1.02	No	No	No
Radium-226 (D)	0.5172	1.02	No	No	No
Strontium-89/90	0.92	278	No	No	No
Strontium-89/90 (D)	0.5659	278	No	No	No

203

Table H-3
Accelerated Action Screening Step for Surface Water in the Woman Creek Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Strontium-90	0.3908	278	No	No	No
Strontium-90 (D)	0.3053	278	No	No	No
Tritium	2097	265000000	No	No	No
Uranium-233/234	193.8	NA	NA	No	**Yes**
Uranium-233/234 (D)	6.3	NA	NA	No	**Yes**
Uranium-235	8.117	21.7	No	No	No
Uranium-235 (D)	0.666	21.7	No	No	No
Uranium-238	138.1	22.3	Yes	**Yes**	No
Uranium-238 (D)	13.95	22.3	No	No	No

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

204

Table I-1
ECOIs Detected in Surface Water in the No Name Gulch Aquatic Exposure Unit

ECOIs Detected in Surface Water in the No Name Gulch Aquatic Exposure Unit		
Inorganics		
Aluminum		Magnesium
Ammonia (as nitrogen)		Manganese
Antimony		Mercury
Arsenic		Molybdenum
Barium		Nickel
Beryllium		Nitrate / Nitrite
Cadmium, soluble		Potassium
Calcium		Selenium
Cesium		Silver
Chromium		Sodium
Cobalt		Strontium
Copper		Thallium
Fluoride		Tin
Iron		Vanadium
Lead		Zinc
Lithium		
Organics		
1,1-Dichloroethane		Chloroethane
1,1-Dichloroethene		Chloroform
1,2,3-Trichloropropane		Chloromethane
1,2,4-Trichlorobenzene		cis-1,2-Dichloroethene
1,2,4-Trimethylbenzene		delta-BHC
1,2-Dichlorobenzene		Dibenzofuran
1,2-Dichloropropane		Dichlorodifluoromethane
1,3,5-Trimethylbenzene		Diethylphthalate
1,3-Dichlorobenzene		Di-n-butylphthalate
1,4-Dichlorobenzene		Ethylbenzene
2,4-Dimethylphenol		Fluorene
2-Butanone		gamma-BHC (Lindane)
2-Methylnaphthalene		Heptachlor
4-Isopropyltoluene		Hexachlorobutadiene
4-Methylphenol		Isophorone
Acenaphthene		Isopropylbenzene
Acenaphthylene		Methylene Chloride
Acetone		Naphthalene
alpha-BHC		Pentachlorophenol
Anthracene		Phenanthrene
Benzene		Phenol
Benzo(a)pyrene		Pyrene
Benzoic Acid		Styrene
beta-BHC		Toluene
bis(2-ethylhexyl)phthalate		Trichloroethene
Bromoform		Trichlorofluoromethane
Butylbenzylphthalate		Vinyl Chloride
Chlorobenzene		Xylene

Table I-1
ECOIs Detected in Surface Water in the No Name Gulch Aquatic Exposure Unit

ECOIs Detected in Surface Water in the No Name Gulch Aquatic Exposure Unit		
Radionuclides		
Americium-241		Radium-226
Cesium-137		Strontium-89/90
Gross Alpha		Tritium
Gross Beta		Uranium-233/234
Plutonium-238		Uranium-235
Plutonium-239/240		Uranium-238
Radiocesium		

256

Table I-2
Summary of Surface Water ECOI Data in the No Name Gulch Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Inorganics (mg/L)										
Aluminum	32	27	84.4%	0.25	200	0.0169	13	1.0646111	2.5485453	13
Aluminum (D)	8	5	62.5%	15	200	0.021	0.064	0.03944	0.0191799	0.064
Aluminum, soluble (D)	19	3	15.8%	18.7	36.8	0.0375	0.0756	0.0511333	0.021235	0.0756
Ammonia	2	0	0.0%	0.03	0.1	ND	ND	NA	NA	0.05
Ammonia (as nitrogen)	1	1	100.0%	0.015	0.015	1.5	1.5	1.5	NA	1.5
Antimony	36	6	16.7%	0.05	60	0.00059	0.015	0.0034367	0.0056828	0.015
Antimony (D)	11	1	9.1%	1.9	60	0.023	0.023	0.023	NA	0.023
Antimony, soluble (D)	18	3	16.7%	13.5	42.2	0.0222	0.032	0.0284333	0.0054169	0.032
Arsenic	35	16	45.7%	0.35	10	0.0011	0.00322	0.0017638	0.000628	0.00322
Arsenic (D)	11	3	27.3%	1	10	0.0014	0.0024	0.0018	0.0005292	0.0024
Arsenic, soluble (D)	17	7	41.2%	0.7	1.7	0.0007	0.002	0.0012286	0.0005736	0.002
Barium	35	35	100.0%	0.02	200	0.0029	0.82	0.32002	0.2600534	0.82
Barium (D)	11	11	100.0%	0.21	200	0.0035	0.64	0.3651364	0.2003824	0.64
Barium, soluble (D)	18	18	100.0%	2.1	6.5	0.0256	0.575	0.2895333	0.1895204	0.575
Beryllium	33	7	21.2%	0.01	5	0.00003	0.00048	0.0001457	0.0001586	0.00048
Beryllium (D)	7	1	14.3%	0.24	5	0.00051	0.00051	0.00051	NA	0.00051
Beryllium, soluble (D)	21	3	14.3%	0.5	0.9	0.001	0.0012	0.0011	0.0001	0.0012
Cadmium	36	0	0.0%	0.00003	0.005	ND	ND	NA	NA	0.0025
Cadmium (D)	12	0	0.0%	0.0001	0.0031	ND	ND	NA	NA	0.00155
Cadmium, soluble (D)	18	1	5.6%	2.3	4.6	0.0033	0.0033	0.0033	NA	0.0033
Calcium	35	35	100.0%	1.6	5000	1.56	166	71.998857	49.810669	166
Calcium (D)	11	11	100.0%	15	5000	1.88	168	88.361818	59.288569	168
Calcium, soluble (D)	17	17	100.0%	17.4	30.8	26.1	146	74.641176	42.77248	146
Cesium	7	0	0.0%	0.033	0.05	ND	ND	NA	NA	0.025
Cesium (D)	6	4	66.7%	1000	1000	0.05	0.1	0.07	0.0216025	0.1
Cesium, soluble (D)	18	0	0.0%	0.5	0.5	ND	ND	NA	NA	0.25
Chromium	32	16	50.0%	0.12	10	0.00036	0.013	0.0027131	0.0038747	0.013
Chromium (D)	8	1	12.5%	0.38	10	0.0036	0.0036	0.0036	NA	0.0036
Chromium, soluble (D)	21	1	4.8%	2	27.5	0.0042	0.0042	0.0042	NA	0.0042
Cobalt	32	12	37.5%	0.01	50	0.00016	0.0068	0.0017942	0.0020704	0.0068
Cobalt (D)	8	5	62.5%	0.95	50	0.0013	0.0067	0.00416	0.0019629	0.0067
Cobalt, soluble (D)	21	4	19.0%	2.6	7.3	0.0073	0.009	0.007925	0.0007588	0.009

Table I-2
Summary of Surface Water ECOI Data in the No Name Gulch Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Copper	32	22	68.8%	0.04	25	0.00045	0.0142	0.0042705	0.003101	0.0142
Copper (D)	8	5	62.5%	0.75	25	0.003	0.0088	0.00632	0.0023317	0.0088
Copper, soluble (D)	21	8	38.1%	2.1	5.4	0.0024	0.012	0.0060375	0.0035278	0.012
Cyanide	21	0	0.0%	0.01	0.02	ND	ND	NA	NA	0.01
Fluoride	28	27	96.4%	0.05	0.5	0.29	0.95	0.5974074	0.1763212	0.95
Iron	33	33	100.0%	2.1	100	0.0295	81	20.129318	28.66608	81
Iron (D)	8	7	87.5%	3.4	100	0.0194	77.3	46.4252	33.952809	77.3
Iron, soluble (D)	20	18	90.0%	4.7	22.6	0.0082	95.8	22.146522	37.591435	95.8
Lead	36	17	47.2%	0.01	3	0.00054	0.0085	0.0021271	0.001785	0.0085
Lead (D)	12	3	25.0%	0.9	3	0.001	0.0026	0.0017333	0.0008083	0.0026
Lead, soluble (D)	18	2	11.1%	0.8	1.3	0.0011	0.0047	0.0029	0.0025456	0.0047
Lithium	41	38	92.7%	0.02	100	0.0064	0.0976	0.0406395	0.0244813	0.0976
Lithium (D)	10	9	90.0%	0.05	100	0.0036	0.078	0.0331333	0.0246544	0.078
Lithium, soluble (D)	18	15	83.3%	2	7.1	0.0065	0.0896	0.0453467	0.0301115	0.0896
Magnesium	35	35	100.0%	0.08	5000	0.354	54.6	26.289257	16.529104	54.6
Magnesium (D)	11	11	100.0%	15	5000	0.32	51	34.929091	13.536311	51
Magnesium, soluble (D)	17	17	100.0%	29.6	57	4.66	46.1	30.397647	11.925544	46.1
Manganese	35	32	91.4%	0.01	15	0.0017	1.43	0.4685406	0.5892999	1.43
Manganese (D)	10	9	90.0%	0.19	15	0.0026	1.42	0.7628556	0.694926	1.42
Manganese, soluble (D)	17	13	76.5%	1.5	2.5	0.0016	1.5	0.6184	0.6840532	1.5
Mercury	36	1	2.8%	0.014	0.2	0.0012	0.0012	0.0012	NA	0.0012
Mercury (D)	12	0	0.0%	0.000014	0.0002	ND	ND	NA	NA	0.0001
Mercury, soluble (D)	18	0	0.0%	0.0002	0.0002	ND	ND	NA	NA	0.0001
Molybdenum	34	13	38.2%	0.03	200	0.00016	0.002	0.0010769	0.0004398	0.002
Molybdenum (D)	10	0	0.0%	0.001	0.01	ND	ND	NA	NA	0.005
Molybdenum, soluble (D)	16	1	6.3%	3.5	10	0.0035	0.0035	0.0035	NA	0.0035
Nickel	32	23	71.9%	0.05	40	0.001	0.0107	0.0047043	0.0026377	0.0107
Nickel (D)	8	4	50.0%	0.8	40	0.0041	0.0143	0.00755	0.00458	0.0143
Nickel, soluble (D)	21	4	19.0%	5.8	19.3	0.0123	0.0246	0.016975	0.0053922	0.0246
Nitrate (as nitrogen)	7	2	28.6%	0.1	0.1	0.2	0.59	0.395	0.2757716	0.59
Nitrate / Nitrite	24	9	37.5%	0.05	50	0.1	1.9	0.5144444	0.7079391	1.9
Nitrate / Nitrite (as nitrogen)	2	1	50.0%	0.05	0.05	0.19	0.19	0.19	NA	0.19
Nitrite (as nitrogen)	3	0	0.0%	0.02	0.05	ND	ND	NA	NA	0.025

209

Table I-2
Summary of Surface Water ECOI Data in the No Name Gulch Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC
Potassium	35	34	97.1%	4.2	5000	1.6	19	5.8032059	3.6698925	19
Potassium (D)	11	11	100.0%	400	5000	0.598	9.08	5.258	3.1738557	9.08
Potassium, soluble (D)	17	17	100.0%	674	1070	0.83	13.4	6.5617647	3.2357635	13.4
Selenium	33	7	21.2%	0.2	5	0.0011	0.0037	0.0017571	0.0009199	0.0037
Selenium (D)	9	0	0.0%	0.001	0.004	ND	ND	NA	NA	0.002
Selenium, soluble (D)	21	2	9.5%	1	6.5	0.0125	0.0425	0.0275	0.0212132	0.0425
Silver	32	2	6.3%	0.02	10	0.00035	0.00053	0.00044	0.0001273	0.00053
Silver (D)	9	2	22.2%	0.26	10	0.0037	0.0061	0.0049	0.0016971	0.0061
Silver, soluble (D)	21	3	14.3%	2.1	6.8	0.0039	0.0131	0.0076	0.004857	0.0131
Sodium	35	35	100.0%	2	5000	0.316	195	79.838457	67.264299	195
Sodium (D)	11	11	100.0%	172	5000	0.27	185	100.92455	58.485554	185
Sodium, soluble (D)	17	17	100.0%	28.3	61.6	15.3	184	98.741176	61.007644	184
Strontium	34	34	100.0%	0.02	200	0.0053	1.17	0.60695	0.378705	1.17
Strontium (D)	10	10	100.0%	0.045	200	0.0067	1.2	0.77187	0.3654151	1.2
Strontium, soluble (D)	16	16	100.0%	2.3	7.5	0.265	1.14	0.6396875	0.2647594	1.14
Sulfide	21	0	0.0%	1	1	ND	ND	NA	NA	0.5
Thallium	36	4	11.1%	0.01	12	0.0037	0.0074	0.0057	0.0018312	0.0074
Thallium (D)	12	0	0.0%	0.001	0.015	ND	ND	NA	NA	0.0075
Thallium, soluble (D)	18	0	0.0%	0.0012	0.0032	ND	ND	NA	NA	0.0016
Tin	28	1	3.6%	0.04	200	0.0032	0.0032	0.0032	NA	0.0032
Tin (D)	9	2	22.2%	2.6	200	0.022	0.032	0.027	0.0070711	0.032
Tin, soluble (D)	17	0	0.0%	0.0094	0.0389	ND	ND	NA	NA	0.01945
Uranium, total	12	0	0.0%	0.0027	0.0052	ND	ND	NA	NA	0.0026
Vanadium	35	19	54.3%	0.02	50	0.00087	0.0282	0.0056668	0.0066371	0.0282
Vanadium (D)	11	4	36.4%	1	50	0.0027	0.016	0.0065	0.0063503	0.016
Vanadium, soluble (D)	18	3	16.7%	2.5	6.5	0.0034	0.0083	0.0052	0.0026963	0.0083
Zinc	32	25	78.1%	0.09	20	0.0044	2.2	0.265412	0.6031616	2.2
Zinc (D)	8	7	87.5%	1.9	20	0.0032	1.5	0.5022	0.6974926	1.5
Zinc, soluble (D)	21	14	66.7%	1.7	7.2	0.0022	1.39	0.3186571	0.4368327	1.39
Organics (ug/L)										
1,1,1,2-Tetrachloroethane	80	0	0.0%	0.1	10	ND	ND	NA	NA	5
1,1,1-Trichloroethane	111	0	0.0%	0.5	5	ND	ND	NA	NA	2.5
1,1,2,2-Tetrachloroethane	136	0	0.0%	0.1	5	ND	ND	NA	NA	2.5

Table I-2
Summary of Surface Water ECOI Data in the No Name Gulch Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
1,1,2-Trichloro-1,2,2-trifluoroethane	83	0	0.0%	0.5	5	ND	ND	NA	NA	2.5
1,1,2-Trichloroethane	134	0	0.0%	0.5	5	ND	ND	NA	NA	2.5
1,1-Dichloroethane	112	62	55.4%	0.17	5	0.39	10	3.8045161	2.3795403	10
1,1-Dichloroethene	113	2	1.8%	0.04	5	0.52	1.7	1.11	0.834386	1.7
1,2,3-Trichloropropane	96	1	1.0%	0.02	10	0.7	0.7	0.7	NA	0.7
1,2,4,5-Tetrachlorobenzene	2	0	0.0%	9.5	9.5	ND	ND	NA	NA	4.75
1,2,4-Trichlorobenzene	118	14	11.9%	0.2	11	0.1	3	0.4671429	0.7505222	3
1,2,4-Trimethylbenzene	40	18	45.0%	0.5	1	0.2	2	0.8527778	0.6208325	2
1,2-Dibromo-3-chloropropane	29	0	0.0%	0.5	10	ND	ND	NA	NA	5
1,2-Dibromoethane	96	0	0.0%	0.5	20	ND	ND	NA	NA	10
1,2-Dichlorobenzene	120	32	26.7%	0.15	11	0.24	0.6	0.3834375	0.0966407	0.6
1,2-Dichloroethane	111	0	0.0%	0.5	5	ND	ND	NA	NA	2.5
1,2-Dichloroethene	12	0	0.0%	1	5	ND	ND	NA	NA	2.5
1,2-Dichloropropane	137	7	5.1%	0.03	5	0.1	0.96	0.2914286	0.3259565	0.96
1,3,5-Trimethylbenzene	40	6	15.0%	0.5	1	0.1	0.7	0.3683333	0.2059531	0.7
1,3-Dichlorobenzene	91	5	5.5%	0.13	11	0.14	0.5	0.384	0.1663731	0.5
1,4-Dichlorobenzene	97	24	24.7%	0.16	11	0.2	0.66	0.4433333	0.1354113	0.66
2,4,5-T	1	0	0.0%	10	10	ND	ND	NA	NA	5
2,4,5-TP (Silvex)	1	0	0.0%	10	10	ND	ND	NA	NA	5
2,4,5-Trichlorophenol	72	0	0.0%	9.5	330	ND	ND	NA	NA	165
2,4,6-Trichlorophenol	72	0	0.0%	5	330	ND	ND	NA	NA	165
2,4-D	1	0	0.0%	10	10	ND	ND	NA	NA	5
2,4-DB	1	0	0.0%	10	10	ND	ND	NA	NA	5
2,4-Dichlorophenol	72	0	0.0%	5	330	ND	ND	NA	NA	165
2,4-Dimethylphenol	72	5	6.9%	2.9	330	0.6	3	1.16	1.0430724	3
2,4-Dinitrophenol	72	0	0.0%	25	1700	ND	ND	NA	NA	850
2,4-Dinitrotoluene	54	0	0.0%	5	330	ND	ND	NA	NA	165
2,6-Dinitrotoluene	69	0	0.0%	5	330	ND	ND	NA	NA	165
2378-TCDD	1	0	0.0%	0.0005	0.0005	ND	ND	NA	NA	0.00025
2-Butanone	88	6	6.8%	0.93	10	3.7	17	7.5833333	5.0257006	17
2-Chloronaphthalene	69	0	0.0%	5	330	ND	ND	NA	NA	165
2-Chlorophenol	72	0	0.0%	5	330	ND	ND	NA	NA	165
2-Methyl-1-propanol	1	0	0.0%	2000	2000	ND	ND	NA	NA	1000

Table I-2
Summary of Surface Water ECOI Data in the No Name Gulch Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC
2-Methylnaphthalene	74	23	31.1%	1.5	330	1	23	6.4086957	6.1543712	23
2-Methylphenol	57	0	0.0%	5	330	ND	ND	NA	NA	165
2-Nitroaniline	54	0	0.0%	25	1700	ND	ND	NA	NA	850
3,3'-Dichlorobenzidine	54	0	0.0%	10	670	ND	ND	NA	NA	335
4,4'-DDD	7	0	0.0%	0.1	0.11	ND	ND	NA	NA	0.055
4,4'-DDE	7	0	0.0%	0.1	0.11	ND	ND	NA	NA	0.055
4,4'-DDT	7	0	0.0%	0.1	0.11	ND	ND	NA	NA	0.055
4,6-Dinitro-2-methylphenol	57	0	0.0%	9.7	1700	ND	ND	NA	NA	850
4-Chloro-3-methylphenol	57	0	0.0%	5	670	ND	ND	NA	NA	335
4-Chloroaniline	54	0	0.0%	5	670	ND	ND	NA	NA	335
4-Isopropyltoluene	54	3	5.6%	0.02	2.5	0.28	3	1.2	1.558974	3
4-Methyl-2-pentanone	101	0	0.0%	1	11	ND	ND	NA	NA	5.5
4-Methylphenol	50	2	4.0%	2.1	330	2	3	2.5	0.7071068	3
4-Nitroaniline	46	0	0.0%	19	1700	ND	ND	NA	NA	850
4-Nitrophenol	56	0	0.0%	25	1700	ND	ND	NA	NA	850
Acenaphthene	75	32	42.7%	1	330	1	4.9	2.88125	0.8486944	4.9
Acenaphthylene	69	1	1.4%	1	330	2	2	2	NA	2
Acetone	96	29	30.2%	1.9	10	0.67	43	10.212759	9.2403737	43
Acrolein	1	0	0.0%	500	500	ND	ND	NA	NA	250
Acrylonitrile	1	0	0.0%	100	100	ND	ND	NA	NA	50
Aldrin	7	0	0.0%	0.05	0.056	ND	ND	NA	NA	0.028
alpha-BHC	9	2	22.2%	0.05	0.52	0	0.36	0.18	0.2545584	0.36
alpha-Chlordane	7	0	0.0%	0.05	0.56	ND	ND	NA	NA	0.28
Anthracene	70	4	5.7%	1.6	330	0.6	0.6	0.6	0	0.6
Atrazine	1	0	0.0%	1	1	ND	ND	NA	NA	0.5
Benzene	138	57	41.3%	0.01	5	0.24	2.5	1.3868421	0.5606156	2.5
Benzo(a)anthracene	37	0	0.0%	5	11	ND	ND	NA	NA	5.5
Benzo(a)pyrene	37	1	2.7%	9	11	1	1	1	NA	1
Benzo(b)fluoranthene	39	0	0.0%	5	11	ND	ND	NA	NA	5.5
Benzo(g,h,i)perylene	22	0	0.0%	5	10.6	ND	ND	NA	NA	5.3
Benzo(k)fluoranthene	35	0	0.0%	5	11	ND	ND	NA	NA	5.5
Benzoic Acid	53	8	15.1%	9	1700	5	15	7.75	3.4537764	15
Benzyl Alcohol	54	0	0.0%	5	670	ND	ND	NA	NA	335

2/2

Table I-2
Summary of Surface Water ECOI Data in the No Name Gulch Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
beta-BHC	9	2	22.2%	0.05	0.52	0	0	0	0	0
bis(2-Chloroethyl) ether	61	0	0.0%	5	330	ND	ND	NA	NA	165
bis(2-Chloroisopropyl) ether	63	0	0.0%	5	330	ND	ND	NA	NA	165
bis(2-ethylhexyl)phthalate	56	24	42.9%	3.1	330	0.4	140	14.2875	30.36092	140
Bromodichloromethane	137	0	0.0%	0.2	5	ND	ND	NA	NA	2.5
Bromoform	137	2	1.5%	0.09	5	0.1	0.7	0.4	0.4242641	0.7
Bromomethane	137	0	0.0%	0.5	10	ND	ND	NA	NA	5
Butylbenzylphthalate	57	6	10.5%	3.6	330	0.7	4	1.9	1.2099587	4
Carbazole	2	0	0.0%	10	10	ND	ND	NA	NA	5
Carbon Disulfide	103	0	0.0%	1	5	ND	ND	NA	NA	2.5
Carbon Tetrachloride	132	0	0.0%	0.2	5	ND	ND	NA	NA	2.5
Chlorobenzene	116	19	16.4%	0.02	5	0.24	0.95	0.4268421	0.1564556	0.95
Chloroethane	114	61	53.5%	0.13	10	2.6	62	19.165574	10.751587	62
Chloroform	137	1	0.7%	0.01	5	0.59	0.59	0.59	NA	0.59
Chloromethane	114	3	2.6%	0.1	10	2.5	7	4.1	2.5159491	7
Chrysene	69	0	0.0%	5	330	ND	ND	NA	NA	165
cis-1,2-Dichloroethene	69	7	10.1%	0.14	1	0.14	0.52	0.3657143	0.1547963	0.52
cis-1,3-Dichloropropene	88	0	0.0%	0.5	5	ND	ND	NA	NA	2.5
Dalapon	1	0	0.0%	10	10	ND	ND	NA	NA	5
delta-BHC	9	2	22.2%	0.05	0.52	0	0.18	0.09	0.1272792	0.18
Dibenz(a,h)anthracene	48	0	0.0%	5	330	ND	ND	NA	NA	165
Dibenzofuran	59	13	22.0%	4.2	330	1	2	1.6153846	0.5063697	2
Dibromochloromethane	137	0	0.0%	0.2	5	ND	ND	NA	NA	2.5
Dicamba	1	0	0.0%	10	10	ND	ND	NA	NA	5
Dichlorodifluoromethane	94	15	16.0%	0.22	20	0.2	24	5.246	7.9626107	24
Dieldrin	7	0	0.0%	0.1	0.11	ND	ND	NA	NA	0.055
Diethylphthalate	52	10	19.2%	1.1	330	0.7	10	1.75	2.9002873	10
Dimethylphthalate	60	0	0.0%	5	330	ND	ND	NA	NA	165
Di-n-butylphthalate	18	3	16.7%	9.5	10	0.4	6	2.3333333	3.1770007	6
Di-n-octylphthalate	19	0	0.0%	5	11	ND	ND	NA	NA	5.5
Dinoseb	1	0	0.0%	10	10	ND	ND	NA	NA	5
Endosulfan I	7	0	0.0%	0.05	0.056	ND	ND	NA	NA	0.028
Endosulfan II	7	0	0.0%	0.1	0.11	ND	ND	NA	NA	0.055

Table I-2
Summary of Surface Water ECOI Data in the No Name Gulch Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Endosulfan sulfate	7	0	0.0%	0.1	0.11	ND	ND	NA	NA	0.055
Endrin	7	0	0.0%	0.1	0.11	ND	ND	NA	NA	0.055
Endrin aldehyde	2	0	0.0%	0.1	0.1	ND	ND	NA	NA	0.05
Endrin ketone	7	0	0.0%	0.1	0.11	ND	ND	NA	NA	0.055
Ethylbenzene	113	36	31.9%	0.04	5	0.14	17	6.6294444	5.7128496	17
Fluoranthene	69	0	0.0%	5	330	ND	ND	NA	NA	165
Fluorene	75	30	40.0%	1.3	330	1	3	2.31	0.5306795	3
gamma-BHC (Lindane)	9	2	22.2%	0.05	0.52	0	0	0	0	0
gamma-Chlordane	2	0	0.0%	0.05	0.05	ND	ND	NA	NA	0.025
Heptachlor	9	2	22.2%	0.05	0.52	0	0	0	0	0
Heptachlor epoxide	7	0	0.0%	0.05	0.056	ND	ND	NA	NA	0.028
Hexachlorobenzene	69	0	0.0%	5	330	ND	ND	NA	NA	165
Hexachlorobutadiene	112	3	2.7%	0.05	11	0.1	0.69	0.49	0.3377869	0.69
Hexachlorocyclopentadiene	54	0	0.0%	5	330	ND	ND	NA	NA	165
Hexachlorodibenzo-p-dioxin	1	0	0.0%	0.0004	0.0004	ND	ND	NA	NA	0.0002
Hexachloroethane	54	0	0.0%	5	330	ND	ND	NA	NA	165
Indeno(1,2,3-cd)pyrene	54	0	0.0%	5	330	ND	ND	NA	NA	165
Isophorone	54	1	1.9%	2.3	330	0.2	0.2	0.2	NA	0.2
Isopropylbenzene	94	41	43.6%	0.02	1	0.32	2	0.8780488	0.288524	2
m,p-Xylene	5	0	0.0%	0.2	1	ND	ND	NA	NA	0.5
MCPA	1	0	0.0%	10000	10000	ND	ND	NA	NA	5000
MCPP	1	0	0.0%	10000	10000	ND	ND	NA	NA	5000
Methoxychlor	7	0	0.0%	0.5	0.56	ND	ND	NA	NA	0.28
Methylene Chloride	135	52	38.5%	0.01	10	0.09	37	2.3248077	5.3546342	37
Naphthalene	97	47	48.5%	0.02	11	0.8	41	12.72766	10.070376	41
Nitrobenzene	69	0	0.0%	5	330	ND	ND	NA	NA	165
N-Nitrosodiethylamine	2	0	0.0%	19	19	ND	ND	NA	NA	9.5
N-Nitrosodimethylamine	2	0	0.0%	9.5	9.5	ND	ND	NA	NA	4.75
N-Nitrosodi-n-butylamine	2	0	0.0%	9.5	9.5	ND	ND	NA	NA	4.75
N-Nitroso-di-n-propylamine	54	0	0.0%	5	330	ND	ND	NA	NA	165
N-nitrosodiphenylamine	64	0	0.0%	5	330	ND	ND	NA	NA	165
o-Xylene	4	0	0.0%	1	1	ND	ND	NA	NA	0.5
PCB-1016	7	0	0.0%	0.5	1	ND	ND	NA	NA	0.5

Table I-2
Summary of Surface Water ECOI Data in the No Name Gulch Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
PCB-1221	7	0	0.0%	0.5	2	ND	ND	NA	NA	1
PCB-1232	7	0	0.0%	0.5	1	ND	ND	NA	NA	0.5
PCB-1242	7	0	0.0%	0.5	1	ND	ND	NA	NA	0.5
PCB-1248	7	0	0.0%	0.5	1	ND	ND	NA	NA	0.5
PCB-1254	7	0	0.0%	1	1.1	ND	ND	NA	NA	0.55
PCB-1260	7	0	0.0%	1	1.1	ND	ND	NA	NA	0.55
Pentachlorobenzene	2	0	0.0%	9.5	9.5	ND	ND	NA	NA	4.75
Pentachlorophenol	73	4	5.5%	2.7	1700	1	10	5.5	3.8729833	10
Phenanthrene	74	29	39.2%	1.3	330	2.8	6	3.9827586	0.8319808	6
Phenol	76	7	9.2%	0.78	330	0.5	5000	716.47143	1888.8596	5000
Pyrene	69	1	1.4%	2	330	2	2	2	NA	2
Simazine	1	0	0.0%	1	1	ND	ND	NA	NA	0.5
Styrene	136	1	0.7%	0.1	5	3	3	3	NA	3
Tetrachloroethene	111	0	0.0%	0.5	5	ND	ND	NA	NA	2.5
Toluene	138	52	37.7%	0.02	5	0.18	47	5.1834615	11.921161	47
Toxaphene	7	0	0.0%	1	5	ND	ND	NA	NA	2.5
trans-1,2-Dichloroethene	71	0	0.0%	0.1	5	ND	ND	NA	NA	2.5
trans-1,3-Dichloropropene	70	0	0.0%	0.5	5	ND	ND	NA	NA	2.5
Trichloroethene	112	9	8.0%	0.03	5	0.18	2	0.9211111	0.6496623	2
Trichlorofluoromethane	73	2	2.7%	0.24	10	0.37	0.77	0.57	0.2828427	0.77
Vinyl acetate	39	0	0.0%	2	10	ND	ND	NA	NA	5
Vinyl Chloride	119	33	27.7%	0.01	10	0.33	11	2.2515152	2.1340808	11
Xylene	58	20	34.5%	0.5	5	0.25	14	3.6605	3.8410175	14
Radionuclides (pCi/L)										
Americium-241	48	17	35.4%	0	0.028	-0.000404	0.024	0.0071886	0.0070433	0.024
Americium-241 (D)	7	6	85.7%	0	0.006	0.001067	0.00633	0.002771	0.0019317	0.00633
Cesium, radio	1	0	0.0%	0.79	0.79	ND	ND	NA	NA	0.395
Cesium, radio (D)	1	0	0.0%	0.67	0.67	ND	ND	NA	NA	0.335
Cesium-137	15	13	86.7%	0.43	1.16	-0.607	1.2	0.0889569	0.4701876	1.2
Cesium-137 (D)	8	8	100.0%	0.63	1.63	-0.53	0.78	0.0922475	0.3871573	0.78
Gross Alpha	26	23	88.5%	1.4002	8.68	0.8918	8.2	3.0716	2.1696293	8.2
Gross Alpha (D)	12	11	91.7%	1.27924	10.2	-1.14	8.07	2.6224636	2.8320762	8.07
Gross Beta	27	26	96.3%	1.46199	12	3.066	20	9.9161923	3.0536422	20

Table I-2
Summary of Surface Water ECOI Data in the No Name Gulch Aquatic Exposure Unit

ECOI	Number of Samples	Number of Detections	Frequency of Detection	Minimum Detection Limit	Maximum Detection Limit	Minimum Detection	Maximum Detection	Mean Concentration	Standard Deviation	Screening EPC[1]
Gross Beta (D)	14	14	100.0%	1.40853	7.7	3.587	14	9.1294286	3.0764496	14
Plutonium-238	5	5	100.0%	0.005791	0.02939	-0.001811	0.01875	0.0066223	0.0099328	0.01875
Plutonium-239/240	65	24	36.9%	0	0.027	-0.001583	0.023	0.0061975	0.0074566	0.023
Plutonium-239/240 (D)	9	8	88.9%	0.001	0.013	-0.00109	0.002424	0.0006211	0.0011146	0.002424
Radiocesium	5	3	60.0%	0.45	0.71	0	0.78	0.52	0.4503332	0.78
Radium-226	2	2	100.0%	0.13	0.211	0.13	0.23	0.18	0.0707107	0.23
Radium-226 (D)	4	4	100.0%	0.0754	0.232	0.009319	0.25	0.1312548	0.1007621	0.25
Strontium-89/90	1	1	100.0%	0.796	0.796	1.6	1.6	1.6	NA	1.6
Strontium-89/90 (D)	1	1	100.0%	0.635	0.635	1	1	1	NA	1
Tritium	42	23	54.8%	205.0143	460	-13.5	1500	265.38	299.88837	1500
Uranium-233/234	50	49	98.0%	0	0.5356	-0.0238	4.066	0.9089694	0.7682256	4.066
Uranium-233/234 (D)	14	14	100.0%	0	0.6	-0.0156	6.606	1.6328407	2.2225725	6.606
Uranium-235	50	32	64.0%	0	0.263	-0.012	0.3	0.0746945	0.0747468	0.3
Uranium-235 (D)	14	13	92.9%	0	0.6	-0.0132	0.5403	0.0951369	0.1639365	0.5403
Uranium-238	50	47	94.0%	0.01216	0.4183	0.03914	3.652	0.8284157	0.7467976	3.652
Uranium-238 (D)	14	14	100.0%	0	0.6	0.04166	6.192	1.4587743	2.0240478	6.192

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

[2]PCBs will be evaluated as total PCB.

ND = The ECOI was not detected.

Table I-3
Accelerated Action Screening Step for Surface Water in the No Name Gulch Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Inorganics (mg/L)					
Aluminum	13	0.087	Yes	**Yes**	No
Aluminum (D)	0.064	0.087	No	No	No
Aluminum, soluble (D)	0.0756	0.087	No	No	No
Ammonia (as nitrogen)	1.5	0.02	Yes	**Yes**	No
Antimony	0.015	0.24	No	No	No
Antimony (D)	0.023	0.24	No	No	No
Antimony, soluble (D)	0.032	0.24	No	No	No
Arsenic	0.00322	0.15	No	No	No
Arsenic (D)	0.0024	0.15	No	No	No
Arsenic, soluble (D)	0.002	0.15	No	No	No
Barium	0.82	0.438	Yes	**Yes**	No
Barium (D)	0.64	0.438	Yes	**Yes**	No
Barium, soluble (D)	0.575	0.438	Yes	**Yes**	No
Beryllium	0.00048	0.0024	No	No	No
Beryllium (D)	0.00051	0.0024	No	No	No
Beryllium, soluble (D)	0.0012	0.0024	No	No	No
Cadmium, soluble (D)	0.0033	0.00025	Yes	**Yes**	No
Calcium	166	NA	NA	No	**Yes**
Calcium (D)	168	NA	NA	No	**Yes**
Calcium, soluble (D)	146	NA	NA	No	**Yes**
Cesium (D)	0.1	NA	NA	No	**Yes**
Chromium	0.013	0.074	No	No	No
Chromium (D)	0.0036	0.074	No	No	No
Chromium, soluble (D)	0.0042	0.074	No	No	No
Cobalt	0.0068	0.1	No	No	No
Cobalt (D)	0.0067	0.1	No	No	No
Cobalt, soluble (D)	0.009	0.1	No	No	No
Copper	0.0142	0.009	Yes	**Yes**	No
Copper (D)	0.0088	0.009	No	No	No
Copper, soluble (D)	0.012	0.009	Yes	**Yes**	No
Fluoride	0.95	2.12	No	No	No
Iron	81	1	Yes	**Yes**	No
Iron (D)	77.3	1	Yes	**Yes**	No
Iron, soluble (D)	95.8	1	Yes	**Yes**	No
Lead	0.0085	0.0025	Yes	**Yes**	No
Lead (D)	0.0026	0.0025	Yes	**Yes**	No
Lead, soluble (D)	0.0047	0.0025	Yes	**Yes**	No
Lithium	0.0976	0.096	Yes	**Yes**	No
Lithium (D)	0.078	0.096	No	No	No
Lithium, soluble (D)	0.0896	0.096	No	No	No
Magnesium	54.6	NA	NA	No	**Yes**
Magnesium (D)	51	NA	NA	No	**Yes**
Magnesium, soluble (D)	46.1	NA	NA	No	**Yes**
Manganese	1.43	1.65	No	No	No
Manganese (D)	1.42	1.65	No	No	No

Table I-3
Accelerated Action Screening Step for Surface Water in the No Name Gulch Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Manganese, soluble (D)	1.5	1.65	No	No	No
Mercury	0.0012	0.00077	Yes	**Yes**	No
Molybdenum	0.002	0.8	No	No	No
Molybdenum, soluble (D)	0.0035	0.8	No	No	No
Nickel	0.0107	0.052	No	No	No
Nickel (D)	0.0143	0.052	No	No	No
Nickel, soluble (D)	0.0246	0.052	No	No	No
Nitrate (as nitrogen)	0.59	NA	NA	No	**Yes**
Nitrate / Nitrite	1.9	NA	NA	No	**Yes**
Nitrate / Nitrite (as nitrogen)	0.19	NA	NA	No	**Yes**
Potassium	19	NA	NA	No	**Yes**
Potassium (D)	9.08	NA	NA	No	**Yes**
Potassium, soluble (D)	13.4	NA	NA	No	**Yes**
Selenium	0.0037	0.0046	No	No	No
Selenium, soluble (D)	0.0425	0.0046	Yes	**Yes**	No
Silver	0.00053	0.00032	Yes	**Yes**	No
Silver (D)	0.0061	0.00032	Yes	**Yes**	No
Silver, soluble (D)	0.0131	0.00032	Yes	**Yes**	No
Sodium	195	NA	NA	No	**Yes**
Sodium (D)	185	NA	NA	No	**Yes**
Sodium, soluble (D)	184	NA	NA	No	**Yes**
Strontium	1.17	8.3	No	No	No
Strontium (D)	1.2	8.3	No	No	No
Strontium, soluble (D)	1.14	8.3	No	No	No
Thallium	0.0074	0.015	No	No	No
Tin	0.0032	0.073	No	No	No
Tin (D)	0.032	0.073	No	No	No
Vanadium	0.0282	0.012	Yes	**Yes**	No
Vanadium (D)	0.016	0.012	Yes	**Yes**	No
Vanadium, soluble (D)	0.0083	0.012	No	No	No
Zinc	2.2	0.118	Yes	**Yes**	No
Zinc (D)	1.5	0.118	Yes	**Yes**	No
Zinc, soluble (D)	1.39	0.118	Yes	**Yes**	No
Organics (ug/L)					
1,1-Dichloroethane	10	740	No	No	No
1,1-Dichloroethene	1.7	65	No	No	No
1,2,3-Trichloropropane	0.7	NA	NA	No	**Yes**
1,2,4-Trichlorobenzene	3	50	No	No	No
1,2,4-Trimethylbenzene	2	NA	NA	No	**Yes**
1,2-Dichlorobenzene	0.6	NA	NA	No	**Yes**
1,2-Dichloropropane	0.96	5700	No	No	No
1,3,5-Trimethylbenzene	0.7	NA	NA	No	**Yes**
1,3-Dichlorobenzene	0.5	NA	NA	No	**Yes**
1,4-Dichlorobenzene	0.66	16	No	No	No
2,4-Dimethylphenol	3	212	No	No	No
2-Butanone	17	2200	No	No	No

217

Table I-3
Accelerated Action Screening Step for Surface Water in the No Name Gulch Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?,	Carry Forward?	Discuss in Uncertainty Section?
2-Methylnaphthalene	23	NA	NA	No	**Yes**
4-Isopropyltoluene	3	NA	NA	No	**Yes**
4-Methylphenol	3	25	No	No	No
Acenaphthene	4.9	NA	NA	No	**Yes**
Acenaphthylene	2	NA	NA	No	**Yes**
Acetone	43	1500	No	No	No
alpha-BHC	0.36	0.08	Yes	**Yes**	No
Anthracene	0.6	0.73	No	No	No
Benzene	2.5	530	No	No	No
Benzo(a)pyrene	1	0.014	Yes	**Yes**	No
Benzoic Acid	15	42	No	No	No
beta-BHC	0	0.08	No	No	No
bis(2-ethylhexyl)phthalate	140	28.5	Yes	**Yes**	No
Bromoform	0.7	320	No	No	No
Butylbenzylphthalate	4	67	No	No	No
Chlorobenzene	0.95	47	No	No	No
Chloroethane	62	NA	NA	No	**Yes**
Chloroform	0.59	1240	No	No	No
Chloromethane	7	NA	NA	No	**Yes**
cis-1,2-Dichloroethene	0.52	620	No	No	No
delta-BHC	0.18	0.08	Yes	**Yes**	No
Dibenzofuran	2	4	No	No	No
Dichlorodifluoromethane	24	NA	NA	No	**Yes**
Diethylphthalate	10	110	No	No	No
Di-n-butylphthalate	6	9.7	No	No	No
Ethylbenzene	17	3200	No	No	No
Fluorene	3	12	No	No	No
gamma-BHC (Lindane)	0	0.08	No	No	No
Heptachlor	0	0.0038	No	No	No
Hexachlorobutadiene	0.69	9.3	No	No	No
Isophorone	0.2	1300	No	No	No
Isopropylbenzene	2	NA	NA	No	**Yes**
Methylene Chloride	37	940	No	No	No
Naphthalene	41	620	No	No	No
Pentachlorophenol	10	6.73	Yes	**Yes**	No
Phenanthrene	6	2.4	Yes	**Yes**	No
Phenol	5000	2560	Yes	**Yes**	No
Pyrene	2	0.025	Yes	**Yes**	No
Styrene	3	160	No	No	No
Toluene	47	1750	No	No	No
Trichloroethene	2	21900	No	No	No
Trichlorofluoromethane	0.77	NA	NA	No	**Yes**
Vinyl Chloride	11	930	No	No	No
Xylene	14	35	No	No	No
Radionuclides (pCi/L)					
Americium-241	0.024	43.8	No	No	No

2/8

Table I-3
Accelerated Action Screening Step for Surface Water in the No Name Gulch Aquatic Exposure Unit

ECOI	Screening EPC[1]	SW ESL	EPC > ESL?	Carry Forward?	Discuss in Uncertainty Section?
Americium-241 (D)	0.00633	43.8	No	No	No
Cesium-137	1.2	42.6	No	No	No
Cesium-137 (D)	0.78	42.6	No	No	No
Gross Alpha	8.2	NA	NA	No	**Yes**
Gross Alpha (D)	8.07	NA	NA	No	**Yes**
Gross Beta	20	NA	NA	No	**Yes**
Gross Beta (D)	14	NA	NA	No	**Yes**
Plutonium-238	0.01875	NA	NA	No	**Yes**
Plutonium-239/240	0.023	18.7	No	No	No
Plutonium-239/240 (D)	0.002424	18.7	No	No	No
Radiocesium	0.78	42.6	No	No	No
Radium-226	0.23	1.02	No	No	No
Radium-226 (D)	0.25	1.02	No	No	No
Strontium-89/90	1.6	278	No	No	No
Strontium-89/90 (D)	1	278	No	No	No
Tritium	1500	265000000	No	No	No
Uranium-233/234	4.066	NA	NA	No	**Yes**
Uranium-233/234 (D)	6.606	NA	NA	No	**Yes**
Uranium-235	0.3	21.7	No	No	No
Uranium-235 (D)	0.5403	21.7	No	No	No
Uranium-238	3.652	22.3	No	No	No
Uranium-238 (D)	6.192	22.3	No	No	No

[1]Screening EPC is equal to the maximum detection or 1/2 of the maximum detection limit for non-detected ECOIs.

2/9/2/9